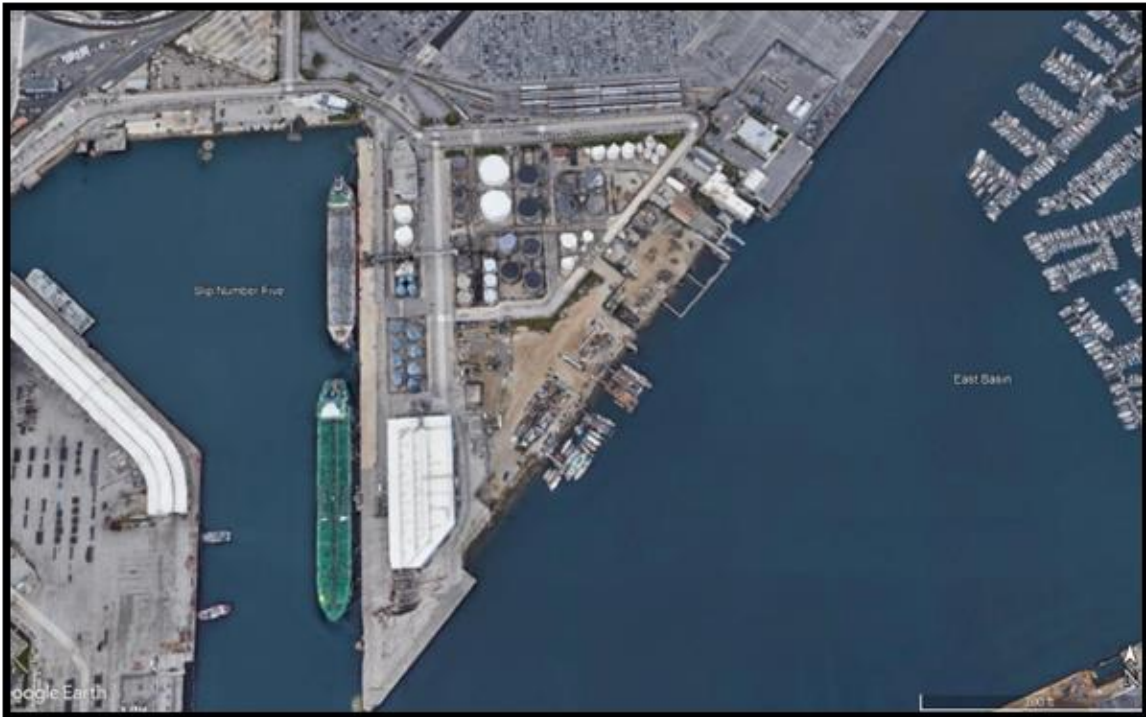


MITIGATION MONITORING AND REPORTING PROGRAM

Berths 191-194 [Ecocem] Low-Carbon Cement Processing Facility Project Environmental Impact Report



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Table 1: Mitigation and Lease Measures for the Berths 191-194 [Ecocem] Low-Carbon Cement Processing Facility Project

Mitigation Measure (MM), Lease Measure (LM), or Standard Condition (SC)	Timing and Methods	Responsible Parties
Air Quality and Meteorology		
<p>LM AQ-1: Fleet Modernization for Cementitious Material Handling Equipment. Tenant shall replace cementitious material handling equipment used for operation with the cleanest available equipment, that meets operating and safety requirements, any time new or replacement equipment is purchased, with a first preference for zero-emission equipment, a second preference for near-zero equipment (such as, hybrid or low-NOx equipment), and third for the cleanest available if zero or near-zero equipment is not feasible, provided that LAHD shall conduct engineering assessments to confirm that such equipment is capable of installation at the facility. The Tenant shall provide substantial evidence including, but not limited to, inventory reports of available equipment from manufacturers, to verify the availability and feasibility of equipment sought to be purchased in accordance with this measure.</p> <p>Starting one year after the effective date of a new entitlement between the Tenant and the LAHD, Tenant shall submit to the Port an equipment inventory and 5-year procurement plan for new equipment, and infrastructure, and shall update the procurement plan annually in order to assist with planning for transition of equipment to zero emissions in accordance with the foregoing paragraph.</p>	<p>Timing: During operation Methods: LAHD will include this lease measure in the permit with Orcem</p>	<p>Implementation: Orcem Monitoring and Reporting: Environmental Management Division</p>
<p>LM AQ-2: Periodic Review of New Technology and Regulations. The Tenant shall conduct a periodic review of any Port-identified or other new emissions-reducing technology and report to the LAHD on the feasibility of any new technology advancements that may reduce emissions not less frequently than once every five years following the effective date of the entitlement. The technology review would be</p>	<p>Timing: During operation Methods: LAHD will include this lease measure in the permit with Orcem</p>	<p>Implementation: Orcem Monitoring and Reporting: Environmental Management Division</p>

