

APPENDIX J MITIGATION MONITORING AND REPORTING PROGRAM

J.1 INTRODUCTION

This document describes the recommended mitigation monitoring and reporting program (MMRP) for implementation of the mitigation measures identified in the Port of Oakland’s (Port’s) Oakland Harbor Turning Basins Widening Final Environmental Impact Report (EIR). Each of these measures was developed to reduce a potentially significant environmental effect of the Proposed Project to less-than-significant level or to minimize a potentially significant environmental effect to the extent feasible. This document also describes the timing of the implementation of each mitigation measure and identifies the entity responsible for monitoring the implementation of each mitigation measure.

J.2 CALIFORNIA ENVIRONMENTAL QUALITY ACT REQUIREMENTS

Section 10591(d) of the California Environmental Quality Act (CEQA) Guidelines states the following:

When making the findings required in subdivision (a)(1), the agency shall also adopt a program for reporting on or monitoring the changes which it has either required in the project or made a condition of approval to avoid or substantially lessen significant environmental effects. These measures must be fully enforceable through permit conditions, agreements, or other measures.

J.3 MITIGATION MONITORING AND REPORTING PROGRAM MATRIX

Table J-1, the MMRP table, includes the following sections:

- **Mitigation Measure (MM).** This column identifies the mitigation measure specified within the EIR that would reduce potentially significant environmental effects.
- **Mitigation Monitoring Timing.** This column specifies when the identified mitigation measure should and will be implemented.
- **Responsible Monitoring Entity.** This column specifies the entity responsible for monitoring the implementation of the mitigation measure.
- **Verification and Compliance Notes.** This section will allow for the signature of the responsible entity and date of when a mitigation measure monitoring milestone has been reached.

Table J-1: Summary of Proposed Project Impacts, Mitigation Measures, and Resulting Level of Significance

| Mitigation Measure | Mitigation Monitoring Timing | Responsible Monitoring Entity | Verification and Compliance Notes |
|---|--|-------------------------------|-----------------------------------|
| Aesthetics | | | |
| None warranted | Not applicable | Not applicable | |
| Air Quality | | | |
| <p>MM AIR-1: Construction Air Quality Mitigation</p> <p>The Port shall require all contractors to implement construction-related air quality emission reduction measures. All requirements will be included as contract conditions in applicable bid documents and specifications, purchase orders, and contracts, with the contractors demonstrating the ability to implement all air quality mitigation outlined in this mitigation measure, including supplying the inventory of compliant on- or off-road construction equipment for use prior to any ground-disturbing and construction activities. The Port and its contractors shall implement all measures as outlined by their performance criteria during construction of the Proposed Project as follows:</p> <p>a. Require all diesel-fueled off-road construction equipment used on land to be equipped with United States Environmental Protection Agency Tier 4 final compliant engines or better as a condition of contract. An exception to the requirement for engines to meet Tier 4 final emission standards may be granted if a unique piece of equipment is not available as a Tier 4 engine. To be considered feasible for use, a piece of equipment must be available through at least two commercial rental facilities in the San Francisco Bay Area Air Basin. For any piece of equipment that it is infeasible to obtain, the contractor shall use the lowest-emission vehicle or equipment that is commercially available (i.e., available through at least two commercial rental facilities in the San Francisco Bay Area Basin).</p> | <p>Prior to start of construction</p> <p>During construction</p> | Port | |

| Mitigation Measure | Mitigation Monitoring Timing | Responsible Monitoring Entity | Verification and Compliance Notes |
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| <p>b. Use zero-emission and hybrid-powered equipment, to the greatest extent possible. The performance criterion for meeting this standard assumes availability by at least two commercial rental facilities in the San Francisco Bay Area Air Basin. Equipment in this part should include handheld equipment, forklifts, loaders, and other forms of yard and construction equipment. Electric dredgers will be used for all dredging subject to the exception listed in MM ENE-1.</p> <p>c. Require all on-road heavy-duty trucks to be a 2015 model year or newer truck.</p> <p>d. Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to no more than two minutes. Provide clear signage that posts this requirement for workers at the entrances to the site. The Port will conduct random monthly surveys to check for compliance with idling times to ensure compliance with this measure.</p> <p>e. Require all construction equipment to be maintained and properly tuned in accordance with manufacturer’s specifications. Equipment shall be checked by a certified mechanic in accordance with manufacturer’s specifications and determined to be running in proper condition prior to operation.</p> <p>f. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered at least two times per day to prevent visible airborne dust from leaving the site.</p> <p>g. All haul trucks transporting soil, sand, or other loose material off site shall be covered.</p> <p>h. All visible mud or dirt trackout onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day, or other suitable practices to remove dirt from tire mechanisms</p> | | | |

