

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN DIEGO REGION

FINDINGS OF FACT AND  
STATEMENT OF OVERRIDING CONSIDERATIONS

SHIPYARD SEDIMENT REMEDIATION PROJECT  
ENVIRONMENTAL IMPACT REPORT (EIR)  
(SCH #2009111098)

March 14, 2012

## **Introduction**

1. These findings of fact are made pursuant to the California Environmental Quality Act (Pub. Resources- Code § 21000 et seq; "CEQA") and the CEQA Guidelines (Cal. Code Regs., tit. 14, § 15000 et seq.) by the San Diego Regional Water Quality Control Board (San Diego Water Board) in connection with the EIR prepared for the Shipyard Sediment Remediation Project, San Diego Bay, CA (Project), EIR SCH # 2009111098.
2. These CEQA findings are Exhibit A to San Diego Water Board Resolution R9-2012-0025, and are attached thereto and incorporated therein by reference.
3. These findings of fact are based on substantial evidence in light of the entire administrative record, and references to specific reports and specific pages of documents are not intended to identify those sources as the exclusive basis for the findings.

## **Project Description**

4. The Project, which is the subject of the Final Program EIR, is the remedial dredging of sediment adjacent to shipyards in San Diego Bay, the dewatering and solidification of the dredged material, the potential treatment of decanted water, the transport of the dredged material to an appropriate landfill for disposal, and the placement of a sand cover in areas where dredging is not feasible, such as under existing piers.
5. The purpose of the Project is to restore and to protect impaired beneficial uses of the waters of San Diego Bay through implementation of Cleanup and Abatement Order No. R9-2012-0024 (the CAO) issued by the San Diego Water Board. The San Diego Water Board is the Lead Agency under CEQA for the proposed Project. The dredging will occur in an area of San Diego Bay defined in the CAO. The sediment removal footprint and optional staging sites comprise the Project site for the purpose of this Final Program EIR.

## **Environmental Review**

6. The environmental review process for the Project has been outlined in Resolution No. R9-2012-0025.

## **Administrative Record**

7. The record, upon which all findings and determinations related to the approval of the Project are based, includes the following:
  - a. The EIR and all documents referenced in or relied upon by the EIR.
  - b. All information, including written evidence and testimony, provided by San Diego Water Board staff to the San Diego Water Board regarding the

- Program EIR, the approvals, and the Project, including the administrative record for the CAO.
- c. All information including written evidence and testimony, presented to the San Diego Water Board by the environmental consultants who prepared the Program EIR or incorporated into reports presented to the San Diego Water Board.
  - d. All information, including written evidence and testimony, presented to the San Diego Water Board from other public agencies relating to the Program EIR.
  - e. All final information, including written evidence and testimony, presented at any San Diego Water Board hearing or workshop related to the Project and Program EIR.
  - f. The Mitigation Monitoring and Reporting Program for the Project.
  - g. All public comments received on the draft and proposed Final Program EIR during the designated comment periods, and the San Diego Water Board responses to comments received.
  - h. These findings of fact and statement of overriding considerations.
  - i. All other documents composing the record pursuant to Public Resources Code section 21167.6(e).
8. David Barker, Supervising WRC Engineer of the San Diego Water Board, is the custodian of the documents and other materials that constitute the record of the proceedings upon which the San Diego Water Board's decision is based. Documents and materials are located at 9174 Sky Park Court, Suite 100, San Diego, CA 92123.

### **Certification of the EIR**

9. In accordance with CEQA, the San Diego Water Board certifies that the Final Program EIR has been completed in compliance with CEQA. The San Diego Water Board has independently reviewed the record and Final Program EIR prior to certifying the Final Program EIR and approving the Project. By these findings, the San Diego Water Board confirms, ratifies, and adopts the findings and conclusions of the Final Program EIR as supplemented and modified by these findings. The Final Program EIR and these findings represent the independent judgment of the San Diego Water Board.
10. The San Diego Water Board recognizes that the Final Program EIR may contain clerical errors but has reviewed the entirety of the Final Program EIR and bases its determination on the substance of the information it contains.
11. The San Diego Water Board certifies that the Final Program EIR is adequate to support all actions in connection with the approval of the Project. The San Diego Water Board certifies that the Final Program EIR is adequate to support approval of the Project described in the Final Program EIR, each component and phase of the Project described in the Final Program EIR, any variant of the Project as

described in the Final Program EIR, any minor modifications to the Project or variants described in the Final Program EIR and components of the Project.

12. The San Diego Water Board certifies that the Final Program EIR is adequate to support all actions as prescribed in the Final Program EIR, including the selection of staging areas for the Project. The San Diego Water Board recognizes that, once a staging area(s) is selected and a specific staging area sited, additional analysis will be conducted.

### **Absence of Significant New Information**

13. The San Diego Water Board recognizes that the Final Program EIR incorporates information obtained and produced after the Draft Program EIR and proposed Final Program EIR were completed, and the Final Program EIR contains additions, modifications, and clarifications. The San Diego Water Board has reviewed and considered the Final Program EIR and all of this information. The Final Program EIR does not add significant new information to the Draft or proposed Final Program EIR that would require recirculation of the Program EIR under CEQA. The new information added to the Final Program EIR does not involve a new significant environmental impact, a substantial increase in the severity of an environmental impact, or a feasible mitigation measure or alternative considerably different from others previously analyzed and that would clearly lessen the significant impacts of the Project while meeting the Project objectives.
14. The public was provided with forty-five (45) days to provide written comments on the Draft Program EIR, which was released on June 16, 2011. No information indicates the Draft Program EIR was inadequate or conclusory, or that the public was deprived of a meaningful opportunity to review and comment on the Draft Program EIR.
15. The public was further provided with an additional thirty-five (35) days to provide written comments on changes found in the proposed Final Program EIR, which was released on September 15, 2011. The public was further provided an opportunity to provide oral comments on the proposed Final Program EIR at the San Diego Water Board hearings in this matter. No information indicates the proposed Final Program EIR was inadequate or conclusory, or that the public was deprived of a meaningful opportunity to review and comment on the proposed Final Program EIR.
16. The San Diego Water Board finds that the changes and modifications made to the Program EIR after the Draft Program EIR was circulated for public review and comment, and after the proposed Final Program EIR was circulated for public review and comment, do not individually or collectively constitute significant new information within the meaning of Public Resources Code section 21092.1 or CEQA Guidelines at section 15088.5. Thus, recirculation of the Final Program EIR is not required.

### **Mitigation Measures, Conditions of Approval, and Mitigation Monitoring and Reporting Program**

17. Public Resources Code section 21081.6 and CEQA Guidelines section 15097 require the San Diego Water Board to adopt a monitoring or reporting program to ensure that mitigation measures and revisions to the Project identified in the proposed Final Program EIR are implemented. The Mitigation Monitoring and Reporting Program (MMRP) is included, and incorporated by reference, in the Final Program EIR and as Exhibit B to the resolution. The MMRP is included in the conditions of approval for the Project, and is adopted by the San Diego Water Board. The MMRP satisfies the requirements of CEQA.
18. The mitigation measures set forth in the MMRP are specific and enforceable and are capable of being fully implemented by the efforts of the San Diego Water Board, the dischargers, and/or other identified public agencies of responsibility. As appropriate, some mitigation measures define performance standards to ensure no significant environmental impacts will result. The MMRP adequately describes the implementation procedures, monitoring responsibility, reporting actions, compliance schedule, non-compliance sanctions, and verification of compliance in order to ensure that the Project complies with the adopted mitigation measures.
19. The San Diego Water Board will adopt and impose the feasible mitigation measures as set forth in the MMRP as enforceable conditions.
20. The mitigation measures incorporated and imposed upon the Project approval will not have new significant environmental impacts that were not analyzed in the Final Program EIR. In the event a mitigation measure recommended in the Final Program EIR has been inadvertently omitted from the MMRP, that mitigation measure is adopted and incorporated from the Final Program EIR into the MMRP by reference and adopted as a condition of approval.

### **Findings Regarding Impacts**

21. In accordance with Public Resources Code section 21081 and CEQA Guidelines sections 15091 and 15092, the San Diego Water Board adopts the findings and conclusions regarding impacts and mitigation measure that are set forth in the EIR and summarized in the MMRP. These findings do not repeat the full discussions of environmental impacts, mitigation measures, conditions of approval, and explanations contained in the EIR. The San Diego Water Board ratifies, adopts, and incorporates, as though fully set forth, the analysis, explanation, findings, responses to comments and conclusions of the EIR.
22. The San Diego Water Board recognizes that the environmental analysis of the Project raises controversial environmental issues relative to the Project description,

and that a range of technical and scientific opinion exists with respect to those issues. The San Diego Water Board acknowledges that there are differing and potentially conflicting expert and other opinions regarding the Project description. The San Diego Water Board maintains that EIR Project description is consistent with the Project as described in Tentative CAO No. R9-2012-0024. These findings are based on a full appraisal of all viewpoints expressed in the EIR and in the record, as well as other relevant information in the record of the proceedings for the Project.

### **Significant But Mitigatable Impacts**

23. Under Public Resources Code section 21081(a)(1) and CEQA Guidelines sections 15091(a)(1) and 15092(b), and to the extent reflected in the EIR and the MMRP, the San Diego Water Board finds that changes or alterations have been required in, or incorporated into, the components of the Project that mitigate or avoid potentially significant effects on the environment. The following potentially significant impacts will be reduced to a less than significant level through the implementation of Project mitigation measures, or where indicated through the implementation of Standard Conditions of Approval (which are treated as mitigation measures and are an integral part of the MMRP as presented in the EIR and Exhibit B):

#### **a. Transportation and Circulation:**

- i. Intersections and Roadway Segments/\_I-5 southbound Ramp/Boston Avenue intersection and Boston Avenue between 28th Street and the I-5 southbound ramp (Staging Areas 1-4)
  1. Staging Areas 1 and 2: If Staging Areas 1 and 2 are selected, the existing plus Project a.m. and p.m. peak-hour LOS analysis for all study area intersections for Staging Areas 1 and 2 indicates that all study area intersections will continue to operate at an acceptable LOS (D or better) in the a.m. and p.m. peak hour with implementation of the Project, with the exception of the I-5 southbound ramp/Boston Avenue intersection (LOS F during p.m. peak hour). The addition of Project traffic will increase the vehicle delay greater than 1 second at this intersection. As such, the Project traffic will result in a significant impact at this intersection in the existing plus Project condition, based on the City of San Diego's significance criteria.

Based on the analysis of the daily traffic volumes and v/c ratios for the study area roadway segments in the existing condition with the addition of Project traffic, the roadway segments are forecast to operate at an acceptable LOS (LOS D or better) with the addition of Project traffic, with the exceptions of National Avenue between 28th

Street and the I-5 northbound ramps (LOS F), and Boston Avenue between 28th Street and the I-5 southbound ramp (LOS F). The addition of Project traffic will not increase the v/c ratio greater than 0.01 along National Avenue between 28th Street and the I-5 northbound ramps. Therefore, this impact does not exceed the City's threshold of significance. However, implementation of the Project would cause a significant impact for the street segment along Boston Avenue between 28th Street and the I-5 southbound ramp.

2. Staging Area 3: If Staging Area 3 is selected, it is anticipated that the trucks will utilize the intersection of Sampson Avenue to access Staging Area 3. Trucks departing from potential Staging Area 3 would access I-5 north and south via Harbor Drive and 28th Street. The results of the existing plus Project a.m. and p.m. peak-hour LOS analysis indicates that all study area intersections will continue to operate at an acceptable LOS (D or better) in the a.m. and p.m. peak hour with implementation of the proposed Project, with the exception of the I-5 southbound ramp/Boston Avenue intersection (LOS F during p.m. peak hour). The addition of Project traffic will increase the vehicle delay greater than 1 second at this intersection. As such, the Project traffic will result in a significant impact at this intersection in the existing plus Project condition based on the City's significance criteria.

The analysis of daily traffic volumes and v/c ratios for the study area roadway segments in the existing condition with the addition of Project traffic indicates that the roadway segments are forecast to operate at an acceptable LOS (LOS D or better) with the addition of Project traffic, with the exceptions of National Avenue between 28th Street and the I-5 northbound ramps (LOS F), and Boston Avenue between 28th Street and the I-5 southbound ramp (LOS F). The addition of Project traffic will not increase the v/c ratio greater than 0.01 along National Avenue between 28th Street and the I-5 northbound ramps. Therefore this impact at the I-5 northbound ramps does not exceed the City's threshold of significance. However, implementation of the Project would cause a significant impact along Boston Avenue between 28th Street and the I-5 southbound ramp.

3. Staging Area 4: Staging Area 4 consists of two existing NASSCO parking lots. The north parking lot is larger than the south lot. To determine the amount of traffic destined for the north and south lots, the Project trips were split 75 percent and 25 percent, respectively, based on the size of the two lots. The trips associated

with the south lot would access I-5 north and south via Harbor Drive and 28th Street. Before the trips can reach the I-5 ramps, the trips associated with the north lot would have to travel west along Harbor Drive, make a U-turn at the intersection of Sampson Street, then continue east along Harbor Drive and north along 28th Street. The analysis of the existing plus Project a.m. and p.m. peak hour trips indicates that all study area intersections will continue to operate at an acceptable LOS (D or better) in the a.m. and p.m. peak hour with implementation of the proposed Project, with the exception of the I-5 southbound ramp/Boston Avenue intersection (LOS F during p.m. peak hour). The addition of Project traffic will increase the vehicle delay greater than 1 second at this intersection. As such, the Project traffic will result in a significant impact at this intersection in the existing plus Project condition, based on the City's significance criteria.

The analysis of daily traffic volumes and v/c ratios for the study area roadway segments in the existing condition with the addition of Project traffic indicates that the roadway segments are forecast to operate at an acceptable LOS (LOS D or better) with the addition of Project traffic, with the exceptions of National Avenue between 28th Street and the I-5 northbound ramps (LOS F), and Boston Avenue between 28th Street and the I-5 southbound ramp (LOS F). The addition of Project traffic will not increase the v/c ratio greater than 0.01 along National Avenue between 28th Street and the I-5 northbound ramps. Therefore this impact at the I-5 northbound ramps does not exceed the City's threshold of significance. However, implementation of the Project would result in a significant impact along Boston Avenue between 28th Street and the I-5 southbound ramp.