Mitigation Measure (MM), Lease Measure (LM), or Standard Condition (SC)	Timing and Methods	Responsible Parties
<p>subject to approval by LAHD and would involve consulting with appropriate resources (e.g., consultants, engineers, regulators) to validate the findings. If the review demonstrates the new technology would be effective in reducing emissions and is determined by the LAHD to be feasible, including but not limited to, financial, technical and operational considerations, the Tenant shall implement the new air quality technological advancements, subject to mutual agreement, which shall not be unreasonably withheld by the Tenant.</p>		
<p>LM AQ-3: At-Berth Vessel Emissions Control Pilot Study. The Tenant shall complete a pilot study to evaluate the feasibility of implementing an at-berth vessel emissions capture and control strategy within 3 years of entitlement execution. If proven to be feasible, including but not limited to financial, technical, and operational considerations, and upon California Air Resources Board certification, the Tenant shall be required to implement the technology when operationally feasible as described in Tenant’s pilot study. Implementation of the technology required under this measure will rely on the Tenant’s pilot study evaluation and determination, and is subject to mutual agreement between the Tenant and LAHD, implementation of which shall not be unreasonably withheld or unreasonably required.</p>	<p>Timing: During operation Methods: LAHD will include this lease measure in the permit with Orcem</p>	<p>Implementation: Orcem Monitoring and Reporting: Environmental Management Division</p>
<p>LM AQ-4: Los Angeles Harbor Department (LAHD) Sustainable Construction Guidelines. The Project shall implement and comply with all measures as required by the Los Angeles Harbor Department’s Sustainable Construction Guidelines adopted in February 2008 and updated in November 2009 during Project construction activities. These requirements shall be stipulated in the construction contracts and bid documents.</p>	<p>Timing: During construction Methods: LAHD will include this lease measure in the permit with Orcem</p>	<p>Implementation: LAHD and Orcem through construction contractors Monitoring and Reporting: LAHD Engineering, LAHD Environmental Management</p>
<p>LM AQ-5: Fleet Modernization for On-Road Trucks During Construction.</p>	<p>Timing: During construction</p>	<p>Implementation: LAHD and Orcem through construction contractors</p>

Mitigation Measure (MM), Lease Measure (LM), or Standard Condition (SC)	Timing and Methods	Responsible Parties
<p>1. Trucks hauling materials such as debris or fill shall be fully covered while operating off Port property.</p> <p>2. Idling shall be restricted to a maximum of 5 minutes when not in use.</p> <p>3. Tier Specifications:</p> <ul style="list-style-type: none"> • From January 1, 2024, to December 31, 2026: All on-road heavy-duty diesel trucks with a gross vehicle weight rating (GVWR) of 19,500 pounds or greater used on site or to transport materials to and from the site shall comply with 2012 emission standards, or newer, where available. • Post January 1, 2027: All on-road heavy duty diesel trucks used on site or to transport materials to and from the site shall comply with 2015 emission standards, or newer, where available. • A copy of each unit's certified U.S. Environmental Protection Agency (USEPA) rating, Best Available Control Technology (BACT) documentation, and CARB or South Coast Air Quality Management District (SCAQMD) operating permit shall be provided at the time of mobilization of each applicable unit of equipment. 	<p>Methods: LAHD will include this lease measure in the permit with Orcem</p>	<p>Monitoring and Reporting: LAHD Engineering, LAHD Environmental Management</p>
<p>LM AQ-6: Fleet Modernization for Construction Equipment.</p> <p>1. Construction equipment shall incorporate, where feasible, emissions savings technology such as hybrid drives and specific fuel economy standards.</p> <p>2. Idling shall be restricted to a maximum of 5 minutes when not in use.</p> <p>3. Tier Specifications:</p> <ul style="list-style-type: none"> • All offroad diesel-powered construction equipment greater than 50 horsepower shall meet the Tier 4 emission standards, where available. In addition, all construction equipment shall be outfitted with BACT devices certified by CARB. Any emissions 	<p>Timing: During construction</p> <p>Methods: LAHD will include this lease measure in the permit with Orcem</p>	<p>Implementation: LAHD and Orcem through construction contractors</p> <p>Monitoring and Reporting: Construction Management Division and Environmental Management Division</p>

