

MITIGATION MONITORING AND REPORTING PROGRAM FOR ALCATRAZ FERRY EMBARKATION PROJECT					
MEASURES ADOPTED AS CONDITIONS OF APPROVAL	Responsibility for Implementation	Schedule	Monitoring/Reporting Responsibility	Status/Date Completed	Monitoring Agency
archaeological resource is present, and if in consultation with the affiliated Native American tribal representatives, the Environmental Review Officer determines that the resource constitutes a tribal cultural resource and that the resource could be adversely affected by the proposed project, the proposed project shall be redesigned so as to avoid any adverse effect on the significant tribal cultural resource, if feasible. If the Environmental Review Officer, in consultation with the affiliated Native American tribal representatives and the project proponent, determines that preservation-in-place of the tribal cultural resources is not a sufficient or feasible option, the project proponent shall implement an interpretive program of the tribal cultural resources in consultation with affiliated tribal representatives. An interpretive plan produced in consultation with the Environmental Review Officer and affiliated tribal representatives, at a minimum, and approved by the Environmental Review Officer, would be required to guide the interpretive program. The plan shall identify, as appropriate, proposed locations for installations or displays, the proposed content and materials of those displays or installation, the producers or artists of the displays or installation, and a long-term maintenance program. The interpretive program may include artist installations, preferably by local Native American artists, oral histories with local Native Americans, artifacts displays and interpretation, and educational panels or other informational displays. In the event that construction activities disturb unknown archaeological sites that are considered tribal cultural resources, any inadvertent damage would be considered a significant impact.	professional archaeologist from the pool of archaeological consultants maintained by the Planning Department.	permits, submittal of all plans and reports for approval by the Port of San Francisco and Environmental Review Officer Installation of displays (if needed) would occur prior to or during construction.	retained per Port of San Francisco and Environmental Review Officer direction, the archaeological consultant's work shall be conducted in accordance with this measure at the direction of the Port of San Francisco and Environmental Review Officer.	project proponent retains a qualified professional archaeological consultant, if required, and archeological consultant has approved scope by the Port of San Francisco and Environmental Review Officer for the interpretive program; and/or following program implementation.	(Pier 31½ site) National Park Service (Fort Baker site)
<i>Noise Mitigation Measures</i>					
M-NO-2: Conduct Vibration Monitoring at Pier 31½	Project proponent	Prior to the start	Project proponent	Considered	Port of San

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<p>The project proponent would require that a qualified professional evaluate the subject structure(s) prior to the pile driving to assess their susceptibility to vibration impacts and provide pre-construction bracing if warranted. Based on the results of the evaluation, the professional shall develop a vibration control plan. The plan would include a set of site-specific vibration attenuation measures that would be implemented under the supervision of a qualified acoustical consultant during the project construction. These attenuation measures would include as feasible, in consideration of technical and structural requirements and conditions, implementing “quiet” pile driving technology, such as predrilling piles, using sonic pile drivers, or using more than one pile driver to shorten the total duration of pile driving. During construction, the construction contractor will conduct vibration monitoring when construction activities occur within 50 feet of the historic Pier 33 bulkhead building. If monitoring indicates that peak particle velocity caused by construction activities is approaching 0.12 inches per second, construction activities would be halted and a plan would be developed to reduce construction activities. Other effective strategies may also be required to the extent necessary to achieve a peak particle velocity vibration level at bulkhead buildings of less than the level of 0.12 inches per second.</p>	<p>and construction contractor(s).</p>	<p>of construction activities</p> <p style="text-align: center;">Implementation during construction</p>	<p>shall include requirements of vibration monitoring plan in all construction contracts for the Pier 31½ site. Vibration monitoring plan to be submitted to Port of San Francisco for review and approval prior to construction</p> <p>Project proponent to submit to the Port of San Francisco documentation of compliance of implemented control practices that show construction contractor</p>	<p>complete upon submittal of documentation incorporating identified practices.</p>	<p>Francisco</p>