| Mitigation Measure | Mitigation Monitoring Timing | Responsible Monitoring Entity | Verification and Compliance Notes |
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| <p>shall be employed to minimize occurrences of trackout. The use of dry power sweeping is prohibited.</p> <ul style="list-style-type: none"> i. All vehicle speeds on unpaved roads shall be limited to 15 mph. j. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. k. All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph in a given hour. l. All trucks and equipment, including their tires, shall be washed off prior to leaving the site. m. Unpaved roads providing access to sites 100 feet or further from a paved road shall be treated with a 6- to 12-inch compacted layer of wood chips, mulch, or gravel. n. Publicly visible signs shall be posted with the telephone number and name of the person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District’s General Air Pollution Complaints number shall also be posted on a publicly visible sign to ensure compliance with applicable regulations. o. Limit the simultaneous occurrence of excavation, grading, and ground-disturbing construction activities. p. Install wind breaks (e.g., trees, fences) on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity. q. Plant and maintain vegetative ground cover (e.g., fast-germinating native grass seed) in disturbed areas as soon as possible and water the ground cover appropriately until vegetation is established. | | | |

| Mitigation Measure | Mitigation Monitoring Timing | Responsible Monitoring Entity | Verification and Compliance Notes |
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| <p>r. Install sandbags or other erosion control measures, such as blankets or mats, to prevent silt runoff to public roadways from sites with a slope greater than 1 percent.</p> <p>s. Minimize the amount of excavated material or waste materials stored at the site.</p> <p>t. Hydroseed or apply nontoxic soil stabilizers to construction areas, including previously graded areas, that are expected to be inactive for at least 10 calendar days.</p> | | | |
| Biological Resources | | | |
| <p>MM BIO-1A: Silt Curtains</p> <p>Silt curtains shall be used when dredging sediment with elevated levels of chemical contaminants, as determined through the pre-construction sediment quality characterization and as required by Project permits, or when dredging within 250 meters (or 820 feet, as determined by the pre-construction eelgrass survey) of eelgrass beds. Prior to in-water construction, a silt curtain shall be deployed from the water's edge and pushed out to the deployed location to avoid entrapping aquatic wildlife species.</p> | During construction | Port | |
| <p>MM BIO-1B: Worker Education Program</p> <p>A worker education program shall be implemented for special-status fish, birds, and marine mammals that could be adversely impacted by construction activities. The program shall include a presentation to all workers on biology, general behavior, distribution, habitat needs, sensitivity to human activities, legal protection status, and project-specific protective measures for each species. Workers shall also be provided with written materials containing this information. Written material shall be provided in different languages as needed.</p> | Prior to start of construction | Port | |

| Mitigation Measure | Mitigation Monitoring Timing | Responsible Monitoring Entity | Verification and Compliance Notes |
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| <p>MM BIO-1C: Pile-Driving–Related Measures</p> <p>The following measures shall be implemented to reduce potential impacts from pile driving on special-status fish, marine mammals, and birds:</p> <ul style="list-style-type: none"> • To the extent feasible, all pilings or similar in-water structures shall be installed and removed with vibratory pile drivers only. If feasible, vibratory pile driving shall be conducted following United States Army Corps of Engineers’ (USACE) Proposed Additional Procedures and Criteria for Permitting Projects under a Programmatic Determination of Not Likely to Adversely Affect Select Listed Species in California. • An impact pile driver shall only be used where necessary to complete installation of piles or in-water structures in accordance with seismic safety or other engineering criteria. If impact driving is needed for in-water pile installation, the following measures shall be implemented: <ul style="list-style-type: none"> ○ Prior to the start of impact pile driving, the Port, in coordination with USACE, shall prepare National Marine Fisheries Service (NMFS)-approved Hydroacoustic and Biological Monitoring Plan (described below) to protect fish and marine mammals. ○ Piles driven with an impact driver shall employ a “soft start” technique to give fish an opportunity to move out of the area before full-powered impact driving begins. Only a single impact hammer would be operated at a time. ○ The impact hammer shall be cushioned using a 12-inch-thick wood cushion block during all impact hammer pile-driving operations. ○ During impact pile-driving of steel piles, a bubble curtain shall be used to attenuate underwater sound levels. ○ The Port, in coordination with USACE, shall monitor and verify sound levels during pile driving activities. The sound monitoring results would be made available to NMFS and other regulatory agencies as needed. | <p>Prior to start of construction</p> <p>During construction</p> | <p>Port</p> | |