Mitigation Measure (MM), Lease Measure (LM), or Standard Condition (SC)	Timing and Methods	Responsible Parties
<p>control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations.</p> <ul style="list-style-type: none"> • A copy of each unit’s certified tier specification, BACT documentation, and CARB or SCAQMD operating permit shall be provided at the time of mobilization of each applicable unit of equipment. <p>The construction equipment measures shall be met, unless one of the following circumstances exist and the contractor is able to provide proof that any of these circumstances exists:</p> <ul style="list-style-type: none"> • A piece of specialized equipment is unavailable in a controlled form within the state of California, including through a leasing agreement. • A contractor has applied for necessary incentive funds to put controls on a piece of uncontrolled equipment planned for use on the project, but the application process is not yet approved, or the application has been approved, but funds are not yet available. • A contractor has ordered a control device for a piece of equipment planned for use on the project, or the contractor has ordered a new piece of controlled equipment to replace the uncontrolled equipment, but that order has not been completed by the manufacturer or dealer. In addition, for this exemption to apply, the contractor must attempt to lease controlled equipment to avoid using uncontrolled equipment, but no dealer within 200 miles of the project has the controlled equipment available for lease. 		

Mitigation Measure (MM), Lease Measure (LM), or Standard Condition (SC)	Timing and Methods	Responsible Parties
<p>LM AQ-7: Renewable Diesel Fuel for Construction Equipment and On-Road Trucks. The Tenant shall fuel diesel-powered construction equipment and on-road trucks with renewable diesel fuel during construction. The renewable diesel product that is used shall comply with American Society for Testing and Materials (ASTM) fuel standards.</p> <p>In the event of renewable diesel supply challenges or disruptions, the Tenant shall use ultra-low sulfur diesel (ULSD) as a secondary fuel. The Tenant shall demonstrate to LAHD substantial evidence of a supply disruption or event in a timely manner.</p>	<p>Timing: During construction Methods: LAHD will include this lease measure in the permit with Orcem</p>	<p>Implementation: LAHD and Orcem through construction contractors Monitoring and Reporting: Construction Management Division and Environmental Management Division</p>
<p>MM AQ-1: Vessel Speed Reduction Program (VSRP). 100 percent of vessels calling at the Ecocem Dry Bulk Processing Facility shall be required to comply with the expanded VSRP of 12 knots between 40 nautical miles (nm) from Point Fermin and the Precautionary Area. Speed is confirmed by the Marine Exchange. Any vessel experiencing a maritime emergency¹ that prevents compliance with the expanded VSRP may be exempt from this measure. If a maritime emergency were to occur, the vessel operators shall provide substantial evidence of a qualifying event to LAHD.</p> <p>¹Maritime emergencies may include, but are not limited to, suspicious activity, drone/plane activity, security breaches or attempts, United States Coast Guard (USCG) safety/security/protection zone violations, crimes on land and water, navigation rule violations, vessels in distress, rescues, fires and emergencies, as defined by the Port of Los Angeles Mariners Guide.</p>	<p>Timing: During operation Methods: LAHD will include this mitigation measure in the permit with Orcem</p>	<p>Implementation: Orcem Monitoring and Reporting: Environmental Management Division</p>
<p>MM AQ-2: Front End Loader Replacement Schedule. The tenant shall replace the off-road diesel front end loader every two years. The equivalent new piece that front end loader shall meets operational requirements and meets</p>	<p>Timing: During operation Methods: LAHD will include this mitigation measure in the permit with Orcem</p>	<p>Implementation: Orcem Monitoring and Reporting: Environmental Management Division</p>