The following mitigation measure(s) will be required should any of Staging Areas 1-4 be selected:

**Mitigation Measure 4.1.1:** Should one or more of Staging Areas 1 through 4 be selected, the contractor shall require, and the San Diego Water Board shall verify, that the Project-related truck traffic is routed on Harbor Drive (southbound) to the Civic Center Drive access to Interstate 5 (I-5) for the duration of the dredge-and-haul activity and sand import activity. This requirement will be reflected in the contract documents for the primary contractor and sub-contractors. Haul, delivery, and employee traffic shall be discouraged at the I-5 southbound ramp/Boston Avenue intersection and on the roadway segment of Boston Avenue between 28th Street and the I-5 southbound ramp.

The traffic distribution for the haul route scenario defined in Mitigation Measure 4.1.1 will avoid the proposed Project impact at this intersection and roadway segment, and not result in a significant impact at this or other intersections in the existing plus Project condition.

- ii. Implementation and/or operation of Bayshore Bikeway (Staging Area 5): The Bayshore Bikeway Plan was adopted by SANDAG in 2006 to identify opportunities to improve the 24-mile bicycle facility around San Diego Bay, particularly along the east side of the bay. Approximately 13 miles of bicycle paths are currently in use on the Bayshore Bikeway. The remainder of the facility consists of on-street sections designated as either bicycle lanes or bicycle routes. SANDAG is planning and implementing additional improvements to improve the bikeway along the east side of the bay. The next stage of the Project would extend the bike path north along the east side of San Diego Bay through Chula Vista and National City. The roadway segment analysis summarized above supports a conclusion that Harbor Drive and Tidelands Avenue will operate at acceptable LOS (LOS D or better) with implementation of the proposed Project. Therefore, existing bike safety and bike routes would not be significantly affected with the addition of Project traffic for the duration of the dredge-and-removal activity. No bike route detours or other mitigation are warranted for the portion of the Bayshore Bikeway on Harbor Drive as a result of the Project. It is possible that Bayshore Bikeway Segment 5 will be implemented prior to or during the active dredge period, and there is the potential for Project-related tuck trips to interfere with the implementation and/or operation of the bikeway. However, only several acres of the approximately 145-acre site would be necessary for the dewatering and treatment of the removed sediment. In addition, it is anticipated that the location of the dewatering and treatment activity within the 24th Street Marine Terminal would be close to San Diego Bay or Sweetwater Channel for ease of sediment transport from barge to shore. Therefore, it is anticipated that the relatively small area needed for the dewatering and treatment could be located in such a way as to not interfere with the proposed bikeway in either the physical configuration of the site or in the routing of trucks to and from the site. In addition, it is noted that the 24th Street Marine Terminal is currently used for marine industrial purposes, and there is existing truck traffic on Tidelands Avenue. Should Staging Area 5 be selected, the proposed Project would add approximately 348 PCE trips per day for the duration of the dredging activity. However, mitigation is incorporated to ensure that the respective Lead Agencies coordinate the haul activity and bikeway implementation to ensure that impacts to the Bayshore Bikeway are avoided;

The following mitigation measure(s) will be required for the Bayshore Bikeway:

**Mitigation Measure 4.1.2:** Should Staging Area 5 be selected, the San Diego Water Board shall consult with the San Diego Association of Governments (SANDAG) and the San Diego Unified Port District (Port District) on the implementation status of Segment 5 of the Bayshore Bikeway in order to locate the staging activity away from the planned bike path. The consultation shall include information regarding the specific location, configuration, and operation of the temporary staging area, as well as appropriate bikeway safety and access considerations. If Staging Area 5 is selected, the contractor shall implement the staging area as agreed to by the agencies.

Implementation of Mitigation Measure 4.1.2 will ensure that the respective Lead Agencies for the bikeway and for the Shipyard Sediment Remediation Project coordinate the treatment and haul activity and bikeway implementation to ensure that impacts to the Bayshore Bikeway are avoided. See also Mitigation Measure 4.5.10, which identifies the western and northern portions of Staging Area 5 as the preferred location for dewatering and treatment. Therefore, the proposed Project results in a less than significant impact to the Bayshore Bikeway with mitigation incorporated.

- iii. Construction Parking (Staging Areas 1-4): Currently, parking near the shipyards during the workday is constrained. Many employees currently commute via trolley or shuttle bus. Staging Areas 3 and 4 are areas currently used for shipyard commuter parking. If ship building and repair activities were to occur concurrently with the dewatering and on-shore treatment on either Staging Area 3 or 4, it is anticipated there will be a parking shortage for shipyard employees. Similarly, portions of Staging Areas 1 and 2 are also used for parking for the 10th Avenue Marine Terminal and other workers. If these areas were used for the dewatering and treatment of sediment, the displacement of parking could result in a shortage of parking needed for employees in these areas. Currently, there is a high level of participation in transit and other alternative transportation modes by shipyard workers (i.e., approximately 30 percent). Based on this high level of participation, it is anticipated there may not be sufficient elasticity in the provision of/demand for transit services to accommodate a substantial increase in alternative modes/reductions in vehicle use by shipyard/Project employees. Therefore, increased transit use is not considered to be a feasible mitigation measure in order to reduce parking demand.

Should one or more of Staging Areas 1 through 4 be selected, the San Diego Water Board, in consultation with the San Diego Unified Port

District (Port District), the shipyards, and the City of San Diego, would prepare a Parking Management Plan (PMP) to identify appropriate substitute parking areas, shuttles, and commuter routes, as necessary, to meet the need created by the short-term loss of employee parking spaces. The need for off-site parking will be based on anticipated net daily employment during the dredge period (which may be reduced compared to existing conditions as a result of the dredge activity displacing some ship building/repair activity), and the loss of parking in the selected staging area.

The following mitigation measure(s) will be required for construction parking should Staging Areas 1 through 4 be selected:

**Mitigation Measure 4.1.3:** Should one or more of Staging Areas 1 through 4 be selected, the shipyards, in consultation with the San Diego Water Board, San Diego Unified Port District (Port District), and City of San Diego, shall prepare a Parking Management Plan (PMP) to identify appropriate substitute parking areas, shuttles, and commuter routes, as necessary, to meet the need created by the short-term loss of employee parking spaces. The need for off-site parking shall be based on anticipated employment during the dredge period (which may be reduced compared to existing conditions as a result of the dredge activity displacing some ship building/repair activity), and the loss of parking in the selected staging area. The PMP shall be approved by the City of San Diego Traffic Engineer prior to the initiation of dredging, and its implementation shall be verified by the San Diego Water Board.

Implementation of Mitigation Measure 4.1.3 will ensure that the potential short-term parking loss impact during the dredge activity is reduced to less than significant by requiring the identification and securing of sufficient temporary parking for shipyard operations workers and construction workers implementing the proposed Project.

## b. Hydrology and Water Quality

- i. Water Quality Impacts: The activities proposed as part of the Project that have the potential to result in adverse water quality impacts include dredging, unloading of dredged material to onshore dewatering area, onshore dewatering, and application of the clean sand covers. The shipyard sediments are known to be contaminated with several pollutants or “constituents of concern.” The primary constituents of concern for the proposed Project are copper, mercury, high molecular weight polynuclear aromatic hydrocarbons (HPAHs), PCBs, and tributyltin, and the secondary constituents of concern are arsenic, cadmium, lead, and zinc.

The Project activities listed above could degrade water quality by introducing sediments and contaminants into the water column that could increase turbidity and degrade acceptable levels of habitat quality for organisms in the water column. In addition, the primary and secondary constituents of concern could be released when bed sediments are suspended in the water column. Resuspended contaminants may dissolve into the water column and become available for uptake by biota. Re-deposition may occur near the dredge area or, depending on the environmental conditions and controls, resuspended sediment may be transported to other locations in the water body. Resuspension of contaminated sediments and release of constituents of concern could impact water quality by decreasing dissolved oxygen, changing pH, increasing turbidity, and increasing contaminant levels to levels toxic to aquatic receptors. Changes in water quality could degrade and/or impair the beneficial uses in San Diego Bay and the Pacific Ocean. Sediment dredging activities are planned such that a sufficient volume of contaminated sediment is removed; however, removing all particles of contaminated sediment is neither practical nor feasible.

Accidental oil or fuel spills that could potentially occur during the proposed dredging operations could impair and/or degrade water quality in San Diego Bay, depending on the severity of the spill. Such events are likely to be localized spills of lighter, refined diesel fuels, gasoline, and lubricating oils that are highly toxic to marine life. The potential for the occurrence of petroleum-product leaks or spills is low, but the potential for an adverse effect to marine resources is moderate to high.

Onshore dewatering activities have the potential to impact water quality in the unlikely event that decanted water flows back into San Diego Bay, which could cause turbid conditions, decrease dissolved oxygen, decrease water clarity, and increase existing concentrations of suspended solids. Additionally, if the decanted water flowing back into the water column contains constituents of concern, degradation of water quality and increased toxicity to aquatic organisms could occur. These impacts can impair and degrade beneficial uses in San Diego Bay and the Pacific Ocean.

In addition, there is a potential for disposal of decanted water from the containment cell to exceed City of San Diego requirements for discharge of wastewater to the sanitary sewer system. In addition, disposal of the decanted water into the sanitary sewer system has the potential to exceed the capacity of the sewer system.

The following mitigation measure(s) will be required to protect water quality during the Project; however, it is anticipated that a subsequent discretionary approval(s) will be required to fully comply with the directives of the TCAO Project. Subsequent discretionary approvals will include, at a minimum, a specific Remedial Action Plan (RAP) requiring permitting under sections 404 and 401 of the Clean Water Act. The RAP is expected to contain specific protocols for performing the actual dredging and other tasks associated with implementing the TCAO. To the extent it can be demonstrated to the San Diego Water Board on the basis of substantial evidence that alternative mitigation measures to Mitigation Measures 4.2.1, 4.2.2, 4.2.3, 4.2.7 and 4.2.8, set forth below, are equally or more effective at mitigating the identified potentially significant adverse environmental impacts and at protecting the environment, those mitigation measures may be adopted by the San Diego Water Board in lieu of those set forth herein at the time subsequent discretionary approvals are granted.

**Mitigation Measure 4.2.1:** During dredging operations, the San Diego Water Board shall verify that the contractor/dredge operator is using automatic rather than manual monitoring of the dredging operations, which will allow continuous data logging with automatic interpretation and adjustments to the dredging operations for real-time feedback for the dredge operator. Automatic systems shall also be used to monitor turbidity and other water quality conditions in the vicinity of the dredging operations to facilitate real-time adjustments by the dredging operators to control temporary water quality effects. The automatic systems shall include threshold level alarms so that the operator or other appropriate Project personnel recognize that a particular system within the operation has failed. If the threshold-level alarms are activated, the dredge operator shall immediately shut down or modify the operations to reduce water quality constituents to within threshold levels. The San Diego Water Board shall further verify that the contractor/operator is using visual monitoring and recording of water turbidity during the dredging operations, including the temporary cessation of dredging if exceedances of the turbidity objective in the Basin Plan occur. Water quality sampling for contaminants of concern (COCs) shall be required if silt curtains are not deployed during any phase of the in-water activities.

**Mitigation Measure 4.2.2:** During dredging operations, the San Diego Water Board shall verify that the dredge contractor is implementing standard Best Management Practices (BMPs) for minimizing resuspension, spillage, and misplaced sediment during dredging operations, as the deposition of such material would increase turbidity and compromise cleanup efforts. Such BMPs shall include, but not be limited to, the following:

The contractor shall not stockpile material on the bottom of the San Diego Bay floor and shall not sweep or level the bottom surface with the bucket.

The contractor shall use and maintain double silt curtains that encircle the area of dredging and shall minimize the times in which these curtains are temporarily opened, to contain suspended sediments.

The contractor may use air curtains in conjunction with silt curtains to contain re-suspended sediment, to enhance worker safety, and allow barges to transit into and out of the work area without the need to open and close silt curtain gates.

The contractor shall ensure the environmental clamshell bucket is entirely closed when withdrawn from the water and moved to the barge. This action requires extra attention when debris is present to make sure debris does not prevent the bucket from completely closing. Two closure switches shall be on each side of the bucket near the top and bottom to provide an electrical signal to the operator that the bucket is closed. Use of the switches shall minimize the potential of sediment leaking from the bucket into the water column during travel to the surface.

The contractor shall not overfill the digging bucket because overflow results in material overflowing back into the water. Use of instrumentation such as Clam Vision® shall allow the operator to visualize in real time the depth of cut that shall be designed to prevent overfilling.

The contractor shall utilize wide-pocket material barges having watertight containments to prevent return water from re-entering San Diego Bay. The contractor shall not overfill the material barge to a point where overflow or spillage could occur. Each material barge shall be marked in such a way to allow the operator to visually identify the maximum load point. The marking should allow sufficient interior freeboard to prevent spillage in rough water such as ship wakes during transit. Initiating the material barge marking shall minimize impact of load spillage during transit to the unloading area.

The contractor shall not use weirs as a means to dewater the scow and shall allow additional room for sediment placement. Preventing this action shall minimize the introduction of turbidity to the water column.

The contractor shall place material in the material barge such that splashing or sloshing does not occur, which could send sediment back into the water. Splashing can be controlled by restricting the drop height from the bucket.

If the use of a grate to collect debris is required, the contractor shall not allow material to pile up on the grid and flow or slip from the grid back into the water. The debris scalper shall be positioned in such a way as to be totally contained on the shore side of the unloading operations. The dredge operator shall visually monitor for debris build-up and alert the support personnel on the barge to assist in clearing the debris, as necessary. Debris that is derived from dredging activities shall be removed from the grate by the environmental clamshell bucket and placed in a contained area on the dredge barge or in a second material barge for subsequent removal to the onshore dewatering facility.

The contractor shall restrict barge movement and work boat speeds (i.e., reducing propeller wash) in the dredge area. The remedial design should identify the various areas where this operational control should be used.

**Mitigation Measure 4.2.3:** During dredging operations, the San Diego Water Board shall verify that the contractor is deploying inner- and outer-boundary floating silt curtains fully around the dredging area at all times. Double silt curtains shall be utilized for containment of the dredge area; configurations, technologies, and actual locations of silt curtains in relation to the dredge barge shall be finalized during the design phase of the Project. The floating silt curtain shall be comprised of connected lengths of Type III geotextile fabric. A continuous length of floating silt curtain shall be arranged to fully encircle the dredging equipment and the scow barge being loaded with sediment. The silt curtain shall be supported by a floating boom in open water areas (such as along the bay ward side of the dredging areas). Along pier edges, the contractor shall have the option of connecting the silt curtain directly to the structure. The contractor shall continuously monitor the silt curtain for damage, dislocation, or gaps and immediately fix any locations where it is no longer continuous or where it has loosened from its supports. The bottom of the silt curtain shall be weighted with ballast weights or rods affixed to the base of the fabric. Where feasible and applicable, the floating silt curtains shall be anchored and deployed from the surface of the water to just above the substrate. If necessary, silt curtains with tidal flaps may be installed to facilitate curtain deployment in areas of higher flow. Air curtains may be used in conjunction with silt curtains to contain resuspended

sediment, enhance worker safety, and allow barges to transit into and out of the work area without the need to open and close silt curtain gates.