| Mitigation Measure | Mitigation Monitoring Timing | Responsible Monitoring Entity | Verification and Compliance Notes |
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| <ul style="list-style-type: none"> • A Hydroacoustic and Biological Monitoring Plan shall be prepared prior to the start of construction for review and approval by NMFS. This plan shall provide details on the methods used to monitor and verify sound levels during pile-driving activities. The plan shall include specific measures to minimize exposure of marine mammals and fish to high sound levels, including conditions requiring construction work to temporarily stop. • To the extent feasible, based on Project design, cost, and schedule considerations, impact pile driving shall not occur during the bird breeding season of February 1 to August 15. If impact pile driving must occur during the bird breeding season, work areas plus an appropriate buffer area determined by a qualified biologist shall be surveyed by a qualified biologist to verify the presence or absence of nesting raptors or other birds. If the survey indicates the potential presence of nesting raptors or other nesting birds, an appropriately sized buffer shall be applied around the nest in which no work would be allowed until the young have successfully fledged, so that nesting birds are not disturbed by the Project activity. In general, buffer sizes of 200 feet for raptors should suffice to prevent disturbance to birds nesting in the urban environment, but the buffers may be increased or decreased, as appropriate, depending on the bird species and the level of disturbance anticipated near the nest. <p>In addition, the Long Term Management Strategy program dredging work window for California least tern in the Proposed Project vicinity is August 1 through March 15 each year. If impact pile-driving activities must occur outside of this work window, the Port shall coordinate with the USACE to initiate additional consultation with the United States Fish and Wildlife Service (USFWS) to obtain written authorization to work outside this window.</p> | | | |

| Mitigation Measure | Mitigation Monitoring Timing | Responsible Monitoring Entity | Verification and Compliance Notes |
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| <p>MM BIO-2: Eelgrass Surveys</p> <p>Prior to the start of any in-water construction, the Port, in coordination with USACE, shall conduct an eelgrass survey, subject to approval by NMFS and CDFW, consistent with the measures described in the NMFS October 2014 California Eelgrass Mitigation Policy and Implementation Guidelines (CEMP). The survey shall include the following:</p> <ul style="list-style-type: none"> • Before in-water construction activities occur in the marine environment, eelgrass surveys shall be conducted in the in-water work areas plus a 250-meter (820-foot) buffer, and at an appropriate reference site(s). Surveys shall take place within 60 days before the start of construction, consistent with the methods outlined in the CEMP. • After construction, a post-action survey of the eelgrass habitat in the in-water work areas plus a 250-meter (820-foot) buffer, and at an appropriate reference site(s), shall be completed. Surveys shall take place within 30 days of completion of construction, or within the first 30 days of the next active growth period that follows completion of construction and occurs outside of the active growth period. • Areas of direct and indirect impact shall be determined from an analysis that compares the pre-action condition of eelgrass habitat with the post-action conditions from this survey, relative to eelgrass habitat change at the reference site(s), in accordance with the methods described in the CEMP. • If impacts to eelgrass are known to occur prior to construction, based on the preconstruction survey, or observed to occur after construction, the Port, in coordination with the USACE, shall develop a mitigation plan to achieve no net loss in eelgrass function, following the steps recommended in the CEMP. Potential mitigation options include comprehensive management plans, in-kind mitigation, mitigation banks and in-lieu-fee programs, and out-of-kind mitigation, as defined in the CEMP. If mitigation is determined necessary to offset impacts to eelgrass, the Port shall obtain CDFW authorization for the harvest and transplanting of eel grass in state waters through issuance of a Scientific Collection Permit, pursuant to Fish and Game Code Sections 1002, 1002.5, and 1003. | <p>Prior to start of construction</p> <p>After construction</p> | <p>Port</p> | |