Mitigation Measure (MM), Lease Measure (LM), or Standard Condition (SC)	Timing and Methods	Responsible Parties
<p>Tier 4 standards or cleaner or as required by state and/or local agencies, whichever is stricter. During replacement, the following preference will be used for consideration: first preference for zero-emission equipment, a second preference for near-zero equipment (such as, hybrid or low-NOx equipment), and third for Tier 4 standards if zero or near-zero equipment is not feasible, provided that LAHD shall conduct engineering assessments to confirm that such equipment is capable of installation at the facility. The Tenant shall provide substantial evidence including, but not limited to, inventory reports of available equipment from manufacturers, to verify the availability and feasibility of equipment sought to be purchased in accordance with this measure.</p>		
Biological Resources		
<p>MM BIO-1: Protect Marine Mammals. Although it is expected that marine mammals will voluntarily move away from the area at the commencement of the “soft start” of pile-driving activities, as a precautionary measure, pile-driving activities occurring as part of the sheet pile and king pile installation shall include establishment of a safety zone, by a qualified marine mammal professional, and the area surrounding the operations (including the safety zones) shall be monitored for marine mammals by a qualified marine mammal observer¹. The pile driving site shall move with each new pile; therefore, the safety zones shall move accordingly.</p> <p>¹Marine mammal professional qualifications shall be identified based on criteria established by LAHD during the construction bid specification process. Upon selection as part of the construction team, the qualified marine mammal professional shall develop site specific pile-driving safety zone requirements, which shall follow NOAA Fisheries Technical Guidance Assessing the Effects of</p>	<p>Timing: During construction Methods: LAHD will include this mitigation measure in the permit with Orcem</p>	<p>Implementation: LAHD and Orcem through construction contractors Monitoring and Reporting: Construction Management Division and Environmental Management Division</p>

Mitigation Measure (MM), Lease Measure (LM), or Standard Condition (SC)	Timing and Methods	Responsible Parties
<p>Anthropogenic Sound on Marine Mammal Hearing (NOAA 2016) in consultation with the acoustic threshold white paper prepared for this purpose by LAHD (LAHD 2017). Final pile-driving safety zone requirements developed by the selected marine mammal professional shall be submitted to LAHD Construction and Environmental Management Divisions prior to commencement of pile-driving.</p>		
Greenhouse Gases		
<p>MM GHG-1: GHG Reduction Offsets. The Tenant shall be required to purchase and retire carbon offsets related to activities that reduce, avoid, destroy, or sequester an amount of GHG emissions in an off-site location to offset the equivalent amount of GHG emissions generated by the Project, with the exception of electricity consumption. The Tenant shall purchase and retire carbon offsets in an amount that would be the equivalent of the Project's GHG Emissions of 4,985 Metric Tons (MT) from first year of operation until 2049 and 4,073 MT from 2049 through the end of the term of the Permit. The Tenant shall purchase and retire carbon offsets on an annual basis, commencing after construction is complete and during the first year of operation. The LAHD is in the process of developing a Greenhouse Gas Program. The Program shall be used for GHG-reducing projects and programs approved by the Port of Los Angeles. If that Program is established during the term of the Permit, the Tenant shall have the option to offset the required amount of GHG emissions through a funding contribution to the Greenhouse Gas Program rather than towards purchasing carbon offsets from a CARB-recognized registry.</p> <p>While the LAHD Greenhouse Gas Program is currently under development, the Tenant shall purchase and retire carbon offsets from a CARB-recognized offset registry as follows:</p>	<p>Timing: Payable annually during operation Methods: LAHD will include this mitigation measure in the permit with Orcem</p>	<p>Implementation: Orcem Monitoring and Reporting: Environmental Management Division</p>