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			agreement with specified practices.		
<i>Air Quality Mitigation Measures</i>					
<p>M-AQ-4: Best Available Control Technology for Diesel Generators at Pier 31½</p> <p>The project proponent shall ensure that the backup diesel generator meets or exceeds one of the following emission standards for particulate matter: 1) Tier 4-certified engine; or 2) Tier 2- or Tier 3-certified engine that is equipped with a California Air Resources Board Level 3 Verified Diesel Emissions Control Strategy. A non-verified diesel emission control strategy may be used if the filter has the same particulate matter reduction as the identical California Air Resources Board-verified model and if the Bay Area Air Quality Management District approves of its use. The project proponent shall submit documentation of compliance with the Bay Area Air Quality Management District New Source Review permitting process (Regulation 2, Rule 2, and Regulation 2, Rule 5) and the emission standard requirement of this mitigation measure to the Planning Department for review and approval prior to issuance of a permit for a backup diesel generator from any City agency.</p>	Project proponent and construction contractor(s)	Prior to approval of a generator permit by the Port of San Francisco and New Source Review permit by the Bay Area Air Quality Management District	Anticipated location and engine specifications of a proposed diesel backup generator shall be submitted to the Port of San Francisco for review and approval prior to issuance of a generator permit; and to the Bay Area Air Quality Management District prior to New Source Review permit.	Considered complete upon review and approval by the Port of San Francisco and Bay Area Air Quality Management District.	Port of San Francisco
<i>Biological Resources Mitigation Measures</i>					
<p>M-BI-1a: Avoidance and Minimization Measures for Special Status Bats at Pier 31½</p> <p>The project proponent will implement the following measures:</p>	Project proponent and qualified biological	Prior to demolition and potentially	Project proponent shall include avoidance	Considered complete upon completion of	Port of San Francisco

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<ul style="list-style-type: none"> • Demolition within Pier 31 and 33 bulkhead buildings shall occur when bats are active, approximately between the periods of March 1 to April 15 and August 15 to October 15; outside of bat maternity roosting season (approximately April 15 – August 15) and outside of months of winter torpor (approximately October 15 – February 28), to the extent feasible. • If demolition within Pier 31 and 33 bulkhead buildings during the periods when bats are active is not feasible, a qualified biologist will survey the project site to identify if active bat roosts being used for maternity or hibernation purposes are present. If so, a no disturbance buffer of 100 feet shall be established around these roost sites until they are determined to be no longer active by the qualified biologist. • The qualified biologist shall be present during demolition within the Pier 31 and 33 bulkhead buildings if active bat roosts are present. Structures with active roosts shall be disturbed only when no rain is occurring or is forecast to occur for 3 days and when daytime temperatures are at least 50 °F. • Removal of structures containing or suspected to contain active bat roosts shall be dismantled under the supervision of the qualified biologist in the evening and after bats have emerged from the roost to forage. Structures shall be partially dismantled to significantly change the roost conditions, causing bats to abandon and not return to the roost. 	consultant	during demolition within bulkhead buildings Implementation during construction, if applicable	measures in all construction contracts. Qualified biological consultant to conduct bat surveys and present results to Port of San Francisco.	any demolition or construction.	
Mitigation Measure M-BI-1b: Nesting Bird Protection Measures	Project proponent	Prior to	Project proponent	Considered	Port of San

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<p>Nesting birds and their nests shall be protected during construction by use of the following measures:</p> <ul style="list-style-type: none"> • Removal of trees, scrub vegetation, and structures shall occur outside the bird nesting season (February 1 to August 30), to the extent feasible. • If removal of trees, scrub vegetation, or structures during bird nesting season cannot be fully avoided, a qualified wildlife biologist shall conduct preconstruction nesting bird surveys within 7 days prior to the start of such activities or after any construction breaks of 14 days or more. Surveys shall be performed for the project site and suitable habitat within 250 feet of the project site in order to locate any active passerine (perching bird) nests and within 500 feet of the project site to locate any active raptor (birds of prey) nests or double-crested cormorant or heron rookeries. <ul style="list-style-type: none"> – At Pier 31½, if it is determined that bird nesting habitat is only present for gulls, surveys may be conducted actively during construction from April through August during gull nesting season. Any old nests, potential nests, or nests under construction (but not active) shall be removed. • If active nests are located during the preconstruction bird nesting survey, the wildlife biologist shall evaluate if the schedule of construction activities could affect the active nests and the following measures shall be implemented based on their determination: <ul style="list-style-type: none"> – If construction is not likely to affect the active nest, it may proceed without restriction; however, a biologist shall regularly monitor the nest to confirm there is no adverse 	and qualified biological consultant	<p>construction</p> <p>During construction</p>	<p>shall include avoidance measures in all construction contracts. Qualified biological consultant to conduct bird surveys and present results.</p> <p>Qualified biologist to notify Port of San Francisco and, if necessary, USFWS and/or CDFW. Qualified biologist to perform monitoring, as</p>	complete upon completion of construction and submittal of monitoring reports, if applicable.	<p>Francisco (Pier 31½ site)</p> <p>National Park Service (Fort Baker site)</p>

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<p>effect and may revise their determination at any time during the nesting season. In this case, the following measure would apply.</p> <ul style="list-style-type: none"> - If construction may affect the active nest, the biologist shall establish a no disturbance buffer. Typically, these buffer distances are between 25 feet and 250 feet for passerines and between 300 feet and 500 feet for raptors. These distances may be adjusted depending on the level of surrounding ambient activity (e.g., if the project area is adjacent to a road or active trail) and if an obstruction, such as a building, is within line-of-sight between the nest and construction. For bird species that are federally and/or state-listed sensitive species (i.e., fully protected, endangered, threatened, species of special concern), a proposed project representative, supported by the wildlife biologist, shall consult with the U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife regarding modifications to nest buffers, prohibiting construction within the buffer, modifying construction, and removing or relocating active nests that are found on the site. <ul style="list-style-type: none"> • Removing inactive passerine nests may occur at any time. Inactive raptor nests shall not be removed unless approved by the U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife. 			needed.		