| Mitigation Measure | Mitigation Monitoring Timing | Responsible Monitoring Entity | Verification and Compliance Notes |
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| Cultural Resources | | | |
| <p>MM CUL-2: Inadvertent/Unanticipated Archaeological Cultural Resources Discovery Protocols</p> <p>If a potential archaeological resource is discovered during Project construction, the following actions shall be taken:</p> <ol style="list-style-type: none"> 1. Dredging and excavation work, or any other activities at the locations and within 50 feet of the finds must halt. 2. The crew member(s) shall immediately notify the Project Construction Manager and the Port Project Manager. 3. Work can be shifted to other Project areas to avoid loss of work time. However, work shall only resume in the suspected area once the situation has been properly examined and assessed by a qualified archaeologist, and the Port has given notification that work may resume. <p>To ensure that the work force is aware of the regulatory protections afforded to cultural resources, the potential impacts that could occur with the inadvertent discovery of previously unknown archaeological resources during Project construction, how to recognize archaeological resources, as well as the procedures to be followed in the event of such a discovery, the Port shall provide a cultural resources awareness training to the Project’s prime contractor and subcontractors involved with sediment- and soil-disturbing activities. The Port shall also provide a construction “ALERT” sheet for the Project prepared by a qualified archaeologist. The ALERT sheet shall contain, at a minimum, visuals that depict each type of artifact that could potentially be encountered, as well as the procedures to be followed in the event of a potential discovery, and the contact information of those Port personnel who are to be contacted in the event of a discovery. Prior to any soil-disturbing activities, each contractor shall be responsible for ensuring that the ALERT sheet is circulated to all field personnel. The ALERT sheet shall also</p> | <p>Prior to start of construction</p> <p>During construction, if required</p> | <p>Port</p> | |

| Mitigation Measure | Mitigation Monitoring Timing | Responsible Monitoring Entity | Verification and Compliance Notes |
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| <p>be posted in a visible location at the Project site, as well as being available at any time during construction.</p> <p>In the event that potential archaeological resources are inadvertently discovered during Project construction, all activity within a 50-foot radius of the find shall be stopped, the appropriate Port personnel shall be notified as listed above, and a qualified archaeologist shall be retained by the Port to examine the find. Project personnel shall not collect or move any uncovered materials whether suspected to be archaeological in nature or not. The archaeologist shall provide a preliminary evaluation of the find(s) to determine whether it meets the definition of a historical or unique archaeological resource.</p> <p>If the find(s) meets the definition of a historical resource (i.e., it is California Register of Historical Resources-eligible) or unique archaeological resource under CEQA, then it shall be avoided and preserved in place (the preferred method if feasible). Feasibility of avoidance shall be determined with consideration of factors such as the nature of the find, Project design, costs, and other considerations. If avoidance is not feasible, as determined by the Port, the qualified archaeologist shall prepare a treatment plan that includes measures to reduce impacts to the resource. The treatment plan measures may include, but need not be limited to, design changes to limit disturbance of the resource and/or data recovery.</p> | | | |
| <p>MM CUL-3: Inadvertent/Unanticipated Discovery of Human Remains</p> <p>In the event that human remains are inadvertently discovered during Project construction, all work shall immediately halt in accordance with Health and Safety Code Section 7050.5 and Public Resources Code Sections 5097.94 and 5097.98. The Port shall also notify the Alameda County Coroner of the discovery. If the Alameda County Coroner determines that an investigation of the cause of death is required or that the remains are Native American, all work shall cease within 50 feet of</p> | During construction, if required | Port | |