Mitigation Measure (MM), Lease Measure (LM), or Standard Condition (SC)	Timing and Methods	Responsible Parties
<p>Carbon offsets: The Tenant shall purchase and retire carbon offsets from a CARB-recognized registry to ensure that offsets will result in real, permanent, additional, quantifiable, verifiable, and enforceable reductions. The carbon offsets shall be verifiable by the LAHD and enforceable in accordance with the registry’s applicable standards, practices, or protocols.</p> <p>The order of priority for purchasing (any one or more) carbon offsets shall be considered as follows:</p> <ul style="list-style-type: none"> i. Originating within the local area; ii. Originating within the South Coast Air Basin; iii. Originating within the state of California; or iv. If sufficient local and in-state offsets are not available, the Tenant shall purchase conforming national offsets registered with a CARB-recognized registry. <p>Adjustment of Tenant’s Required Offsets through Other Verified GHG Emission Reductions: The Tenant may pursue the following modifications to the Project’s total estimated GHG emissions identified in this measure. These modifications may be pursued in conjunction with or independent of each other on an annual basis.</p> <p><i>(a) Adjustment in Natural Gas Consumption</i></p> <p>In the event natural gas consumption differs from the assumptions or is offset in the future due to changes in technology, efficiency, reduced operations, or for any other purpose, the Tenant may request an adjustment of the required offsets based on actual natural gas consumption, as verified through utility bills, rather than projected future usage. To adjust the Tenant’s required number of offsets for purchase, the Tenant shall make a request in writing to the LAHD for review and approval for the time period under consideration and shall provide copies of utility bills showing the amount of natural gas consumed at the project</p>		

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<p>site along with a revised greenhouse gas emission calculation performed by an independent, qualified third-party verifier.</p> <p>or</p> <p><i>(b) Adjustment in GHG Emissions</i></p> <p>In the event of changes in activities, efficiency, reduced operations, or for any other purpose, the Tenant may request an adjustment of the required carbon offsets based on an evaluation of actual GHG emissions rather than future projected GHG emission calculations. To adjust the Tenant’s required number of carbon offsets for purchase, the Tenant shall make a request in writing to the LAHD for review and approval for the calendar year under consideration and shall submit a report within 60 days that quantifies the actual greenhouse gas emissions by an expert or an independent, qualified third-party. The evaluation of actual greenhouse gas emissions must be performed using acceptable industry standards and protocols for all sources that were included in the Project’s GHG emissions calculations under MM GHG-1. LAHD review shall occur within 30 days of receipt of the submitted report. Any expenses incurred by LAHD in processing the Tenant’s request, including retaining an independent third-party verifier to peer review the report, shall be borne by the Tenant.</p> <p>or</p> <p><i>(c) Implementation of Additional GHG Reduction Methods</i></p> <p>In addition, the Tenant may request a reevaluation of required carbon offsets to be purchased according to this paragraph. The Tenant may implement different and additional GHG reduction methods that are equally or more effective if new technology and/or other feasible measures become available during the term of the Permit. To adjust the Tenant’s required number of carbon offsets for</p>		

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<p>purchase, the Tenant shall identify such additional GHG reduction actions and must quantify the GHG emission reductions from these GHG reduction actions by an independent, qualified third-party verifier. Once the GHG reduction actions are found to be feasible and are reviewed and approved by LAHD staff, the Tenant may request that LAHD reduce its required purchase of carbon offsets by the equivalent amount of demonstrated reduction. Any expenses incurred by LAHD in processing the Tenant's request, including retaining a third-party verifier, shall be borne by the Tenant.</p>		
<p>LM AQ-1: Fleet Modernization for Cementitious Material Handling Equipment.</p>	<p>Timing: During operation Methods: LAHD will include this lease measure in the permit with Orcem.</p>	<p>Implementation: Orcem Monitoring and Reporting: Environmental Management Division</p>
<p>LM AQ-2: Periodic Review of New Technology and Regulations.</p>	<p>Timing: During operation Methods: LAHD will include this lease measure in the permit with Orcem.</p>	<p>Implementation: Orcem Monitoring and Reporting: Environmental Management Division</p>
<p>LM AQ-3: At-Berth Vessel Emissions Control Pilot Study.</p>	<p>Timing: During operation Methods: LAHD will include this lease measure in the permit with Orcem</p>	<p>Implementation: Orcem Monitoring and Reporting: Environmental Management Division</p>
<p>LM AQ-4: Port of Los Angeles Sustainable Construction Guidelines.</p>	<p>Timing: During construction Methods: LAHD will include this lease measure in the permit with Orcem</p>	<p>Implementation: LAHD and Orcem through construction contractors Monitoring and Reporting: Construction Management Division and Environmental Management Division</p>
<p>LM AQ-5: LM AQ-5: Fleet Modernization for On-Road Trucks During Construction.</p>	<p>Timing: During construction Methods: LAHD will include this lease measure in the permit with Orcem</p>	<p>Implementation: LAHD and Orcem through construction contractors Monitoring and Reporting: Construction Management Division and Environmental Management Division</p>