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<ul style="list-style-type: none"> • Removing or relocating active nests shall be coordinated by the project representative with the U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife, as appropriate, given the nests that are found on site. • Any birds that begin nesting within the project area and survey buffers amid construction activities are assumed to be habituated to construction- related or similar noise and disturbance levels and no work exclusion zones shall be established around active nests in these cases. 					
IMPROVEMENT MEASURES FOR THE ALCATRAZ FERRY EMBARKATION PROJECT					
<p>I-TR-2a: Provide Information on Active Transportation and Transit Routes to/from the Pier 31½ Site</p> <p>The project proponent will require the concessioner to provide information regarding pedestrian, bicycle, and transit travel to/from the embarkation site to both employees and in advance to visitors. This may include maps designating preferred pedestrian, bicycle, or transit routes to/from the site, maps indicating where City-provided bicycle facilities or transit stops are present, and time estimates for walking or biking to common destinations, such as BART stations, Union Square, Pier 39, or other tourist destinations. This information would be presented on tickets and information websites, as well as distributed via mail or email to all ticketed visitors.</p>	Project proponent and concessioner	Prior to and during operations	Port of San Francisco staff	Ongoing during operations	Port of San Francisco
<p>I-TR-2b: Install Multimodal Wayfinding Kiosk and Signage at the Pier 31½ Site</p>	Project proponent and concessioner	Prior to and during	Project proponent shall submit	Considered complete when	Port of San Francisco

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The project proponent will add a multimodal wayfinding kiosk that may include maps, signs, or digital displays to provide visitor information on various travel options and times. The kiosk will be located near the site entrance/exit to the Pier 31½ site. In addition to a centralized kiosk, signage could be placed at the site entrance with directional arrows indicating walk times to nearby destinations or transit stops.		operations	documentation of permanent kiosk and signage	kiosk and signage are approved by Port of San Francisco staff. These amenities would then be installed in the publicly accessible area of the site.	
<p>I-NO-1: Construction Noise Minimization Plan for Pier 31½</p> <p>The project proponent shall develop a construction noise minimization plan that requires the following:</p> <ul style="list-style-type: none"> • Construction contractors shall specify noise-reducing construction practices and measures that will be employed to reduce construction noise from pile driving and construction activities. The practices and measures specified by the project proponent will be reviewed and approved by the City prior to the issuance of building permits. Practices and measures that can be used to limit noise include but are not limited to those listed below: <ul style="list-style-type: none"> ○ Avoid simultaneous use of equipment that exceeds 90 dBA, particularly impact and vibratory pile drivers ○ Install noise mufflers to stationary equipment and impact tools that are no less effective than those provided by the manufacturer ○ Use construction equipment with low noise emission ratings 	Project proponent and construction contractor(s)	Prior to the start of construction activities; implementation ongoing during construction	Project proponent shall submit the Construction Noise Minimization Plan to the Port of San Francisco. Project proponent shall include requirements of noise minimization plan in all construction contracts.	Considered complete with the Port of San Francisco's approval of the Construction Noise Minimization Plan and inclusion of the plan as a requirement in the building permit.	Port of San Francisco

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<ul style="list-style-type: none"> ○ Locate equipment, materials, and staging areas as far as practicable from sensitive receptors ○ Install barriers around particularly loud activities at the construction site to eliminate the line of sight between the source of noise and nearby sensitive receptors, which could reduce noise up to 10 dBA based on the configuration of the site and equipment used.¹ ○ Prohibit unnecessary idling of vehicles or equipment ○ Require applicable construction-related vehicles or equipment to use designated truck routes to access the proposed project site <p>Restrict construction activities between 7:00 AM to 8:00 PM Monday through Saturday</p>					

¹ The Federal Highway Administration’s *Roadway Construction Noise Model Users’ Guide* gives the following “rules of thumb” for estimating noise attenuation of barriers at construction sites:
 3 dBA - if a noise barrier or other obstruction (like a dirt mound) just barely breaks the line-of- sight between the noise source and the receptor;
 5 dBA - if the noise source is partly enclosed OR shielded with a barrier with some gaps located close to the source;
 8 dBA - if the noise source is completely enclosed OR completely shielded with a solid barrier located close to the source;
 10 dBA - if the noise source is completely enclosed AND completely shielded with a solid barrier located close to the source;
 15 dBA - if a building stands between the noise source and receptor and completely shields the noise source.