**Mitigation Measure 4.2.4:** Throughout the remediation process of dredging and application of the clean sand covers, the contractor shall conduct water quality monitoring to demonstrate that implementation of the remedial activities does not result in violations of water quality objectives in the Basin Plan outside of the construction area. The contractor shall submit weekly water quality reports to the San Diego Water Board. If water quality objectives are violated, the San Diego Water Board may temporarily halt activity and impose additional required measures to protect water quality.

**Mitigation Measure 4.2.5:** Prior to initiation of dredging activities, the contractor shall determine the swing radius of the unloading equipment and shall place a steel plate (swing tray or spill plate) between the material barge and the hard cape to prevent spillage from falling directly into the water. The steel plate shall be sufficiently large enough to cover the swing radius of the unloading equipment. The spill plate shall be designed to prevent any “drippings” from falling between the material barge and dock where the unloading equipment is stationed. The spill plate shall be positioned so that any “dripped” material/water either runs back into the material barge or onto the unloading dock, which shall be lined with an impermeable material and beamed to contain excess sediment/water. The steel plate shall be designed to prevent any water or sediment from re-entering San Diego Bay. As a secondary containment measure, filter fabric material shall be placed over the spill plate and between edges of the barge and unloading dock to prevent any drippings from falling into San Diego Bay. Upon completion of unloading a material barge, the spill plate shall be thoroughly rinsed so that excess sediment is drained into the material barge or onto the unloading dock (depending on spill plate positioning) and then placed on the lined dock until the next unloading sequence. The San Diego Water Board shall be responsible for ensuring adherence to the requirements of this measure.

**Mitigation Measure 4.2.6:** During dredging activities, the contractor shall ensure that the environmental clamshell bucket is entirely closed when withdrawn from the barge and moved to the truck. In addition, the contractor shall ensure that the bucket is completely empty of sediment prior to being moved back to the barge to minimize sediment being spilled over the dock. The San Diego Water Board shall be responsible for ensuring adherence to the requirements of this measure.

**Mitigation Measure 4.2.7:** During final design of the clean sand covers, the sand layer thickness and distribution shall be designed to stabilize the contaminated sediments being covered, control the resuspension and redistribution of existing contaminated sediments, and control substantial perturbation (mixing and overturning) of underlying contaminated sediments. The clean sand cover design may be limited to fill from the placement of clean sand. The clean sand cover design shall be thick enough to physically isolate the sediments from benthic or epigenetic organisms to prevent the uptake of bioaccumulative contaminants (e.g., polychlorinated biphenyls [PCBs]) by aquatic organisms either directly from the sediments or by foraging on benthos. The clean sand covers shall be designed to be thick enough to stabilize the contaminated sediments being covered and minimize the potential for them to be resuspended, eroded, or otherwise transported away from beneath the under pier areas. The final engineering plans shall include the source and type of sand required for subaqueous application of the clean sand covers. The California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) shall review and have approval authority for the final engineering plans, and shall verify implementation. A regulatory oversight contractor may be used by the San Diego Water Board.

**Mitigation Measure 4.2.8:** During application of the clean sand covers, the contractor shall place the initial layers of the clean sand cover in controlled lifts so as to ensure proper placement over the required area, minimize the potential for disturbance and intermixing of the underlying sediments, and ensure that the required sand cover thicknesses are achieved. The sand shall be placed in such a manner as to reduce the vertical impact and lateral spreading of the clean sand cover material and the potential for resuspending the contaminated surface sediments. Controlled placement shall also minimize the mixing of the clean sand covers and underlying sediment by allowing the sediment to slowly gain strength before subsequent layers are deposited. Operational controls such as silt curtains shall also be employed during placement of the clean sand covers. The California Regional Water Quality Control Board, San Diego Region (San Diego Water Board), with the assistance of a regulatory oversight contractor, shall be responsible for ensuring adherence to the requirements of this measure.

**Mitigation Measure 4.2.9:** Prior to dredging operations, a Dredging Management Plan (DMP) shall be prepared. The contractor shall implement the measures listed in the DMP during dredging operations. The San Diego Water Board shall be responsible for review and approval of the DMP. The DMP shall contain Standard Operating

Procedures (SOPs) for the Project to assist the dredge contractor in preventing accidental spills and providing the necessary guidelines to follow in case of an oil or fuel spill. In addition to providing SOPs to prevent accidental oil/fuel spills during construction activities, the DMP shall address the identification of dredging needs, a methodology and process for determining dredging priorities and scheduling, the feasibility and requirements for expedited permitting, Quality Assurance Project Plan (QAPP) to comply with regulatory requirements, alternatives for control and operation of dredging equipment, and Best Management Practices (BMPs) to implement in the event of equipment failure and/or repair. Typical BMPs for equipment failure or repair shall be identified in the DMP and could include: communication to Project personnel, proper signage and/or barriers alerting others of potentially unsafe conditions, all repair work to be conducted on land and not over water, repair work involving use of liquids to be performed with proper spill containment equipment (e.g., spill kit), and a contingency plan identifying availability of other equipment or subcontracting options. Furthermore, the DMP shall specify that water discharges to San Diego Bay are prohibited; therefore, the barge shall implement measures necessary to capture all return water and prevent discharge to San Diego Bay. In addition, the DMP shall include, at a minimum, the following measures to prevent accidental oil/fuel spills during construction activities:

As an operational control element, all oil and fuel shall be housed in a secondary containment structure to ensure that any spill or leakage is prevented from entering the water column.

Personnel involved with dredging and handling the dredged material shall be given training on the potential hazards resulting from accidental oil and/or fuel spills. This operational control shall provide the personnel with an awareness of the materials they are handling as well as the potential impact to the environment.

All equipment shall be inspected by dredge contractor personnel before starting the shift. These inspections are intended to identify typical wear or faulty parts that may contain oil or fuel.

Personnel shall be required to visually monitor for oil or fuel spills during construction activities.

In the event that a sheen or spill is observed, the equipment shall be immediately shut down and the source of the spill identified and contained. Additionally, the spill shall be reported to the applicable agencies presented in the DMP.

The shipyards currently have oil/fuel spill kits located at various locations on site for routine ship repair operations. All personnel associated with dredging activities shall be trained on where these spill kits are located, how to deploy the oil sorbent pads, and proper disposal guidelines. The dredging barge shall have a full complement of oil/fuel spill kits on board to allow for quick and timely implementation of spill containment.

The use of oil booms shall be deployed surrounding the dredging activities. In the event that a spill occurs, the oil and/or fuel shall be contained within the oil boom boundary. This operational control shall be the last line of defense against accidental oil/fuel spill occurrences. The oil boom shall be deployed along the entire length of the outer silt curtain. The San Diego Water Board shall be responsible for verifying adherence to the requirements of this measure.

**Mitigation Measure 4.2.10:** The containment area constructed around the dewatering containment cell shall be designed to consist of berms (K rails and/or dry dock blocks) surrounding the area that restrict decanted water/storm water to the land adjacent to the dewatering containment and prevent the water from flowing into San Diego Bay or the water table if a breach in the pad were to occur. If any area(s) adjacent to the dewatering containment cell are unpaved, a liner shall be utilized if necessary to prevent infiltration. The containment cell shall be designed as a “no discharge” facility and in a manner that prevents storm water runoff/run-on from adjacent areas to the cell from entering the dewatering area. The San Diego Water Board shall review and approve the design of the dewatering containment cell and verify its implementation in accordance with approved plans.

**Mitigation Measure 4.2.11:** If a containment liner is used, the San Diego Water Board shall verify that the contractor has provided a salvaging layer of sand that is properly designed and implemented to provide a visual indicator to the excavator operator that he/she is getting close to the containment liner, or the use of closely spaced K-rails and dry dock blocks at key points (i.e., corners) to prevent the operator from getting to the containment liner, in order to prevent a breach in the dewatering pad.

**Mitigation Measure 4.2.12:** During dewatering operations, the contractor shall comply with the provisions of the National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) (Order No. 2009-0009-DWQ,

NPDES No. CAS000002), and any subsequent permit, as they relate to activities conducted in the staging areas. This shall include submission of the Permit Registration Documents, including a Notice of Intent (NOI), risk assessment, site map, Storm Water Pollution Prevention Plan (SWPPP), annual fee, and signed certification statement to the State Water Resources Control Board (State Water Board) via the Storm Water Multi-Application and Report Tracking System (SMARTS) at least 7 days prior to the start of dewatering activities at the staging areas. Construction activities shall not commence until a Waste Discharger Identification (WDID) number is received from the SMARTS. The SWPPP shall be prepared by a Qualified SWPPP Developer (QSD); shall meet the requirements of the Construction General Permit; and shall identify potential pollutant sources associated with dewatering activities, identify non-storm water discharges, and identify, implement, and maintain Best Management Practices (BMPs) to reduce or eliminate pollutants associated with the construction site. BMPs shall include, but not be limited to, Good Housekeeping, Erosion Control, and Sediment Control. The BMPs identified in the SWPPP shall be implemented during Project construction. An Annual Report shall be submitted using the SMARTS no later than September 1 of each year during dewatering operations. A Notice of Termination (NOT) shall be submitted to the State Water Board within 90 days of completion of dewatering activities and stabilization of the site. The San Diego Water Board shall be responsible for verifying the contractor's adherence to the requirements of this measure.

**Mitigation Measure 4.2.13:** Prior to any discharge to the sanitary sewer system, the contractor shall ensure that the decanted water is analytically tested following the discharge requirements for the San Diego Publically Owned Treatment Works (POTW). If water samples exceed the City of San Diego requirements for discharge of wastewater to the sanitary sewer system, the water shall be taken off site for treatment and subsequent disposal. In addition, the contractor shall comply with any limits on pollutant concentrations, discharge times, and flow rates required by the City of San Diego. The San Diego Water Board shall be responsible for verifying the contractor's adherence to the requirements of this measure.

**Mitigation Measure 4.2.14:** The San Diego Water Board shall coordinate water quality monitoring efforts and share water quality monitoring data with other dredging Projects in San Diego Bay throughout the duration of the Project. Considerations for the issuance of dredge permits or General Waste Discharge Requirements (WDRs) shall include distance(s) between sites and proposed timing of in-water activities that shall involve potential impacts to water quality, selection

of appropriate water quality reference sampling locations in San Diego Bay, configuration of silt curtains, and coordination of expected commercial and recreational vessel traffic.

Implementation of Mitigation Measures 4.2.1-14 will ensure that the potential hydrology and water quality impacts during the dredge, transport, and disposal activities are reduced to less than significant by requiring the implementation of source and treatment control best management practices for the proposed Project.

**c. Hazards and Hazardous Materials**

- i. Dredging - Dredging involves removal of sediment from the bottom of San Diego Bay and placement onto a barge.
  1. Accidental Oil or Fuel Spills. Accidental oil or fuel spills from the crane or tugboat could occur during dredging operations, which could impair and/or degrade water quality in San Diego Bay, depending on the severity of the spill. The potential for the occurrence of petroleum-product leaks or spills is low, but the potential for long-term impacts is moderate to high if a leak or spill were to occur.
  2. Resuspension of Sediment. During Silt Curtain Placement. There is the potential for resuspended sediment to be introduced into the water column during silt curtain placement or redeployment if the curtain is extended too close to San Diego Bay floor. Resuspension of sediment could disturb contaminated sediment.
  3. Resuspension Due to Operator Overfilling Bucket. Overfilling of the dredge bucket during sediment removal operations would result in resuspension. Resuspended sediment from environmental dredging operations can settle onto areas already dredged and reduce the ability of the dredging program to reach target cleanup goals due to increased residual COC concentrations in the dredge area.
  4. Debris Preventing the Dredge Bucket from Fully Closing. If large debris is present in the dredge area, it may lodge in the dredge bucket and prevent its full closure, thereby allowing sediment to escape from the bucket and causing resuspension of sediment.
  5. Resuspension of Sediment During Barge Positioning Due to Vessel Propeller Wash. Resuspension of sediment particles within the water column due to vessel propeller wash is a common issue during operations in shallow waters. Resuspension of sediment

particles within the dredge area would lead to reduced effectiveness of dredging operations due to increased residual COC concentrations in the dredge area.

6. Resuspension of Sediment Due to Damage of Silt Curtain During Dredging. Damage to the silt curtain during the dredging operations typically occurs when the dredge bucket comes in contact with the curtain, the curtain becomes entangled with the propellers of the tug moving either the dredge or material barges, or passing ships are too close to the operations and draw the curtain into their propellers. Not only does this cause an instantaneous release of suspended sediments from the dredging containment area, but also causes Project delays until the silt curtain can be repaired or replaced. The failure or damage of a silt curtain during dredge operations may lead to impacted sediment settling outside of the treatment area, resulting in a larger area impacted by site-related COCs.
7. Spillage of Sediment into the Water Column Due to Overloading of the Dredged Material Barge. This type of impact usually occurs when operators attempt to maximize the load within the material barges. Overloaded barges can result in the sloughing of dredged sediment from the barge during transport to the off-loading area. Sediment sloughing off a loaded barge may lead to either resuspension of sediment within the treatment area, as described above, or dispersal of contaminated sediment outside the treatment footprint if the incident occurs outside of the dredge area during transport to the dewatering area.
8. Contact with Sediment On or Around the Barge During Loading. Some contact with sediment by workers during loading would occur regardless of the standard of care taken during the loading process. Contact with impacted sediment by personnel may lead to acute and/or chronic health effects depending on the contaminant type, concentration, and exposure route.
9. Cable Snap Allowing Loaded Bucket to Enter Water Column. Poor dredging equipment maintenance could potentially lead to a snapped cable on the clamshell bucket, allowing a loaded bucket to enter the water column. This may lead to resuspension of sediment.
10. Shear Pin Breakage Allowing Bucket to Open Prematurely. Poor dredging equipment maintenance could potentially lead to the breakage of a shear pin on the clamshell bucket, which would allow a loaded bucket to open before proper positioning over the barge

and dredged material to enter the water column. This would lead to resuspension of sediment from the loaded bucket.