| Mitigation Measure | Mitigation Monitoring Timing | Responsible Monitoring Entity | Verification and Compliance Notes |
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| <p>the remains until appropriate arrangements are made. If the remains are Native American, the Port shall contact the California Native American Heritage Commission, pursuant to subdivision (c) of Section 7050.5 of the California Health and Safety Code. If the Port determines that avoidance is not feasible, then an alternative plan shall be prepared with specific steps and timeframe required to resume construction activities.</p> | | | |
| Energy | | | |
| <p>MM ENE-1: Switch to Diesel Dredging during Peak Electricity Demand Events</p> <p>The Port’s Project Managers and the Port’s supervising staff shall enroll in the California Independent System Operator’s notification system prior to any dredging activities, so that Project Managers and Port supervisory staff receive the Emergency Energy Alert notices. When an Emergency Energy Alert 3 Notice to prepare for rotating power outages is issued by the California Independent System Operator for the Northern California Region and/or the California Independent System Operator Grid and/or Alameda Municipal Power, the Port shall cease electric dredging activities, and may continue dredging activities using alternative means of power (diesel-generation).</p> | <p>Prior to start of construction</p> <p>During construction, if required</p> | <p>Port</p> | |

| Mitigation Measure | Mitigation Monitoring Timing | Responsible Monitoring Entity | Verification and Compliance Notes |
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| Geology/Soils | | | |
| <p>MM GEO-1: Site-Specific Geotechnical and Structural Investigation</p> <p>The Port shall perform a site-specific geotechnical investigation to verify soil characteristics and inform pre-construction engineering and final design of the new bulkheads and shoreline protection along the federal navigation channel and turning basins. The investigation shall include the drilling of soil borings (e.g., cone penetrating testing) to characterize specific soil properties and provide engineers with information necessary to confirm compliance with all applicable building codes and standards, as well as develop site-specific design features and construction measures to minimize risk to structures and people due to seismic shaking, and ensure that the constructed facilities maintain slope reliability and do not result in adverse effects related to ground failure, landslide, lateral spreading, subsidence, liquefaction, or collapse. A registered geotechnical or structural engineer must review the site-specific geotechnical and structural investigation and require compliance with all design and construction measures in the investigation for the grading, foundation, structural, infrastructure, and other relevant construction elements. The investigation must ensure that shoreline stability and structural integrity are maintained or improved. Specific design features and construction measures recommended by the Project engineer and approved by the Port as necessary to achieve that performance standard shall include, at a minimum:</p> <ul style="list-style-type: none"> • Ensure that bulkhead and sheet pile shoreline structures comply with applicable USACE seismic standards and building codes at the time of project implementation. Seismic design standards include, but are not limited to, the following: <ul style="list-style-type: none"> ○ USACE, 2016, Earthquake Design and Evaluation for Civil Works Projects, ER 1110-2-1806, Regulation No. 1110-2-1806, May | Preconstruction engineering and design | Port | |

| Mitigation Measure | Mitigation Monitoring Timing | Responsible Monitoring Entity | Verification and Compliance Notes |
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| <ul style="list-style-type: none"> ○ Urban Levee Design Criteria (ULDC, 2012) (also addressed in draft 2022 USACE Engineer Manual for Evaluation, Design, and Construction of Levees) ● Ensure that bulkhead and sheet pile shoreline structures are designed to withstand ground accelerations expected from known active faults. ● Institute site preparations, subsurface soil improvements, and final design parameters for walls, foundations, utilities, and other surrounding improvements, as applicable. ● Apply alternative site-specific measures to reduce the risk of liquefaction, including treatment or removal of subsurface soil or installation of deep foundations, soil cover, dynamic compaction, or edge containment structures (berms, sea walls, retaining structures, compacted soil zones). ● Impose site grading requirements for soil moisture content and fill material, utility trench backfill, grade construction, or trenching and excavation. | | | |
| <p>MM GEO-5: Inadvertent Discovery of Paleontological Resources</p> <p>Before construction begins, the Port shall ensure that all construction personnel receive awareness training that includes information on the possibility of encountering fossils during construction, and proper procedures in the event fossils are encountered.</p> <p>Pursuant to State CEQA Guidelines Section 15064.5(f), in the event that any paleontological resources are discovered during ground-disturbing activities, all work within 50 feet of the resources shall be halted and the Port shall consult with a qualified paleontologist to assess the significance of the find. In the event of discovery of paleontological resources, the assessment shall be done in accordance with the Society of Vertebrate Paleontology standards. If any find is determined to be significant, appropriate avoidance measures shall be considered unless avoidance is</p> | <p>Prior to start of construction</p> <p>During construction, if required</p> | <p>Port</p> | |