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<p>I-AQ-1a: Use Cleaner Construction Equipment</p> <p>The project proponent shall develop a plan demonstrating that the off-road equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would achieve a project wide fleet-average 20 percent nitrogen oxide (NO_x) reduction and 45 percent particulate matter (PM) reduction compared to the most recent California Air Resources Board fleet average. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available.</p>	Project proponent and construction contractor	<p>Prior to construction</p> <p>During construction</p>	<p>Project proponent shall submit the Clean Construction Equipment Plan to the Port of San Francisco. Project proponent shall include requirements of clean construction equipment plan in all construction contracts.</p> <p>Monitoring agency shall ensure compliance with contract specifications.</p>	<p>Considered complete when compliance plan is approved by the Monitoring Agency.</p> <p>Considered complete when project proponent or construction contractor submits certification statement.</p>	<p>Port of San Francisco (Pier 31½ site)</p> <p>National Park Service (Fort Baker site)</p>
<p>I-AQ-1b: Use Cleaner Engines on Tugboats</p> <p>The project proponent shall use tugboats with Tier 4 propulsion engines and</p>	Project proponent and construction	Prior to and during	Project proponent shall include	Considered complete after	Port of San Francisco

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Tier 3 auxiliary engines.	contractor(s)	construction involving tugboats	requirements in all construction contracts and submit documentation of tugboat engines to the Monitoring Agency.	submittal of certification statement.	(Pier 31½ site) National Park Service (Fort Baker site)
I-BI-1a: Pile Driving Work Windows Pile driving will occur between July 1 and November 30 at the Pier 31½ site and between July 1 and September 30 at the Fort Baker site.	Project proponent and construction contractor(s)	During construction	Project proponent shall include requirements in all construction contracts.	Considered complete after construction.	Port of San Francisco (Pier 31½ site) National Park Service (Fort Baker site)

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<p>I-BI-1b: Noise Monitoring Plan</p> <p>The project proponent will develop and implement a marine noise monitoring plan which would be subject to review and approval by the National Marine Fisheries Service. As part of this plan, the following measures will be implemented:</p> <ul style="list-style-type: none"> • <i>Equipment Controls:</i> The proposed project will be required to bring loud mechanical equipment online slowly (employ a “soft-start”). • <i>Noise Monitoring:</i> A trained acoustical specialist will conduct underwater noise monitoring during marine construction to ensure that pile driving noise levels do not exceed the levels identified through noise modeling for the proposed project. If noise levels are exceeded, the proposed project will implement cushion blocks in the hammer to reduce sound levels and prevent exceedance of the levels projected through noise modeling, and noise level exceedances will be reported to the National Marine Fisheries Service. 	<p>Project proponent, construction contractor(s), and qualified biologist</p>	<p>Prior to and during in-water construction</p>	<p>Qualified biologist shall develop noise monitoring plan. Project proponent shall include requirements of noise monitoring plan in all construction contracts.</p> <p>Project proponent shall submit documentation of noise monitoring to National Marine Fisheries Service.</p>	<p>Considered complete after submitting documentation of noise monitoring to National Marine Fisheries Service.</p>	<p>Port of San Francisco (Pier 31½ site)</p> <p>National Park Service (Fort Baker site)</p>

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<p>I-BI-1c: Marine Mammal Safety Zone</p> <p>The project proponent will maintain a 500-meter safety zone around sound sources in the event that the sound level is unknown or cannot be adequately predicted. This will be required at the onset of construction, prior to confirming noise levels through noise monitoring (as required through Improvement Measure I-BI-1b, Noise Monitoring Plan).</p> <p>A qualified marine biologist on shore or by boat will survey the safety zone to ensure that no marine mammals are within the zone before pile driving begins. If a marine mammal is observed within the safety zone before pile driving begins, pile driving will be delayed until the marine mammals move out of the area.</p> <p>If marine mammals enter the safety zone after pile driving of a segment has begun, pile driving will continue. The biologist will monitor and record the species and number of individuals observed, and make note of their behavior patterns. If the animal appears distressed, and if it is operationally safe to do so, pile driving will cease until the animal leaves the area. Prior to the initiation of each new pile driving episode, the area will again be thoroughly surveyed by the biologist.</p>	<p>Project proponent, construction contractor(s), and qualified biologist</p>	<p>Prior to and during pile driving</p>	<p>Project proponent shall include requirements of safety zone in all construction contracts. Project proponent shall submit documentation of marine mammal safety zones to National Marine Fisheries Service.</p>	<p>Considered complete after submitting documentation of marine mammal safety zones to National Marine Fisheries Service.</p>	<p>Port of San Francisco (Pier 31½ site)</p> <p>National Park Service (Fort Baker site)</p>