- ii. Sediment Transport to Unloading Area: Once the materials barge is loaded, the sediment would be transported to the unloading area and transferred to dry land.
  1. Barge or Tug Collision with Merchant or Military Vessel. The movement of barges and tugs to and from the Project site contains inherent risks associated with maritime operations. There is the potential for a release of sediments stored on the barge during a vessel-on-vessel collision.
- iii. Sediment Unloading/Transport to Staging Area: This involves placement of the sediment in the staging area.
  1. Transferring Sediment from Barge to Land. There is the potential for the operator to overfill the bucket, causing spillage into the water column and/or on the dock adjacent to the barge, which would lead to sediment suspension and potential contamination of the bay floor adjacent to the offloading area.
  2. Sediment Spilling from Transport Vehicle during Transport to the Staging Area. Overfilling of a transport vehicle can cause sediment to overflow from the vehicle during transport to the sediment staging and dewatering areas. Similarly, excess vehicle speed, rapid deceleration or acceleration, or tight cornering during transport to the treatment area could result in spillage of sediment during transport. These situations have the potential to spread sediment-related impacts along the designated sediment haul route.
- iv. Sediment Drying/Dewatering: Once the sediment is placed in the staging area, it undergoes a drying/dewatering process.
  1. Airborne Release of Drying Agent. If drying agents are used, there is the potential for airborne dispersal of the agent if it is applied as a dry powder. The fine dust can be a respiratory irritant to workers and nearby receptors.
  2. Airborne Release of Sediment Contaminants through Volatilization or Particulate Transport. There is the potential for sediment-related contaminants to be transported through volatilization to the atmosphere or for wind-blown particulate transport of dry sediment.

The airborne distribution of sediment-related contaminants has the potential to result in COC-related health impacts to receptors in the vicinity of the staging areas.

3. Breach in Dewatering Pad Containment by Excavator. A breach in the dewatering pad could potentially occur if an excavator penetrates through the bottom of the pad while attempting to load sediment for transport. A breach in the dewatering pad could result in impacts from the impacted sediment to the soil or groundwater in the vicinity of the breach.
  4. Decanted Water and Storm Water Containment Failure. There is the potential for the decanted water and storm water containment area to fail, resulting in release of untreated water from the treatment area. A release of storm water or decanted water from the containment area could result in impacts to soil or groundwater in the vicinity of the release and potentially flow back into the bay.
- v. Load Out, Transport, Disposal: This process involves the removal and disposal of the sediment once it has dried out.
1. Worker Contact with Treated Sediment. Similar to contact with sediment in and around the barge during loading, worker contact with treated (solidified) sediment is unavoidable. There is the potential for contact with impacted sediment by personnel that may lead to acute and/or chronic health effects depending on the contaminant type, concentration, and exposure route.
  2. Sediment Spillage During Loading. During loading of vehicles for off-site disposal, some sediment may fall from the loading bucket onto the exterior of the vehicle or onto the hardscape of the loading area. This has the potential to impact soil, groundwater, or storm water in the vicinity of the loading area.
  3. Overfilling Transport Vehicles and Increasing Potential to Spill onto the Roadway. Overfill of transport vehicles can still lead to potential incidental spills of sediment onto the roadway. This has the potential to spread sediment-related impacts along the transport route.
  4. Transport and Disposal of Hazardous Materials. It is estimated that up to 15 percent (21,500 cubic yards [cy]) of the excavated sediment may be classified as California hazardous material. It is estimated that up to 1,500 truck trips would be required over an approximately 12.5-month period to transport this volume of sediment to Kettleman Hills Landfill, which is located approximately

300 miles north of the site. There is the potential for spills or accident conditions to occur during transportation, resulting in the release of sediment-related impacts to soil or groundwater in the vicinity of the accident. Depending on the concentration of COCs within the sediment, there may also be the potential for health effects to receptors in the vicinity of the accident. Sediment that is not hazardous will be disposed of at Otay Landfill.

5. Small quantities of hazardous materials such as fuels and oils will be routinely transported to the Shipyard Sediment Site for ongoing operations and maintenance of equipment for the duration of the Project.

The following mitigation measure(s) will be required during the phases described above:

**Mitigation Measure 4.3.1:** Secondary Containment. As an operational control element, the contractor shall ensure, and the San Diego Water Board will verify, that all oil and fuel is housed in a secondary containment structure to ensure that spilled or leaked oil or fuel will be prevented from entering the water column.

**Mitigation Measure 4.3.2:** Dredging Management Plan. The contractor shall ensure that a Dredging Management Plan (DMP) containing Standard Operating Procedures (SOPs) for the Project is developed prior to the initiation of dredging and implemented for the duration of the dredging activity. The DMP will include the following measures to prevent release of hazardous materials during construction activities:

Personnel involved with dredging and handling the dredged material will be given training on their specific task areas, including:

- Potential hazards resulting from accidental oil and/or fuel spills;
- Proper dredging equipment operation; and
- Proper silt curtain deployment techniques.
- Proper response in the event that ordnance or munitions are encountered.

All equipment will be inspected by the dredge contractor and equipment operators before starting the shift. These inspections are intended to identify typical wear or faulty parts.

Required instrumentation to avoid spillage of dredging material will be identified for each piece of equipment used during dredging operations.

Personnel will be required to visually monitor for oil or fuel spills during construction activities.

In the event that a sheen or spill is observed, the equipment will be immediately shut down and the source of the spill identified and contained. Additionally, the spill will be reported to the applicable agencies presented in the DMP.

All personnel associated with dredging activities will be trained as to where oil/fuel spill kits are located, how to deploy the oil-absorbent pads, and proper disposal guidelines. The dredging barge shall have a full complement of oil/fuel spill kits on board to allow for quick and timely implementation of spill containment.

The use of oil booms will be deployed surrounding the dredging activities. In the event that a spill occurs, the oil and/or fuel will be contained within the oil boom boundary. The oil boom shall be deployed along the entire length of the outer silt curtain.

Shallow areas along the haul route will be mapped and provided to the dredge operator for review. These areas will be avoided to the extent possible to prevent propeller wash resuspension of sediment.

Load-controlled barge movement, line attachment, and horsepower requirements of tugs and support boats at the Project site will be specified to avoid resuspension of sediment.

Barge load limits and loading procedures will be identified, and the appropriate draft level will be marked on the materials barge hull.

A protocol will be developed for the Project in conjunction with the U.S. Department of the Navy to address any munitions and ordnance that have been found during the Project. As required for Projects within San Diego Bay Ship Channels, the Project shall be coordinated with the Navy NAVFAC Southwest Division in San Diego for munitions clearance. Implementation of the DMP will be verified by the San Diego Water Board. The Department of the Navy will be provided an opportunity to review and comment on the DMP, particularly with respect to ordnance and munitions that have been identified in proximity to the Shipyard Site.

**Mitigation Measure 4.3.3:** Contingency Plan. The contractor shall ensure that a Contingency Plan has been developed prior to the initiation of dredging and implemented for the duration of the dredging

activity to address equipment and operational failures that could occur during dredging operations. The Contingency Plan will also address the potential to encounter munitions or ordnance. The Contingency Plan will include the following measures to prevent release of hazardous materials during construction activities:

Actions to implement in the event of equipment failure, repair, or silt curtain breach. These include:

- Communication to Project personnel;
- Proper signage and/or barriers alerting others of potentially unsafe conditions;
- Specification for repair work to be conducted on land and not over water;
- Identification of proper spill containment equipment (e.g., spill kit);
- A plan identifying availability of other equipment or subcontracting options;
- Emergency procedures to follow in the event of a silt curtain breach;
- Incident reporting and review procedure to evaluate the causes of an accidental silt curtain breach and steps to avoid further breaches; and
- Response procedures in the event of barge overflow.

Actions to implement in the event that munitions or ordnance are encountered during Project activities. These include:

- Immediate stoppage of all in-water work activities until further notice to proceed is received;
- Contact the Site Safety Manager;
- Refer to the Contingency Plan section that presents the emergency contact name(s) and telephone number(s) for NAVFAC Southwest Division; and
- Contact NAVFAC Southwest Division personnel. The recovery and disposal of munitions and/or ordnance item(s) found will become the responsibility of NAVFAC Southwest Division.

Implementation of the Contingency Plan will be verified by the San Diego Water Board.

**Mitigation Measure 4.3.4:** Health and Safety Plan. The contractor shall ensure that a Health and Safety Plan (H&S Plan) has been developed prior to the initiation of dredging and implemented for the duration of the dredging activity to protect workers from exposure to contaminated sediment. The H&S Plan will include the following requirements at a minimum:

Training for operators to prevent spillage of sediment on the bridges during dredging activities

Training for operators in decontamination and waste containment procedures

Training for operators in appropriate notification/handling procedures for munitions/ordnance

Identification of appropriate Personal Protection Equipment (PPE) for all activities, including sediment removal, management, and disposal

Certification of personnel under safety regulations such as Occupational Safety and Health Administration (OSHA) 29 Code of Federal Regulations (CFR) 1910.120

Documentation that requires that health and safety procedures have been implemented

Implementation of the H&S Plan will be verified by the San Diego Water Board.

**Mitigation Measure 4.3.5: Communication Plan.** The contractor shall ensure that a Communication Plan and operational guidelines are developed between the Port of San Diego and/or the Harbor Master and all vessel operators prior to the initiation of dredging to ensure the safe movement of Project vessels from the dredge to the unloading area. Features of the Communication Plan will include:

Identification of vessel speed limitations (wake/no wake); and

Notification to Project personnel using air horns as necessary.

Implementation of the Communication Plan for the duration of the dredging activity will be verified by the San Diego Water Board.

**Mitigation Measure 4.3.6: Sediment Management Plan.** The contractor shall implement Best Management Practices (BMPs) and follow Standard Operating Procedures (SOPs) during sediment unloading, transport, drying/dewatering, and disposal operations for the duration of the dredging activity. At a minimum, these BMPs/SOPs will include:

Mechanical stops to limit the swing arm of the crane;

Placement of a spillage plate to prevent any dropped sediment from impacting the water column;

Conveyance of sediment on the spillage plate to a collection sump;

Utilization of a power wash arm to clean sediment from equipment into the collection sump;

Contractor identification of haul truck load limits on first load each day;

Driver training and enforcement of safe driving procedures;

Only liquid drying agents will be utilized to avoid airborne release of these materials;

Implementation of a dust control and monitoring plan during sediment staging;

The stockpile liner will be protected from excavator penetration by a visual indicator such as sand, or by physical barriers such as railroad rails or K-rails;

Decanted water from sediment and any storm water in the staging area will be managed by sloping the staging area to a common sump or pond (containment cell) or pumped to a series of tanks. The containment device(s) will be designed to meet a performance standard of "no discharge" so that storm water runoff cannot enter the bay or adjacent areas and to ensure that storm water surrounding areas cannot penetrate the containment area. The containment device(s) will be inspected daily during sediment staging. Prior to discharge, the liquid will be tested to evaluate whether it meets discharge criteria for the San Diego Publically Owned Treatment Works (POTW) or if treatment is required prior to discharge;

Sediment loading for transport off site will be conducted in a contained area, and haul trucks will be power washed prior to exit to prevent sediment from being discharged to the bay or surrounding area; and

All hazardous materials (liquid, sediment, or chemicals used during the Project) will be handled, transported, and disposed of at the proper disposal facility in accordance with state regulations.

Implementation of these BMPs/SOPs will be verified by the San Diego Water Board.

**Mitigation Measure 4.3.7:** Hazardous Materials Transportation Plan. Prior to the initiation of dredging, the contractor shall prepare and implement a Hazardous Materials Transportation Plan for the duration of the dredging activity that specifies the following procedures:

Sediment containment procedures

Emergency notification procedures

The Hazardous Materials Transportation Plan will be subject to review by, and its implementation will be verified by, the San Diego Water Board.

**Mitigation Measure 4.3.8:** Traffic Control Plan. The contractor shall prepare a Traffic Control Plan that will be developed prior to the initiation of dredging and implemented for off-site transport of the sediment, and will include, but not be limited to, the following information:

Planned haul truck routes

Haul truck escorts, if required

In case of accidental spillage, emergency vehicle access and sediment containment and removal procedures

The Traffic Control Plan will be subject to approval by the City of San Diego and/or the National City Traffic Engineer, and implementation for the duration of the dredging activity will be verified by the San Diego Water Board.

Implementation of Mitigation Measures 4.3.1-8 will ensure that potential hazard and hazardous materials impacts during the dredge, transport, and disposal activities are reduced to less than significant by requiring the implementation of source and treatment control best management practices for the proposed Project.

- d. **Noise:** Noise was identified in the EIR as having less than significant impacts. However, the EIR and MMRP have identified specific measures that will be implemented regarding noise:

**Mitigation Measure 4.4.1:** The contractor shall ensure, and the San

Diego Water Board and City of San Diego Noise Control Officer shall verify, that treatment and haul activity in the City of San Diego is prohibited between the hours of 7:00 p.m. of any day and 7:00 a.m. of the following day, or on legal holidays as specified in section 21.04 of the San Diego Municipal Code, with the exception of Columbus Day and Washington's Birthday, or on Sundays, that would create disturbing, excessive, or offensive noise unless a permit has been applied for and granted beforehand by the Noise Abatement and Control Administrator in conformance with San Diego Municipal Code section 59.5.0404.

**Mitigation Measure 4.4.2:** The contractor shall ensure, and the National City Noise Control Officer and San Diego Water Board shall verify, that treatment and haul activity in National City is prohibited between the hours of 7:00 p.m. of any day and 7:00 a.m. of the following day, or on weekends or holidays as specified in section 12.10.160 of the City of National City Municipal Code.

**Mitigation Measure 4.4.3:** The contractor shall implement, and the San Diego Water Board shall verify, the following for the duration of Project implementation (dredging, treatment, and loading) in order to reduce potential construction noise impacts on nearby sensitive receptors:

All construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers consistent with manufacturers' standards.

All stationary construction equipment shall be placed so that emitted noise is directed away from sensitive receptors nearest the Project site.

All equipment staging shall be located to create the greatest distance between construction-related noise sources and noise-sensitive receptors nearest the Project site.

**e. Biological Resources**

- i. Impacts to Vegetation/Sensitive Natural Communities: As stated in the Initial Study, patches and beds of eelgrass are present within the Project area and would be adversely affected by dredging activities through direct removal. Eelgrass bed habitat has been identified as a sensitive marine resource by the CDFG, NMFS, and U.S. FWS. Eelgrass beds serve as refuges, foraging areas, and nursery habitats for various coastal and bay invertebrates, fishes, and birds.