| Mitigation Measure | Mitigation Monitoring Timing | Responsible Monitoring Entity | Verification and Compliance Notes |
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| <p>determined unnecessary or infeasible. Feasibility of avoidance shall be determined with consideration of factors such as the nature of the find, Proposed Project design, costs, and other considerations. If avoidance is infeasible, other appropriate measures (e.g., data recovery, excavation) shall be instituted. Work may proceed on other parts of the Project site while measures for the paleontological resources are implemented. All significant paleontological materials recovered shall be subject to scientific analysis, professional museum curation, and/or a report prepared by a qualified paleontologist, as appropriate, according to current professional standards.</p> | | | |
| <p>Greenhouse Gas Emissions (GHG)</p> | | | |
| <p>MM GHG-1: Construction GHG Mitigation</p> <p>The Port shall require the contractor to implement construction-related GHG emission reduction measures. All requirements shall be included in applicable bid documents, purchase orders, and constructs, with the contractors demonstrating the ability to supply the compliant on- or off-road construction equipment for use prior to any ground-disturbing and construction activities. The measures to include are as follows:</p> <ul style="list-style-type: none"> • Use zero-emission and hybrid-powered equipment to the greatest extent possible. The performance criteria for meeting this standard are availability by at least two commercial rental facilities in the San Francisco Bay Area Air Basin. • Require all on-road heavy-duty trucks to be the most stringent emissions standard as a condition of contract. This currently means a 2015 model year or newer truck. • Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to no more than two minutes. Provide clear signage that posts this requirement for workers at the entrances to the site, and the Port will conduct random monthly surveys to | <p>Prior to start of construction During construction</p> | <p>Port</p> | |

| Mitigation Measure | Mitigation Monitoring Timing | Responsible Monitoring Entity | Verification and Compliance Notes |
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| <p>check for compliance with idling times to ensure compliance with this measure.</p> <ul style="list-style-type: none"> • Use California Air Resources Board-approved renewable diesel fuel R99 or R100 in off-road construction equipment and on-road trucks. • Use United States Environmental Protection Agency SmartWay-certified trucks for deliveries and equipment transport. • Require all construction equipment be maintained and properly tuned in accordance with manufacturer’s specifications. Equipment should be checked by a certified mechanic and determined to be running in proper condition prior to operation. • Encourage and provide carpools, shuttle vans, transit passes, and/or secure bicycle parking to construction workers, and offer meal options on site or shuttles to nearby meal destinations for construction employees. • Recycle or salvage nonhazardous construction and demolition debris. • Develop a plan to efficiently use water for adequate dust control because substantial amounts of energy can be consumed during the pumping of water. | | | |
| Hazards and Hazardous Materials | | | |
| Refer to Transportation mitigation measure TRA-1. | | | |

| Mitigation Measure | Mitigation Monitoring Timing | Responsible Monitoring Entity | Verification and Compliance Notes |
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| Hydrology/Water Quality | | | |
| <p>MM HYD-1: Silt Curtains</p> <p>Silt curtains shall be used when dredging sediment with elevated levels of chemical contaminants, as determined through the pre-construction sediment quality characterization and as required by Project permits, or when dredging within 250 meters (or 820 feet, as determined by the pre-construction eelgrass survey) of eelgrass beds. Prior to in-water construction, a silt curtain shall be deployed from the water's edge and pushed out to the deployed location to avoid entrapping aquatic wildlife species.</p> | During construction | Port | |
| Land Use/Planning | | | |
| None warranted. | Not applicable | Not applicable | |
| Noise | | | |
| <p>MM NOI-1A: Pile Driving Noise-Reducing Techniques and Muffling Devices</p> <p>The Port shall require the construction contractor to use noise-reducing pile-driving techniques if conducted within 1,500 feet of receptors identified in Table 3.12-14 of the EIR that could be subject to significant pile-driving noise. Construction contractors shall be required to use construction equipment with state-of-the-art noise shielding and muffling devices. For impact hammer driving, these techniques shall include use of cushion blocks during pile installation activities within 1,500 feet of sensitive receptors in Oakland and Alameda. The impact pile hammer shall be cushioned using a wood cushion block or other material sufficient to obtain an 11 A-weighted decibels (dBA) reduction for all impact hammer pile-driving operations. For all pile-driving activities, at least 14 calendar days prior, the Port, in coordination with USACE, shall notify residents within 1,500 feet of the pile-driving activities of the dates, hours, and expected duration of such activities. Publicly visible signs shall be posted with the telephone number and name of the person to contact regarding noise complaints. This person shall respond within 48 hours and take corrective action as necessary.</p> | <p>Prior to start of construction</p> <p>During construction</p> | Port | |