Mitigation Measure (MM), Lease Measure (LM), or Standard Condition (SC)	Timing and Methods	Responsible Parties
<p>LM AQ-6: Fleet Modernization for Construction Equipment.</p>	<p>Timing: During construction Methods: LAHD will include this lease measure in the permit with Orcem</p>	<p>Implementation: LAHD and Orcem through construction contractors Monitoring and Reporting: Construction Management Division and Environmental Management Division</p>
<p>LM AQ-7: Renewable Diesel Fuel for Construction Equipment and On-Road Trucks</p>	<p>Timing: During construction Methods: LAHD will include this lease measure in the permit with Orcem</p>	<p>Implementation: LAHD and Orcem through construction contractors Monitoring and Reporting: Construction Management Division and Environmental Management Division</p>
<p>MM AQ-1: Vessel Speed Reduction Program (VSRP).</p>	<p>Timing: During operation Methods: LAHD will include this mitigation measure in the permit with Orcem</p>	<p>Implementation: Orcem Monitoring and Reporting: Environmental Management Division</p>
<p>MM AQ-2: Front End Loader Replacement Schedule.</p>	<p>Timing: During operation. Methods: LAHD will include this lease measure in the permit with Orcem</p>	<p>Implementation: Orcem Monitoring and Reporting: Environmental Management Division</p>
<p>Noise</p>		
<p>MM NOI-1: Noise Barriers Adjacent to Pile Driving Activities. Where feasible, erect temporary noise barriers around all landside pile driving equipment. The barriers should be installed directly between the pile driving equipment and the California Yacht Harbor so as to break line-of-sight.</p>	<p>Timing: During construction Methods: LAHD will include this mitigation measure in the permit with Orcem</p>	<p>Implementation: LAHD and Orcem through construction contractors Monitoring and Reporting: Construction Management Division and Environmental Management Division</p>
<p>MM NOI-2: Noise Reduction of Landside Pile Driving. In place of impact pile driving systems, where feasible, require the use a vibratory pile driving system or other pile driving system limited to 95 dBA or less when measured at a distance of 50 feet for landside pile driving.</p>	<p>Timing: During construction Methods: LAHD will include this mitigation measure in the permit with Orcem</p>	<p>Implementation: LAHD and Orcem through construction contractors Monitoring and Reporting: Construction Management Division and Environmental Management Division</p>

Mitigation Measure (MM), Lease Measure (LM), or Standard Condition (SC)	Timing and Methods	Responsible Parties
<p>MM NOI-3: Usage of Wooden Cushion Block. The construction contractor shall use a wooden cushion block to dampen the noise impact from pile driving. This wooden cushion block shall be placed between the pile and hammer. It shall only be applicable to driving concrete piles.</p>	<p>Timing: During construction. Methods: LAHD will include this mitigation measure in the permit with Orcem</p>	<p>Implementation: LAHD and Orcem through construction contractors Monitoring and Reporting: Construction Management Division and Environmental Management Division</p>
<p>Tribal Cultural Resources</p>		
<p>SC TCR-1: Stop Work in the Area if Prehistoric and/or Archaeological Resources are Encountered. In the unlikely event that any prehistoric artifact of historic period materials or bone, shell, or non-native stone is encountered during construction, work shall be immediately stopped, the area secured, and work relocated to another area until the found materials can be assessed by a qualified archaeologist. Examples of such cultural materials might include historical trash pits containing bottles and/or ceramics; or structural remains or concentrations of grinding stone tools such as mortars, bowls, pestles, and manos; chipped stone tools such as projectile points or choppers; and flakes of stone not consistent with the immediate geology such as obsidian or fused shale. The contractor shall stop construction within 30 feet of the exposure of these finds until a qualified archaeologist can be retained to evaluate the find (see 36 CFR 800.11.1 and 14 CCR 15064.5(f)). If the resources are found to be significant, they shall be avoided or shall be mitigated consistent with Section 106 of the NHPA or State Historic Preservation Officer Guidelines.</p>	<p>Timing: During construction Methods: LAHD will include this special condition in the permit with Orcem</p>	<p>Implementation: LAHD and Orcem through construction contractors Monitoring and Reporting: Construction Management Division and Environmental Management Division</p>