The following mitigation measure(s) will be required for eelgrass during and following the dredging activities:

**Mitigation Measure 4.5.1:** A pre-construction eelgrass habitat mapping survey for the Shipyard Sediment Site shall be completed by the shipyards within 120 days of the proposed start dates of each Project phase in accordance with the Southern California Eelgrass Mitigation Policy (SCEMP) (National Marine Fisheries Service [NMFS], 1991 as amended) to document the amount of eelgrass that will likely be affected by dredging activity. The results of these surveys shall be integrated into a Final Eelgrass Mitigation Plan prepared by the shipyards for the Project and used to calculate the amount of eelgrass to be mitigated. The Final Eelgrass Mitigation Plan shall be subject to approval by the San Diego Water Board and NMFS, and shall include the following elements:

A detailed map of the area including distribution, density and relationship to depth contours of any eelgrass beds likely to be impacted by Project construction.

The identification of mitigation site factors such as distance from Project, depth, sediment type, distance from ocean connection, water quality, and currents should be considered in evaluating potential sites.

Techniques for the construction and planting of the eelgrass mitigation site consistent with the best available technology at the time of the Project.

Proposed mitigation timing schedule.

Proposed mitigation monitoring activities.

A post-dredging Project eelgrass survey shall be completed by the shipyards within 30 days of the completion of each dredging episode in accordance with the SCEMP and shall be submitted to the NMFS, United States Fish and Wildlife Service (U.S. FWS), California Department of Fish and Game (CDFG), and the Executive Director of the California Coastal Commission (CCC), as well as the San Diego Water Board.

Criteria for determination of transplant success shall be based upon a comparison of vegetation coverage (area) and density (turions<sup>1</sup> per square meter) between the Project adjusted impact area (original impact area multiplied by 1.2 or the amount of eelgrass habitat to be

successfully mitigated at the end of 5 years) and the mitigation site(s). The extent of vegetated cover is defined as that area where eelgrass is present and where gaps in coverage are less than 1 meter between individual turion clusters. Density of shoots is defined by the number of turions per area present in representative samples within the original impact area, control or transplant bed.

Specific criteria are as follows:

The mitigation site shall achieve a minimum of 70 percent area of eelgrass and 30 percent density as compared to the adjusted Project impact area after the first year.

The mitigation site shall achieve a minimum of 85 percent area of eelgrass and 70 percent density as compared to the adjusted Project impact area after the second year.

The mitigation site shall achieve a sustained 100 percent area of eelgrass bed and at least 85 percent density as compared to the adjusted Project impact area for the third, fourth, and fifth years.

The amount to be transplanted shall be based upon the guidelines in the SCEMP. If remedial transplants at the Project site are unsuccessful, then eelgrass mitigation shall be pursued at the secondary eelgrass transplant location. The San Diego Water Board shall verify implementation of this mitigation measure.

The Mitigation Measures identified above reduce potential impacts to eelgrass because they require that eelgrass mapping occur within 120 days of the start date of in-the-water activity, and that mitigation be conducted in accordance with the Southern California Eelgrass Mitigation Policy (SCEMP), including mitigation monitoring and performance standards for transplant success. The Mitigation measures also require on-going monitoring of Project activities for the purpose of avoiding impacts to eelgrass located adjacent to the Project footprint.

**Mitigation Measure 4.5.3:** The Project marine biologist shall meet with the construction crews prior to dredging as well as periodically throughout the Project to review pre-dredge survey areas of eelgrass beds to avoid those located adjacent to the Project site and to review proper construction techniques. A training log shall be maintained by the Project marine biologist and shall be submitted monthly to the San Diego Water Board, who shall verify implementation of this measure.

**Mitigation Measure 4.5.4:** The contractor shall ensure that throughout the duration of dredge and clean sand cover placement activities,

Project-related barges and work vessels operating in areas where eelgrass beds exist shall be operated in a manner to ensure that eelgrass beds are not impacted through grounding, propeller damage, or other activities that may disturb the seafloor. Such measures shall include speed restrictions, establishment of off-limit areas, and use of shallow draft vessels. The Project marine biologist shall periodically confirm that these measures are implemented and shall submit a monthly monitoring report to the San Diego Water Board.

Implementation of Mitigation Measures 4.5.1, 4.5.3 and 4.5.4 will ensure that potential biological resources impacts during the dredging activities are reduced to less than significant by requiring the implementation of best management practices during the dredging and mitigation for the loss of eelgrass removed by the dredging.

- ii. Impacts to Fish/EFH: Sediment and water quality effects on marine biological resources from dredging would include temporary and localized increases in turbidity. Turbidity may also increase if vessel propellers impact the bay floor or prop wash stirs up bottom sediments.

Dredging activities will also have a potential to release detectable levels of sediment-bound contaminants into the water column that could be redistributed through the tidally-induced movement of the turbidity plume. Organically enriched sediments resuspended into the water column during dredging will also cause a slight decrease in dissolved oxygen levels. Tidal currents will slowly dissipate the oxygen-poor water mass and replenish ambient oxygen levels within one to several tidal exchanges.

Accidental oil or fuel spills that could potentially occur during the proposed dredging operations could result in adverse effects on water quality, and subsequently the fish and wildlife of San Diego Bay, depending on the severity of the spill. Such events, if they were to occur, would likely be localized spills of lighter, refined diesel fuels, gasoline, and lubricating oils that are highly toxic to marine life. The potential for the occurrence of petroleum-product leaks or spills would be low, but the potential for significant, long-term effect on marine resources if such spills occurred would be moderate to high.

There is no mortality anticipated of open water schooling fishes (atheriniids or anchovies) or fishes associated with piling habitats (i.e., black surfperch, pile perch, kelpfish, and pipefish). Water column and bottom dwelling fishes (such as halibut and gobies) are expected to swim away from the immediate work area during active deployment of the silt curtain. It is uncertain if any water column biota will become entrapped within the silt curtain after deployment; however, if a few

individual fish are entrapped and subsequently perish, it is not anticipated to adversely affect the local population.

Potential impacts to special-status fish species with the potential to occur in the Shipyard Sediment Site are as follows:

1. California Halibut: Adult and juvenile halibut are found in many areas of San Diego Bay, and they will potentially be present within the Project site and the waters adjacent to the potential staging areas. During dredging activities, adults/juveniles in the immediate area will swim to areas outside the immediate impacted zone. During offloading activities, adults/juveniles will be able to swim freely under the material barge as this mimics normal vessel docking conditions in the bay. No mortality is anticipated as a result of Project activities. Therefore, the level of impact on halibut is expected to be less than significant.
2. Coastal Pelagic FMP Species – Northern Anchovy: Project activities that would affect identified Coastal Pelagic FMP species (northern anchovy) include increased water turbidity caused by dredging and sand covering activities proposed for the Project. These impacts could result in northern anchovy temporarily avoiding the Project areas, and a minimal potential for mortality of larval anchovy. An increase in the suspended sediment load would temporarily increase the exposure of these species to potentially toxic levels of contaminants and clog their gills, resulting in a reduced ability to feed. Pacific Groundfish FMP Species: Of the 83 species managed under the Pacific Groundfish FMP (NMFS, 2008), two have been found in San Diego Bay, each with very low occurrences. In the event that Pacific Groundfish species are present in San Diego Bay during dredging activities, the deployment of the silt curtains will act as a preventive barrier for any groundfish entering the construction area. The impact of turbidity created during dredging activities will be short-term and localized. Therefore, the potential impact of the Project on FMP groundfish species is expected to be less than significant.

Mitigation Measures 4.2.1 through 4.2.11 in Section 4.2, Hydrology and Water Quality, require the implementation of Best Management Practices (BMPs), which are proposed to prevent the spread of any turbidity plume or release of sediment-bound contaminants out of the dredging area, and thereby reduce potential adverse impacts to marine resources, sensitive species, and rare and endangered species. BMPs include use of an environmental dredge bucket, installation of silt curtains, operational controls, and water quality monitoring. The measures also require the inclusion and implementation of a Dredging

Management Plan (DMP) for the Project, which will assist in preventing accidental spills and providing the necessary guidelines to follow in case of an oil or fuel spill, and is expected reduce the potential for a significant long-term impact to biological marine resources to less than significant. Mitigation Measures 4.2.1 through 4.2.11 are as follows:

**Mitigation Measure 4.2.1:** During dredging operations, the San Diego Water Board shall verify that the contractor/dredge operator is using automatic rather than manual monitoring of the dredging operations, which will allow continuous data logging with automatic interpretation and adjustments to the dredging operations for real-time feedback for the dredge operator. Automatic systems shall also be used to monitor turbidity and other water quality conditions in the vicinity of the dredging operations to facilitate real-time adjustments by the dredging operators to control temporary water quality effects. The automatic systems shall include threshold level alarms so that the operator or other appropriate Project personnel recognize that a particular system within the operation has failed. If the threshold-level alarms are activated, the dredge operator shall immediately shut down or modify the operations to reduce water quality constituents to within threshold levels. The San Diego Water Board shall further verify that the contractor/operator is using visual monitoring and recording of water turbidity during the dredging operations, including the temporary cessation of dredging if exceedances of the turbidity objective in the Basin Plan occur. Water quality sampling for contaminants of concern (COCs) shall be required if silt curtains are not deployed during any phase of the in-water activities.

**Mitigation Measure 4.2.2:** During dredging operations, the San Diego Water Board shall verify that the dredge contractor is implementing standard Best Management Practices (BMPs) for minimizing resuspension, spillage, and misplaced sediment during dredging operations, as the deposition of such material would increase turbidity and compromise cleanup efforts. Such BMPs shall include, but not be limited to, the following:

The contractor shall not stockpile material on the bottom of the San Diego Bay floor and shall not sweep or level the bottom surface with the bucket.

The contractor shall use and maintain double silt curtains that encircle the area of dredging and shall minimize the times in which these curtains are temporarily opened, to contain suspended sediments.

The contractor may use air curtains in conjunction with silt curtains

to contain re-suspended sediment, to enhance worker safety, and allow barges to transit into and out of the work area without the need to open and close silt curtain gates.

The contractor shall ensure the environmental clamshell bucket is entirely closed when withdrawn from the water and moved to the barge. This action requires extra attention when debris is present to make sure debris does not prevent the bucket from completely closing. Two closure switches shall be on each side of the bucket near the top and bottom to provide an electrical signal to the operator that the bucket is closed. Use of the switches shall minimize the potential of sediment leaking from the bucket into the water column during travel to the surface.

The contractor shall not overfill the digging bucket because overflow results in material overflowing back into the water. Use of instrumentation such as Clam Vision® shall allow the operator to visualize in real time the depth of cut that shall be designed to prevent overfilling.

The contractor shall utilize wide-pocket material barges having watertight containments to prevent return water from re-entering San Diego Bay. The contractor shall not overfill the material barge to a point where overflow or spillage could occur. Each material barge shall be marked in such a way to allow the operator to visually identify the maximum load point. The marking should allow sufficient interior freeboard to prevent spillage in rough water such as ship wakes during transit. Initiating the material barge marking shall minimize impact of load spillage during transit to the unloading area.

The contractor shall not use weirs as a means to dewater the scow and shall allow additional room for sediment placement. Preventing this action shall minimize the introduction of turbidity to the water column.

The contractor shall place material in the material barge such that splashing or sloshing does not occur, which could send sediment back into the water. Splashing can be controlled by restricting the drop height from the bucket.

If the use of a grate to collect debris is required, the contractor shall not allow material to pile up on the grid and flow or slip from the grid back into the water. The debris scalper shall be positioned in such a way as to be totally contained on the shore side of the unloading operations. The dredge operator shall visually monitor for debris

build-up and alert the support personnel on the barge to assist in clearing the debris, as necessary. Debris that is derived from dredging activities shall be removed from the grate by the environmental clamshell bucket and placed in a contained area on the dredge barge or in a second material barge for subsequent removal to the onshore dewatering facility.

The contractor shall restrict barge movement and work boat speeds (i.e., reducing propeller wash) in the dredge area. The remedial design should identify the various areas where this operational control should be used.

**Mitigation Measure 4.2.3:** During dredging operations, the San Diego Water Board shall verify that the contractor is deploying inner- and outer-boundary floating silt curtains fully around the dredging area at all times. Double silt curtains shall be utilized for containment of the dredge area; configurations, technologies, and actual locations of silt curtains in relation to the dredge barge shall be finalized during the design phase of the Project. The floating silt curtain shall be comprised of connected lengths of Type III geotextile fabric. A continuous length of floating silt curtain shall be arranged to fully encircle the dredging equipment and the scow barge being loaded with sediment. The silt curtain shall be supported by a floating boom in open water areas (such as along the bay ward side of the dredging areas). Along pier edges, the contractor shall have the option of connecting the silt curtain directly to the structure. The contractor shall continuously monitor the silt curtain for damage, dislocation, or gaps and immediately fix any locations where it is no longer continuous or where it has loosened from its supports. The bottom of the silt curtain shall be weighted with ballast weights or rods affixed to the base of the fabric. Where feasible and applicable, the floating silt curtains shall be anchored and deployed from the surface of the water to just above the substrate. If necessary, silt curtains with tidal flaps may be installed to facilitate curtain deployment in areas of higher flow. Air curtains may be used in conjunction with silt curtains to contain resuspended sediment, enhance worker safety, and allow barges to transit into and out of the work area without the need to open and close silt curtain gates.

**Mitigation Measure 4.2.4:** Throughout the remediation process of dredging and application of the clean sand covers, the contractor shall conduct water quality monitoring to demonstrate that implementation of the remedial activities does not result in violations of water quality objectives in the Basin Plan outside of the construction area. The contractor shall submit weekly water quality reports to the San Diego Water Board. If water quality objectives are violated, the San Diego

Water Board may temporarily halt activity and impose additional required measures to protect water quality.

**Mitigation Measure 4.2.5:** Prior to initiation of dredging activities, the contractor shall determine the swing radius of the unloading equipment and shall place a steel plate (swing tray or spill plate) between the material barge and the hard cape to prevent spillage from falling directly into the water. The steel plate shall be sufficiently large enough to cover the swing radius of the unloading equipment. The spill plate shall be designed to prevent any “drippings” from falling between the material barge and dock where the unloading equipment is stationed. The spill plate shall be positioned so that any “dripped” material/water either runs back into the material barge or onto the unloading dock, which shall be lined with an impermeable material and beamed to contain excess sediment/water. The steel plate shall be designed to prevent any water or sediment from re-entering San Diego Bay. As a secondary containment measure, filter fabric material shall be placed over the spill plate and between edges of the barge and unloading dock to prevent any drippings from falling into San Diego Bay. Upon completion of unloading a material barge, the spill plate shall be thoroughly rinsed so that excess sediment is drained into the material barge or onto the unloading dock (depending on spill plate positioning) and then placed on the lined dock until the next unloading sequence. The San Diego Water Board shall be responsible for ensuring adherence to the requirements of this measure.