| Mitigation Measure | Mitigation Monitoring Timing | Responsible Monitoring Entity | Verification and Compliance Notes |
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| <p>MM NOI-1B: Erection of a Temporary Noise Barrier</p> <p>To address significant nighttime noise impacts at the Mosley Avenue residences in Alameda, the Port shall require contractors, as a condition of contract, to construct a temporary 12-foot noise barrier along the southern edge of the harbor on the Alameda side of the turning basin during nighttime dredging activities at the Alameda Site. The barrier shall be installed at a location approximately 220 feet from the noise source and 380 feet from the nearest receptors. The barrier’s location would serve as a lateral extension of the existing warehouse structure on the Alameda Site, north of the athletic fields. The barrier shall be of solid construction with no apparent gaps. Barriers are generally constructed with two layers of 0.5-inch-thick plywood (with joints staggered), and K-rail or other support; or a limp mass barrier material weighing 2 pounds per square foot. For all nighttime dredging activities, at least 14 calendar days prior, the Port, in coordination with USACE, shall notify residents within 1,000 feet of the nighttime dredging of the dates, hours, and expected duration of such activities. Publicly visible signs shall be posted with the telephone number and name of the person to contact regarding noise complaints. This person shall respond within 48 hours and take corrective action as necessary.</p> | <p>Prior to nighttime dredging in Alameda</p> | <p>Port</p> | |
| Recreation | | | |
| <p>None warranted</p> | <p>Not applicable</p> | <p>Not applicable</p> | |
| Transportation | | | |
| <p>MM TRA-1: Traffic Control Plan</p> <p>The Port shall require the construction contractor, as a term of the construction contract, to develop a comprehensive construction traffic control plan (TCP) that includes measures to minimize the effects of Project-related construction traffic on overall circulation, including traffic, transit, bicycle, and pedestrian routes, safety, and emergency access.</p> | <p>Prior to start of construction During construction</p> | <p>Port</p> | |

| Mitigation Measure | Mitigation Monitoring Timing | Responsible Monitoring Entity | Verification and Compliance Notes |
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| <p>Measures in the construction TCP would include at minimum the following:</p> <ul style="list-style-type: none"> • Site plans for ingress and egress locations showing construction staging areas, existing signage/stripping, speed limits, locations of proposed temporary traffic controls (e.g., signage, flaggers), and detours (if required), to minimize vehicle, bicycle and pedestrian conflicts and ensure safety for all travelers, particularly during periods of heavy hauling activity; • Encourage passenger vehicle use of alternative routes (to avoid construction traffic); • Identification and enforcement of designated truck haul routes. Enforcement may include compliance monitoring and reporting by the contractor; • Advance written notification of neighboring residents, businesses, and other property owners, as well as the Cities of Oakland and Alameda and key stakeholders of any substantial increases in construction traffic (e.g., ramping up of hauling activity); • Posting information regarding the Project’s schedule and associated truck traffic on the Project website; • Posting publicly visible signs with the telephone number and name of the person to contact regarding constructed-related traffic complaints. This person shall respond within 48 hours and take corrective action as necessary; • Maintenance of adequate emergency access at the Project sites and general access for neighboring properties at all times; and • Designated construction worker parking locations and management plan (e.g., carpool/vanpool programs, and leased parking in remote/off-site parking facilities). | | | |