**Mitigation Measure 4.2.6:** During dredging activities, the contractor shall ensure that the environmental clamshell bucket is entirely closed when withdrawn from the barge and moved to the truck. In addition, the contractor shall ensure that the bucket is completely empty of sediment prior to being moved back to the barge to minimize sediment being spilled over the dock. The San Diego Water Board shall be responsible for ensuring adherence to the requirements of this measure.

**Mitigation Measure 4.2.7:** During final design of the clean sand covers, the sand layer thickness and distribution shall be designed to stabilize the contaminated sediments being covered, control the resuspension and redistribution of existing contaminated sediments, and control substantial perturbation (mixing and overturning) of underlying contaminated sediments. The clean sand cover design may be limited to fill from the placement of clean sand. The clean sand cover design shall be thick enough to physically isolate the sediments from benthic or epigenetic organisms to prevent the uptake of bioaccumulative contaminants (e.g., polychlorinated biphenyls [PCBs]) by aquatic organisms either directly from the sediments or by

foraging on benthos. The clean sand covers shall be designed to be thick enough to stabilize the contaminated sediments being covered and minimize the potential for them to be resuspended, eroded, or otherwise transported away from beneath the under pier areas. The final engineering plans shall include the source and type of sand required for subaqueous application of the clean sand covers. The California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) shall review and have approval authority for the final engineering plans, and shall verify implementation. A regulatory oversight contractor may be used by the San Diego Water Board.

**Mitigation Measure 4.2.8:** During application of the clean sand covers, the contractor shall place the initial layers of the clean sand cover in controlled lifts so as to ensure proper placement over the required area, minimize the potential for disturbance and intermixing of the underlying sediments, and ensure that the required sand cover thicknesses are achieved. The sand shall be placed in such a manner as to reduce the vertical impact and lateral spreading of the clean sand cover material and the potential for resuspending the contaminated surface sediments. Controlled placement shall also minimize the mixing of the clean sand covers and underlying sediment by allowing the sediment to slowly gain strength before subsequent layers are deposited. Operational controls such as silt curtains shall also be employed during placement of the clean sand covers. The California Regional Water Quality Control Board, San Diego Region (San Diego Water Board), with the assistance of a regulatory oversight contractor, shall be responsible for ensuring adherence to the requirements of this measure.

**Mitigation Measure 4.2.9:** Prior to dredging operations, a Dredging Management Plan (DMP) shall be prepared. The contractor shall implement the measures listed in the DMP during dredging operations. The San Diego Water Board shall be responsible for review and approval of the DMP. The DMP shall contain Standard Operating Procedures (SOPs) for the Project to assist the dredge contractor in preventing accidental spills and providing the necessary guidelines to follow in case of an oil or fuel spill. In addition to providing SOPs to prevent accidental oil/fuel spills during construction activities, the DMP shall address the identification of dredging needs, a methodology and process for determining dredging priorities and scheduling, the feasibility and requirements for expedited permitting, Quality Assurance Project Plan (QAPP) to comply with regulatory requirements, alternatives for control and operation of dredging equipment, and Best Management Practices (BMPs) to implement in the event of equipment failure and/or repair. Typical BMPs for

equipment failure or repair shall be identified in the DMP and could include: communication to Project personnel, proper signage and/or barriers alerting others of potentially unsafe conditions, all repair work to be conducted on land and not over water, repair work involving use of liquids to be performed with proper spill containment equipment (e.g., spill kit), and a contingency plan identifying availability of other equipment or subcontracting options. Furthermore, the DMP shall specify that water discharges to San Diego Bay are prohibited; therefore, the barge shall implement measures necessary to capture all return water and prevent discharge to San Diego Bay. In addition, the DMP shall include, at a minimum, the following measures to prevent accidental oil/fuel spills during construction activities:

As an operational control element, all oil and fuel shall be housed in a secondary containment structure to ensure that any spill or leakage is prevented from entering the water column.

Personnel involved with dredging and handling the dredged material shall be given training on the potential hazards resulting from accidental oil and/or fuel spills. This operational control shall provide the personnel with an awareness of the materials they are handling as well as the potential impact to the environment.

All equipment shall be inspected by dredge contractor personnel before starting the shift. These inspections are intended to identify typical wear or faulty parts that may contain oil or fuel.

Personnel shall be required to visually monitor for oil or fuel spills during construction activities.

In the event that a sheen or spill is observed, the equipment shall be immediately shut down and the source of the spill identified and contained. Additionally, the spill shall be reported to the applicable agencies presented in the DMP.

The shipyards currently have oil/fuel spill kits located at various locations on site for routine ship repair operations. All personnel associated with dredging activities shall be trained on where these spill kits are located, how to deploy the oil sorbent pads, and proper disposal guidelines. The dredging barge shall have a full complement of oil/fuel spill kits on board to allow for quick and timely implementation of spill containment.

The use of oil booms shall be deployed surrounding the dredging activities. In the event that a spill occurs, the oil and/or fuel shall be contained within the oil boom boundary. This operational control

shall be the last line of defense against accidental oil/fuel spill occurrences. The oil boom shall be deployed along the entire length of the outer silt curtain. The San Diego Water Board shall be responsible for verifying adherence to the requirements of this measure.

**Mitigation Measure 4.2.10:** The containment area constructed around the dewatering containment cell shall be designed to consist of berms (K rails and/or dry dock blocks) surrounding the area that restrict decanted water/storm water to the land adjacent to the dewatering containment and prevent the water from flowing into San Diego Bay or the water table if a breach in the pad were to occur. If any area(s) adjacent to the dewatering containment cell are unpaved, a liner shall be utilized if necessary to prevent infiltration. The containment cell shall be designed as a “no discharge” facility and in a manner that prevents storm water runoff/run-on from adjacent areas to the cell from entering the dewatering area. The San Diego Water Board shall review and approve the design of the dewatering containment cell and verify its implementation in accordance with approved plans.

**Mitigation Measure 4.2.11:** If a containment liner is used, the San Diego Water Board shall verify that the contractor has provided a salvaging layer of sand that is properly designed and implemented to provide a visual indicator to the excavator operator that he/she is getting close to the containment liner, or the use of closely spaced K-rails and dry dock blocks at key points (i.e., corners) to prevent the operator from getting to the containment liner, in order to prevent a breach in the dewatering pad.

- iii. Impacts to Sea Turtles: Although green sea turtles are known to be in San Diego Bay, the potential for adverse impacts to an individual during dredging activities is low. Dredging, sand covering, and vessel movements within the Project area would potentially result in a behavioral modification to sea turtles that would include a change in swimming behavior to avoid increased noise, turbidity, or the vessel movements. Additionally, the deployment of silt curtains surrounding the dredging/sand covering activities will act as a preventive barrier for green sea turtles entering the construction area.

Material barges transporting dredged material to potential sediment staging sites within San Diego Bay would be traversing a short distance through areas where green sea turtles may occur. Therefore, there is a potential that green sea turtles may be in the general Project barge transit lanes when barge transport activities are occurring. Similar to typical ongoing vessel traffic occurring in San Diego Bay, it is likely that green sea turtles would change their swimming behavior to

avoid vessel movements.

To ensure that any potential impacts remain less than significant, Mitigation Measure 4.5.2-8 are proposed:

**Mitigation Measure 4.5.2:** In order to protect sea turtles that could potentially forage within and among eelgrass beds identified at or near the Project site, the Project marine biologist shall mark the positions of eelgrass beds with buoys prior to the initiation of any construction to minimize damage to turtles foraging within eelgrass beds outside the construction zone. The San Diego Water Board shall verify that buoys have been properly placed.

**Mitigation Measure 4.5.3:** The Project marine biologist shall meet with the construction crews prior to dredging as well as periodically throughout the Project to review pre-dredge survey areas of eelgrass beds to avoid those located adjacent to the Project site and to review proper construction techniques. A training log shall be maintained by the Project marine biologist and shall be submitted monthly to the San Diego Water Board, who shall verify implementation of this measure.

**Mitigation Measure 4.5.4:** The contractor shall ensure that throughout the duration of dredge and clean sand cover placement activities, Project-related barges and work vessels operating in areas where eelgrass beds exist shall be operated in a manner to ensure that eelgrass beds are not impacted through grounding, propeller damage, or other activities that may disturb the seafloor. Such measures shall include speed restrictions, establishment of off-limit areas, and use of shallow draft vessels. The Project marine biologist shall periodically confirm that these measures are implemented and shall submit a monthly monitoring report to the San Diego Water Board.

**Mitigation Measure 4.5.5:** The contractor shall ensure that throughout the duration of dredge and clean sand cover placement activities, barges and work vessels shall be operated in a manner to ensure that sea turtles and marine mammals are not injured or harassed through excessive vessel speed or propeller damage. Such measures shall include speed restrictions, establishment of off-limit areas, and use of shallow draft vessels. The Project marine biologist shall periodically confirm that these measures are implemented and shall submit a monthly monitoring report to the San Diego Water Board.

**Mitigation Measure 4.5.6:** The contractor shall ensure that construction crews and work vessel crews are briefed daily on the potential for sea turtles and marine mammals to be present and provided with identification characteristics of sea turtles, seals, sea

lions, and dolphin. The Project marine biologist shall periodically confirm that this measure is implemented and include verification in a monthly monitoring report.

**Mitigation Measure 4.5.7:** The contractor shall ensure that all construction activity be temporarily stopped if a sea turtle or marine mammal is sighted within 100 meters of the construction zone until the sea turtle or marine mammal is safely outside the outer perimeter of Project activities. The biological monitor, who will be on site periodically during dredging activities, shall have the authority to halt construction operation and shall determine when construction operations can proceed. The San Diego Water Board shall verify implementation of this mitigation measure.

**Mitigation Measure 4.5.8:** The biological monitor shall prepare an incident report of any green sea turtle or marine mammal activity in the Project area and shall inform the contractor to have his/her crews be aware of the potential for additional sightings. The report shall be provided within 24 hours to the California Department of Fish and Game (CDFG) and National Marine Fisheries Service (NMFS). In the event a sea turtle, pinniped, or cetacean is injured or killed as consequence of a collision, the vessel operator and the appointed shipyard safety personnel shall be required to immediately notify the NMFS (Southwest Division) and shall submit a written, follow-up report within 24 hours of the incident. Any injured sea turtle or marine mammal shall be transported to an agency-approved treatment facility. The San Diego Water Board shall verify implementation of this mitigation measure.

Mitigation Measures 4.5.2 through 4.5.8 would specifically reduce impacts to sea turtles to less than significant by minimizing activity and damage within nearby eelgrass beds, assigning a marine biologist to provide crew training, ensuring that operation of barges and work vessels is conducted in a manner to minimize potential harm to turtles, providing daily briefings of turtle occurrence probability, temporarily halting activities if a turtle is sighted, and coordinating with/notifying resource agencies. Impacts to this species will be less than significant with mitigation incorporated.

- iv. Birds: Impacts to birds would occur as a result of activities associated with dredging, placement of clean sand cover, and landside activities processing the dredged materials, and would primarily affect seabirds (e.g., gulls, cormorants, terns, pelicans, scoters) and waterfowl (e.g., brants and sea-going ducks). No birds are known to nest within or immediately adjacent to the dredging/clean sand cover placement area, and any birds nesting in the vicinity would be accustomed to

various shipyard-related activities. Impacts to seabirds and waterfowl are expected to primarily consist of increased noise and human disturbance to foraging and roosting seabirds and waterfowl, and may result in avoidance of areas where Project-related activities are in progress. Impacts to marine invertebrates and fish may also affect the prey base available for foraging birds within the limits of the silt curtains at the Project site during Project-related activities.

Impacts to birds nesting within landscaped areas within and adjacent to potential staging areas could also occur, including California horned lark, Costa's hummingbird, and Cooper's hawk. Impacts are anticipated to be short term (for the duration of the Project, up to 2.5 years), and, provided the shipyards comply with all applicable regulations (e.g., MBTA, California Fish and Game Code), would be less than significant for these species and other common bird species.

Impacts to special-status seabirds are discussed below.

1. California Least Tern: Construction activities may disturb the California least tern if it is present during dredging activities. If construction activities are performed during the scheduling option that includes approximately 7-month dredging episodes extending over 2 to 2.5 years, potential impacts to the California least tern are likely to be less than significant due to work being performed outside the breeding season. If construction activities are performed during the scheduling option of a continuous dredging cycle over a 12.5-month period, impacts could occur during the nesting season. However, the Project site represents a very small area of San Diego Bay, and only small areas of the site are to be affected at any one time regardless of the dredge schedule, which leaves other open water areas available for this species to forage. The majority of the sediment remediation site is in an area with relatively low abundance of prey species, although a narrow band of higher abundance occurs adjacent to the shoreline. There is no shallow water foraging habitat at the Project site, limiting feeding opportunities. The least tern may choose to avoid the immediate construction work area based on the lack of foraging habitat and the fact that no known nests have been recorded at the site. If so, impacts would be limited to potentially affecting flight patterns through site avoidance and incremental reduction of available prey, with the possibility of increasing the effort for the species to travel to and from foraging sites. These impacts, on their own, are unlikely to significantly affect nesting success; however, if other Projects are proposed in the vicinity that also affect available foraging areas, the cumulative effect could be significant.