| Mitigation Measure | Mitigation Monitoring Timing | Responsible Monitoring Entity | Verification and Compliance Notes |
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| Tribal Cultural Resources | | | |
| <p>MM TCR-1: Inadvertent/Unanticipated Tribal Cultural Resources Discovery Protocols</p> <p>If tribal cultural resources or potential tribal cultural resources are discovered during Project construction, the following actions shall be taken:</p> <ol style="list-style-type: none"> 1. Dredging and excavation work, or any other activities at the locations and within 50 feet of the finds must halt. 2. The crew member(s) shall immediately notify the Project Construction Manager and the Port Project Manager. 3. Work can be shifted to other Project areas to avoid loss of work time. However, work shall only resume in the suspected area once the situation has been properly examined and assessed by a qualified archaeologist, and the Port has given notification that work may resume. <p>To ensure that the work force is aware of the regulatory protections afforded to tribal cultural resources, the potential impacts that could occur with the inadvertent discovery of previously unknown precontact archaeological resources during Project construction, how to recognize precontact archaeological resources that could be determined to also represent tribal cultural resources, as well as the procedures to be followed in the event of such a discovery, the Port shall provide a cultural resources awareness training to the Project’s prime contractor and subcontractors involved with sediment- and soil-disturbing activities. The Port shall also provide a construction “ALERT” sheet for the Project prepared by a qualified archaeologist. The ALERT sheet shall contain, at a minimum, visuals that depict each type of precontact artifact that could potentially be encountered, as well as the procedures to be followed in the event of a potential discovery, and the contact information of those</p> | <p>Prior to start of construction</p> <p>During construction, if required</p> | <p>Port</p> | |

| Mitigation Measure | Mitigation Monitoring Timing | Responsible Monitoring Entity | Verification and Compliance Notes |
|---|------------------------------|-------------------------------|-----------------------------------|
| <p>Port personnel who are to be contacted in the event of a discovery. Prior to any soil-disturbing activities, each contractor shall be responsible for ensuring that the ALERT sheet is circulated to all field personnel. The ALERT sheet shall also be posted in a visible location at the Project site.</p> <p>In the event that potential precontact archaeological resources are inadvertently discovered during Project construction, all activity within a 50-foot radius of the find shall be stopped, the appropriate Port personnel shall be notified as listed above, and a qualified archaeologist shall be retained by the Port to examine the find. Project personnel shall not collect or move any uncovered materials—whether suspected to be archaeological in nature or not. The archaeologist shall provide a preliminary evaluation of the find(s) to determine if a precontact archeological resources is represented; and if so, whether it meets the definition of a potential tribal cultural resource.</p> <p>If the find(s) meet the definition of a potential tribal cultural resource under CEQA, then it shall be avoided and preserved in place (the preferred method if feasible). Feasibility of avoidance shall be determined with consideration of factors such as the nature of the find, Project design, costs, and other considerations. If avoidance is not feasible, as determined by the Port, the Port will consult the appropriate tribal entities as well as the qualified archaeologist to prepare a treatment plan that includes measures to reduce impacts to the resource. The treatment plan measures may include, but need not be limited to, design changes to limit disturbance of the resource, minimizing processing of materials for reburial, minimizing handling of tribal cultural resources objects, leaving objects in place within the landscape, or returning tribal cultural resources objects to a location in the general vicinity of the Proposed Project where they will not be subject to future disturbance. Data recovery as well as the development of interpretive materials may also be deemed appropriate.</p> | | | |

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|----------------------------------|------------------------------|-------------------------------|-----------------------------------|
| Utilities/Service Systems | | | |
| None warranted | Not applicable | Not applicable | |

Notes:

CEMP = California Eelgrass Mitigation Policy and Implementation Guidelines

CEQA = California Environmental Quality Act

dB(A) = A-weighted decibels

GHG = greenhouse gas

MM = Mitigation Measure

NMFS = National Marine Fisheries Service

Port = Port of Oakland

TCP = traffic control plan

USACE = United States Army Corps of Engineers

USFWS = United States Fish and Wildlife Service