2. Elegant Tern, Black Skimmer: Impacts to these species would be similar to those described above for the California least tern, consisting of construction-related impacts to foraging habitat during Project-related activities that occur during the breeding season. These two species nest primarily in the South San Diego Bay Unit of the San Diego Bay NWR; therefore, impacts to flight patterns of foraging birds are less likely.
3. California Brown Pelican: Construction activities may disturb the California brown pelican, if present during such activities. Impacts to marine invertebrates and fish may also affect the prey base available for foraging birds within the limits of the silt curtains at the Project site during Project-related activities. However, the Project site represents a very small area of San Diego Bay, and only small areas of the site are to be affected at any one time regardless of the dredge schedule, leaving available other open water areas for this species to forage. Furthermore, California brown pelicans in the region are relatively tolerant of most human activities conducted within the bay, including dredging. Therefore, because construction is confined to a small area within the bay, because this species is fairly tolerant, and because it is no longer considered a threatened species, potential impacts to California brown pelicans will be less than significant.
4. Double-Crested Cormorant: Construction activities may disturb the double-crested cormorant, if present during such activities. However, disturbance from construction will be limited to small areas of the Project site at any one time, leaving other open water areas available for this species. Because cormorants are opportunistic feeders and alter their diets in response to fish stocks available at the time, this species is not expected to forage at the dredging site due to the absence of prey as a result of the silt curtains. Double-crested cormorants within the area have become accustomed to human activity at the shipyards and within the bay. Therefore, because construction is confined to a small area within the bay, and because suitable prey will not be available at the shipyard sediment site, potential impacts to double-crested will be less than significant.
5. Brant: Dredging and other Project activities may disturb this species, if present during such activities. However, disturbance from construction will be limited to small areas of the Project site at any one time, leaving available other open water areas for this species. Impacts to eelgrass beds would temporarily reduce available foraging areas for brant within the Project area; however, this impact would be limited to the duration of the Project plus the

reestablishment period for eelgrass and would be less than significant.

To ensure that any potential impacts remain less than significant, Mitigation Measure 4.5.9 is proposed requiring a qualified biologist to monitor least terns and other special-status seabirds and waterfowl during all construction activities.

**Mitigation Measure 4.5.9:** A qualified biologist familiar with the California least tern and other special-status seabirds and waterfowl shall be retained and be on site to assess the roosting and foraging behavior of special-status seabirds and waterfowl at the Shipyard Sediment Site and selected staging area(s) immediately prior to and during the initial start-up phase of dredging and clean sand cover placement activities. Once it has been determined that activities are not adversely affecting seabirds and waterfowl, the biologist shall not be required to be on site continuously; however, monitoring shall be performed at least once per week (or more often if required by the resource agencies) to adequately assess whether substantial adverse impacts to special-status seabirds and waterfowl are resulting from Project activities (e.g., disrupting nesting or foraging activities, harassing roosting birds). The biologist shall be present during either of the selected dredge scheduling options. In the event of an imminent threat to California least tern and/or other special-status species, the monitor shall immediately contact the contractor's construction manager. In the event the construction manager/contractor is not available, the monitor shall have the authority to redirect or halt construction activities if determined to be necessary. The San Diego Water Board shall verify implementation of this mitigation measure

Mitigation Measure 4.5.9 reduces potential impacts to sensitive bird species to less than significant because it required monitoring to adequately assess whether substantial adverse impacts to special-status seabirds and waterfowl are resulting from Project activities (e.g., disrupting nesting or foraging activities, harassing roosting birds), and provides for redirecting or halting construction activities if determined to be necessary to protect sensitive bird species. Impacts to this species will be less than significant with mitigation incorporated.

- v. Impacts to Mammals: Project-related activities may disturb marine mammals, if present during such activities. Noises created during dredging would be attributed to the clamshell operating in the submerged aquatic environment. The measured sound exposure levels of a clamshell dredge may range between 75 and 88 A-weighted

decibels (dBA) at 50 feet from the source. It is possible that marine mammals may modify their behavior as a result of the noise produced by dredging operations. Based on Port of Los Angeles response to comments for the Port of Los Angeles Channel Deepening Project EIR/EIS (2009), underwater noise from the clamshell dredging associated with that Project would be below the NMFS-designated Level A Harassment threshold for pinnipeds. This would imply that clamshell and dredging effects for marine mammals near the Shipyard Sediment Site would also be less than significant.

Dredging operations could disturb sediments containing sediment-bound contaminants that are potentially harmful to marine mammals. Exposure to these contaminants that could cause acute toxicity or bioaccumulation to marine mammals and sea birds would be avoided by implementation of standard conditions of the requirements of the San Diego Water Board for Section 401 Certification.

Barges transporting dredge material to and from the Project site have a low potential to collide with marine mammals. Marine mammals are generally capable of avoiding boat traffic, particularly at the speeds at which the vessels will likely be transiting. Marine mammals in San Diego Bay have also likely habituated to vessel traffic since vessels commonly transit within and in and out of the Bay. According to the South Coast Marine Protected Areas Final EIR (Figure 7-20), there are no established marine mammal rookeries or haul-out areas in the vicinity of the site.

Use of silt curtains throughout the entire Project, as required by Mitigation Measures 4.2.2 and 4.2.3 in Section 4.2, Hydrology and Water Quality, will act as a preventive barrier to reduce marine mammal exposure to dredging activities. Mitigation Measure 4.3.5 in Section 4.3, Hazards and Hazardous Materials, of this PEIR requires the contractor to establish and follow a communication plan that will identify vessel speed limitations. In addition, Mitigation Measures 4.5.3 through 4.5.8 would specifically reduce impacts to marine mammals to less than significant by assigning a marine biologist to provide crew training, ensuring that operation of barges and work vessels is conducted in a manner to minimize potential harm to turtles, providing daily briefings of turtle occurrence probability, temporarily halting activities if a turtle is sighted, and coordinating with/notifying resource agencies. Impacts to marine mammals are anticipated to be less than significant with mitigation incorporated.

- vi. Indirect Effects on Sweetwater Marsh Unit of the San Diego Bay NWR: Potential Staging Area 5 is adjacent to the Sweetwater Marsh Unit of the San Diego Bay NWR, which provides habitat for a variety of

special-status species. Offsite indirect effects associated with the proposed Project that could affect areas within the San Diego Bay NWR would be limited to potential increases in noise and human activity at potential Staging Area 5. According to the EIS prepared for the Comprehensive Conservation Plan for the San Diego Bay NWR, existing noise levels vary throughout the Sweetwater Marsh Unit, with the most significant noise generated by the military, commercial, and private fixed wing and rotary wing aircraft that fly over San Diego Bay NWR lands. Other sources of noise in the vicinity of the Sweetwater Marsh Unit include vehicle traffic on I-5, boat operations in the adjacent navigation channel, and Port and other industrial activities that occur immediately to the north and northwest (presumably including at potential Staging Area 5).

Noises created during offloading at each of the potential staging areas would be attributed to the excavator operating on the dock and a bulldozer spreading dredged sediment at the dewatering pad. A standard-size excavator and bulldozer produce approximately 80-90 dBA sound levels during operation. Noise levels decrease with distance, and may be further reduced if the activities are obstructed by on-site structures. The duration of the excavator noise will occur during material barge unloading episodes, and bulldozer activity will occur during the dumping of dredged material at the dewatering pad and subsequent spreading. It is assumed that each piece of machinery would be operating approximately 7 hours per workday. Noise attributed to offloading a material barge or spreading dredged sediment is not expected to significantly affect aquatic marine life. It is anticipated that noise produced from the offloading and dewatering activities will not significantly affect foraging seabirds and waterfowl (e.g., California least tern) as these species will not be foraging in these upland areas.

The southern parcel of potential Staging Area 5 is approximately 1,100 feet from the D Street Fill least tern nesting location (Figure 4.5-2). The typical noise levels from an excavator and bulldozer 50 feet from the source are 82 and 85 dBA, respectively. If Staging Area 5 is selected as an offloading/dewatering site for the Project, the noise produced from site machinery will not significantly affect the D Street Fill least tern nesting location because the sound levels from each source will be below 70 dBA due to the approximate distance (1,100 feet) between the proposed staging area and the least tern nesting location. However, portions of the usable areas of potential Staging Area 5 are within 100–200 feet of the salt marsh area associated with Paradise Marsh, part of the Sweetwater Marsh Unit of the San Diego Bay NWR, which provides potential nesting habitat for several special-status and/or listed species. If activities are conducted within the breeding

season of special-status species that may occur in the Paradise Marsh area, there is a potential for disruption of nesting activities of listed species, including Belding's savannah sparrow and light-footed clapper rail, resulting in potentially significant impacts.

To ensure that any potential impacts remain less than significant, Mitigation Measure 4.5.10 and 4.5.11 are proposed should Staging Area 5 be selected:

**Mitigation Measure 4.5.10:** If Staging Area 5 is selected, prior to initiation of dredging and during final design, the contractor shall endeavor to restrict dewatering and treatment activities to within the western and northern portions of the staging area to the extent feasible. To the extent practicable, activities shall be conducted in locations where existing buildings obstruct sensitive habitat areas from noise sources. The staging area layout shall be submitted to the San Diego Water Board (and to the resource agencies, if required) for review and approval.

**Mitigation Measure 4.5.11:** If Staging Area 5 is selected, the California Department of Fish and Game (CDFG) shall be notified not less than 30 days in advance and shall be given the opportunity to provide recommended measures to minimize impacts from increased noise and human activity to species in the Sweetwater Marsh Unit of the San Diego Bay National Wildlife Refuge (NWR). All agency-recommended measures (or agency-approved substitute measures, if recommended measures are infeasible) shall be implemented throughout the duration of Project activities in Staging Area 5. At a minimum, the applicant shall conduct pre-activity nesting bird surveys within 300 feet of all noise-intensive activities if such activities will be initiated within the breeding season for special-status species (conservatively February 1 through August 31). If nesting birds are identified within 300 feet of activities, a qualified (and, if appropriate based on the species, agency-permitted) biological monitor shall be present on site to observe the behavior of the nesting birds during initiation of activities. The biological monitor shall have the authority to temporarily halt or redirect activities in the event that adverse effects to the birds are evident (e.g., there is a risk of nest failure or other indication of harassment, as defined by the Endangered Species Act). If adverse effects to nesting birds appear to be likely, the monitor shall recommend additional measures (e.g., installation of sound barriers, limiting duration of activities, relocating activities to another area, or postponing activities until the nest is no longer active) in concert with resource agency personnel.

Regardless of whether nesting birds are identified during pre-activity nesting bird surveys, the biological monitor shall inspect the site and

any adjacent areas supporting potential nesting habitat at least every 2 weeks during Project activities that are conducted during the nesting season (conservatively February 1 through August 31) and shall report monthly to the State Water Resources Control Board (State Water Board).

Implementation of Mitigation Measures 4.5.10 and 4.5.11 will avoid or minimize impacts to special-status species occurring within Paradise Marsh and the Sweetwater Marsh Unit of the San Diego Bay NWR, because they require that, 1) to the extent practicable, staging activities shall be conducted in locations where existing buildings obstruct sensitive habitat areas from staging activity noise sources; 2) once the activity area within Staging Area 5 is identified, the CDFG be consulted to identify any appropriate additional or substitute measures to minimize impacts from increased noise and human activity to species in the Sweetwater Marsh Unit for the duration of the staging activities; and 3) biological resource monitoring during Project activities that are conducted during the nesting season, with regular reports to the State Water board so that adjustments to the activities can be made if warranted. Therefore, implementation of Mitigation Measures 4.5.10 and 4.5.11 will reduce indirect impacts to special-status species within the San Diego Bay NWR to less than significant.

#### f. Air Quality

- i. Fugitive Dust was identified in the EIR as having less than significant impacts. However, the EIR and MMRP have identified specific measures that will be implemented regarding fugitive dust should measures be warranted.
- ii. Odors: The heavy-duty construction equipment used in the Project area during construction would result in odor emissions. However, these odors would be limited to the time that construction equipment is operating during the construction period for the Project. Adherence to the mitigation measures identified for equipment, specifically Mitigation Measure 4.4.3 that requires equipment to be located as to create the greatest distance between construction-related noise sources and sensitive receptors nearest the Project site, would reduce impacts associated with objectionable odors from the operation of diesel-powered construction equipment.

**Mitigation Measure 4.4.3:** The contractor shall implement, and the San Diego Water Board shall verify, the following for the duration of Project implementation (dredging, treatment, and loading) in order to reduce potential construction noise impacts on nearby sensitive receptors:

All construction equipment, fixed or mobile, shall be equipped with properly operating and maintained mufflers consistent with manufacturers' standards

All stationary construction equipment shall be placed so that emitted noise is directed away from sensitive receptors nearest the Project site.

All equipment staging shall be located to create the greatest distance between construction-related noise sources and noise-sensitive receptors nearest the Project site.

In addition to odors generated by diesel-powered construction equipment, odors from the dredged sediment would also be generated. During the dredging phases of the proposed Project, the dredged materials will be dewatered and treated with a binding agent. While the dredge material is drying, the decomposition of organic matter as it is exposed to air may generate unpleasant odors. Therefore, the dredged material may result in odor impacts at nearby sensitive land uses. The actual content and odor of the dredge material will not be known until dredging is underway. Should the material prove to be odorous at sensitive receptors (residential uses and parks near the selected staging area), adherence to Mitigation Measure 4.6.15 would be triggered. Mitigation Measure 4.6.15 requires the application of a mixture of Simple Green and water to the dredged material

**Mitigation Measure 4.6.15:** To accelerate the decomposition process and reduce odor impacts, the contractor shall apply a mixture of Simple Green and water (a ratio of 10:1) to the dredged material to the extent odor issues arise with respect to particular portions of the dredged material. Contract specifications shall be included in the proposed Project construction documents, which shall be reviewed by the San Diego Water Board prior to the issuance of construction permits. The San Diego Water Board shall verify implementation of this measure.

Mitigation Measure 4.6.15 will reduce odors because the addition of Simple Green to the dredged material accelerates the decomposition process and would have the overall result of shortening the duration of odor emissions. In addition, staging activities will be located to provide the greatest feasible distance between the staging activities (including sediment drying) and any nearby sensitive receptors. Therefore, the combination of Mitigation Measure 4.6.15 and the setback distance to sensitive receptors would reduce odor impacts to less than significant with the adherence to identified mitigation measures.

## Significant and Unavoidable Impacts

24. Under Public Resources Code sections 21081(a)(3) and 21081(b), and CEQA Guidelines sections 15091, 15092, and 15093, and to the extent reflected in the EIR and the MMRP, the San Diego Water Board finds that the following impacts of the Project remain significant and unavoidable, notwithstanding the imposition of all feasible mitigation measures, as set forth below. The San Diego Water Board also finds that any alternative discussed in the EIR that may reduce the significance of these impacts is rejected as infeasible for the reasons given below.
25. Air Quality: Construction equipment/vehicle emissions during the dredging and treatment of the sediment would result in NOX emissions that would exceed the City-established daily emissions threshold. While adherence to San Diego APCD rules and regulations (including Mitigation Measures 4.6.1 through 4.6.3 listed below) would reduce this impact, impacts associated with this issue would remain significant and adverse because the City-established daily threshold for NOX would be exceeded.

The EIR finds that the Project would result in significant unavoidable construction-related adverse air quality impacts of oxides of nitrogen (NOX) (which is a precursor to ozone [O3]) emissions, even after the implementation of feasible standard conditions and mitigation measures. Adherence to San Diego Air Pollution Control District (APCD) rules and regulations (including Mitigation Measures 4.6.1 through 4.6.3 listed below) would reduce this impact, as would Mitigation Measures 4.6.8 through 4.6.14 through the use of retrofitted diesel-powered equipment, low-NO<sub>x</sub> diesel fuel, and alternative fuel sources.

**Mitigation Measure 4.6.1:** The contractor shall be required by contract specifications to ensure that dredging, treatment, and haul activities are timed so as not to interfere with peak-hour traffic and to minimize obstruction of through traffic lanes adjacent to the site. If necessary, a flag person shall be retained by the construction supervisor to maintain safety adjacent to existing roadways. Contract specifications shall be included in the proposed Project construction documents, which shall be reviewed by the San Diego Water Board prior to the issuance of construction permits. The San Diego Water Board shall verify implementation of this measure.

**Mitigation Measure 4.6.2:** During dredging and dewatering activities, the contractor shall support and encourage ridesharing and transit incentives for the construction crew. These specifications shall be included in the proposed Project's construction documents, which shall be reviewed by the San Diego Water Board prior to the issuance of a construction permit.

**Mitigation Measure 4.6.3:** During dredging and dewatering activities, the contractor shall ensure that on-site vehicle speed shall be limited to 15 miles per

hour (mph). Contract specifications shall be included in the proposed Project construction documents, which shall be reviewed by the San Diego Water Board prior to the issuance of construction permits. The San Diego Water Board shall verify implementation of this measure.

However, the proposed Project is an environmental cleanup Project and it is intended to be implemented as soon as all of the necessary permits are secured. It is not possible to ensure that that retrofitted diesel-powered equipment, low-NO<sub>x</sub> diesel fuel, and alternative fuel sources would be available during the construction period; therefore, this impact remains significant and unavoidable because the City of San Diego and National City daily thresholds for NO<sub>x</sub> would be exceeded. There are no other feasible mitigation measures that are available to offset this significant impact. This potential unavoidable significant impact is overridden as set forth in the Statement of Overriding Considerations.

26. Air Quality: The EIR finds that the Project construction activities would also contribute to construction-related adverse cumulative air quality impacts because the San Diego Air Basin (SDAB) is presently in nonattainment for O<sub>3</sub>, and the proposed Project, in conjunction with other planned Projects, would contribute to the existing nonattainment status for O<sub>3</sub>. Therefore, the cumulative construction air quality impacts of the proposed Project would remain significant even after the implementation of mitigation measures identified above. This potential unavoidable significant impact is overridden as set forth in the Statement of Overriding Considerations.

### **Findings Regarding Alternatives**

27. The San Diego Water Board finds that specific economic, social, environmental, technological, legal, and/or other considerations make infeasible the alternatives to the Project as described in the EIR despite remaining impacts, as more fully set forth in the Statement of Overriding Considerations below. The only remaining significant unavoidable impacts of the Project that cannot be fully mitigated through the mitigation measures and standard conditions described in the EIR are impacts to air quality associated with Project construction.
28. The EIR evaluated a reasonable range of alternatives to the original Project that was described in the Draft Program EIR. The Draft Program EIR identified eight alternatives to the proposed Project. The San Diego Water Board adopts the EIR's analysis and conclusions eliminating an alternative site from further consideration.
29. The four potentially feasible alternatives analyzed in the EIR represent a reasonable range of potentially feasible alternatives that reduce one or more significant impacts of the Project. These alternatives include: (1) No Project/No Development Alternative; (2) Confined Aquatic Disposal Site; (3) Convair Lagoon Confined Disposal Facility; and (4) Nearshore Confined Disposal Facility with Beneficial Reuse of Sediments. As presented in the EIR, the alternatives were

described and compared with each other and with the proposed Project. The No Project Alternative was identified as the environmentally superior alternative. Under CEQA Guidelines section 15126.6(e)(2), if the No Project Alternative is identified as the environmentally superior alternative, the EIR must also identify an environmentally superior alternative among the other alternatives. Based on the analysis contained in the EIR, there is no clear Environmentally Superior Alternative to the proposed Project that is capable of achieving the Project objective. No one alternative would eliminate the significant and adverse impacts of the proposed Project.

30. The San Diego Water Board certifies that it has independently reviewed and considered the information on alternatives provided in the EIR and in the record. The EIR reflects the San Diego Water Board's independent judgment as to alternatives. The San Diego Water Board finds that the Project provides the best balance between the Project goals and objectives and the Project's benefits as described below in the Statement of Overriding Considerations. The four CEQA alternatives proposed and evaluated in the EIR are rejected for the following reasons. Each individual reason presented below constitutes a separate and independent basis to reject the Project alternative as being infeasible, and, when the reasons are viewed collectively, provide an overall basis for rejecting the alternative as being infeasible.
31. No Project/No Development Alternative: Under the No Project/No Development Alternative, the Project would not be undertaken and the site would remain in its current condition with the contaminated sediment remaining and the condition of pollution and/or nuisance persisting in San Diego Bay. This alternative would avoid all of the Projects potentially significant and mitigable impacts, as well as the significant and unavoidable impacts. This alternative is rejected as infeasible because:
  - a. It would not attain the cleanup levels and would not remediate areas as identified in the Tentative CAO because the Tentative CAO would not be implemented. Therefore, the No Project/No Development alternative would not protect the quality of the waters of San Diego Bay for the use and enjoyment by the people of the state and it is not capable of achieving the Project objective;
  - b. It would not reduce or minimize adverse effects to aquatic life beneficial uses, aquatic-dependent wildlife beneficial uses, or human health beneficial uses because the contaminated sediments would remain in place and the condition of pollution and/or nuisance would persist;
  - c. It would not implement a cleanup plan and would not realize any long-term public benefits associated with the cleanup of the contaminated marine sediments;
  - d. The site would continue to constitute a public nuisance by being injurious to human health obstructing the free use of property, and interfering with the comfortable enjoyment of life and property.

- e. Because there is no construction or dredging activity associated with the No Project/No Development alternative, the alternative would not result in any long-term or short-term loss of use of shipyard and other San Diego Bay-dependent facilities; however, the nuisance and public health effects of the contaminated sediments would continue to have a negative impact on San Diego Bay-dependent facilities and beneficial uses.
32. Confined Aquatic Disposal Site (CAD): Under the CAD alternative the contaminated sediments would be dredged and deposited in a constructed CAD facility at a yet to be determined location. A CAD facility is a submerged containment area where dredged material is placed. This alternative would reduce some potentially significant impacts, but would not avoid or reduce the significant unavoidable impacts. This alternative would also increase some potentially significant impacts, thus requiring additional mitigation measures. This alternative was rejected as infeasible because:
- a. It would increase air quality emissions associated with dredging activities due to the need for additional construction vessels and equipment to remove and dispose of the additional sediment associated with constructing the CAD facility itself.
  - b. It would slightly increase the potentially significant marine biological impacts in the area where the CAD facility would be constructed, requiring additional mitigation measures.
  - c. It would increase the potential water quality impacts in the area where the CAD facility would be constructed, which would require additional mitigation measures and permitting.
  - d. It includes additional unidentified areas within San Diego Bay waters that would be disturbed due to the construction and filling of the CAD facility.
  - e. It would require monitoring of the CAP for a significant time period to ensure the stability of the CAD, and its success in sequestering the contaminants.
  - f. It could have greater impacts if the CAD facility did not effectively sequester underlying contaminants and the marine biological community did not re-establish itself.
33. Convair Lagoon Confined Disposal Facility (Convair CDF): Under the Convair CDF alternative the contaminated sediments would be dredged and deposited in a created nearshore CDF at Convair Lagoon in the northern portion of San Diego Bay. A CDF is an engineered structure consisting of dikes or other retaining structures that extend above any adjacent water surface and enclose a disposal area for containment of dredged material, thereby isolating the dredged material from adjacent waters or land. A nearshore CDF typically creates new shoreline. This alternative would reduce some potentially significant impacts, but would not avoid or reduce the significant unavoidable impacts. This alternative would also significantly increase some potentially significant impacts, thus requiring additional mitigation measures. This alternative was rejected as infeasible because:
- a. It would increase air quality emissions associated with dredging activities (due to construction vessels and equipment) due to the removal and construction

- activities associated with the building of the CDF. These air quality impacts would remain a significant adverse impact.
- b. It would increase the potentially significant traffic impacts due to CDF construction, requiring additional mitigation measures.
  - c. It would significantly increase the potential marine biological impacts due to CDF construction, which would require significantly more mitigation measures.
  - d. It would increase the potential water quality impacts, which would require additional mitigation measures and permitting.
  - e. It would require monitoring of the CDF for a significant time period to ensure the stability of the CDF, and its success in sequestering the contaminants.
  - f. It could have greater impacts if the CDF facility did not effectively sequester underlying contaminants.
34. Nearshore Confined Disposal Facility with Beneficial Reuse of Sediments (Nearshore CDF): This alternative is similar to the Convair CDF Alternative in that it would create a nearshore CDF. However, this alternative includes the beneficial use of placing the contaminated sediment as cover for areas under existing piers that cannot be dredged. The placed sediment would be contained by sheet pile walls on both sides. The area under the piers that cannot be dredged is not large enough to contain all of the contaminated sediment; consequently, landfill disposal will be necessary for the excess. This alternative would reduce some potentially significant impacts from traffic, hazards and noise, but would not avoid or reduce the significant unavoidable impacts. This alternative would also increase some potentially significant impacts, requiring additional mitigation measures. This alternative was rejected as infeasible because:
- a. It would increase air quality emissions associated with dredging activities (due to construction vessels and equipment) due to the removal and construction activities associated with the building of the CDF. These air quality impacts would remain a significant adverse impact.
  - b. It would increase the potential marine biological impacts due to CDF construction, which would require additional mitigation measures.
  - c. It would increase the potential water quality impacts, which would require additional mitigation measures and permitting.
  - d. It would require monitoring of the CDF for a significant time period to ensure the stability of the CDF, and its success in sequestering the contaminants.
  - e. It could have greater impacts if the CDF facility did not effectively sequester underlying contaminants.
35. Comments received on the Draft and proposed Final Program EIR suggested the San Diego Water Board should consider monitored natural attenuation as an alternative to the Project. The San Diego Water Board, in accordance with CEQA Guidelines at 15126.6(a), considered a reasonable range of alternatives to the proposed Project, or the location of the Project, which would feasibly attain most of the basic objectives of the Project but would avoid or substantially lessen any of the significant effects of the Project. Monitored natural attenuation was not

considered as an alternative to the Project, as monitored natural attenuation fails to achieve the majority of the Project objectives, as identified in the Final Program EIR.

### **Statement of Overriding Considerations**

The proposed Shipyard Sediment Remediation Project would result in significant unavoidable construction-related adverse air quality impacts of oxides of nitrogen (NO<sub>x</sub>) (which is a precursor to ozone [O<sub>3</sub>]) emissions, even after the implementation of feasible standard conditions and mitigation measures. While the adherence to San Diego Air Pollution Control District (APCD) rules and regulations and identified mitigation measures would reduce this impact, it would remain significant and adverse because the City daily threshold for NO<sub>x</sub> would be exceeded. There are no other feasible mitigation measures that are available to offset this significant impact.

Construction activities for the Shipyard Sediment Remediation Project would also contribute to construction-related adverse cumulative air quality impacts because the San Diego Air Basin (SDAB) is presently in nonattainment for O<sub>3</sub>, and the proposed Project, in conjunction with other planned Projects, would contribute to the existing nonattainment status for O<sub>3</sub>. Therefore, the cumulative construction air quality impacts of the proposed Project would remain significant.

36. The San Diego Water Board finds that each of the specific economic, legal, social, technological, environmental, or other considerations and the benefits of the Project separately and independently outweigh these remaining significant, adverse impacts and is an overriding consideration independently warranting approval. The remaining significant adverse impacts identified above are acceptable in light of each of these overriding considerations.
37. The Project will restore and protect the quality of the waters of San Diego Bay, which are currently impaired by the presence of pollutants, for use and enjoyment by the people of the state by executing a shipyard sediment cleanup Project consistent with the provisions of Tentative CAO No. R9-2012-0024.
38. The Project will attain cleanup levels for contaminated sediment that result in the restoration of beneficial uses designated under the San Diego Basin Plan as included in the Tentative CAO No. R9-2012-0024 (judged to be technologically and economically feasible as defined in section 2550.4 of CCR Title 23, pursuant to Resolution No. 92-49).
39. The Project will implement a cleanup plan that will have long-term effectiveness and restore waters 303(d) listed as impaired under the Clean Water Act.
40. The Project will minimize the adverse effects of existing pollutants on aquatic life beneficial uses, including Estuarine Habitat (EST), Marine Habitat (MAR), and Migration of Aquatic Organisms (MIGR) while restoring those beneficial uses

through final implementation of the Project.

41. The Project will minimize the adverse effects of existing pollutants on aquatic-dependent wildlife beneficial uses, including Wildlife Habitat (WILD), Preservation of Biological Habitats of Special Significance (BIOL), and Rare, Threatened, or Endangered Species (RARE) while restoring those beneficial uses through final implementation of the Project.
42. The Project will minimize the adverse effects of existing pollutants on human health beneficial uses, including Shellfish Harvesting (SHELL), and Commercial and Sport Fishing (COMM) while restoring those beneficial uses through final implementation of the Project.
43. The Project will result in the removal of a substantial mass of pollutants, including PCBs, HPAHs, tributyltin, copper, mercury and other metals from the environment.
44. The San Diego Water Board finds that the benefits to beneficial uses in San Diego Bay from implementation of Tentative CAO R9-2012-0024 are highly important to the protection of not only benthic invertebrates, fish and wildlife, but also for human health. In the absence of implementation of Tentative CAO R9-2012-0024, designated aquatic life, aquatic-dependent wildlife, and human health beneficial uses would continue to be impaired. The Project will result in long term benefits to human health and the environment by removing pollutants from the site, while the identified significant unavoidable impacts are temporary and expected to occur only for the duration of the cleanup activities. To the extent that Tentative CAO R9-2012-0024 and this decision does not fully mitigate the adverse effects of the Project, as discussed above, the San Diego Water Board finds that overriding considerations of the greater public interest requires this action. Implementing the Project objective is in the greater public interest. The environmental, economic, and social benefits of implementing Tentative CAO R9-2012-0024 outweigh the potential adverse environmental effects that are not avoided or fully mitigated.