

# DRAFT MITIGATION MONITORING AND REPORTING PROGRAM

## Berths 167-169 [Shell] Marine Oil Terminal Wharf Improvements Project



SCH#2015061102 and APP#s: 131007-133, 140806-095, 161013-153, and 180321-043

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**Table 1: Mitigation and Lease Measures for the Berths 167-169 [Shell] Marine Oil Terminal Wharf Improvements Project**

<i>Mitigation Measure or Lease Measure</i>	<i>Timing and Methods</i>	<i>Responsible Parties</i>
<b>Air Quality and Meteorology: Construction</b>		
<p><b>MM AQ-1: Fleet Modernization for Harbor Craft Used During Construction.</b> Harbor craft must use U.S. Environmental Protection Agency (EPA) Tier 3 or cleaner engines.</p>	<p><b>Timing:</b> During construction phases. <b>Methods:</b> LAHD will include MM AQ-1 in the contract specifications for construction. LAHD will monitor implementation of mitigation measures during construction.</p>	<p><b>Implementation:</b> LAHD through Construction Contractor <b>Monitoring and Reporting:</b> Environmental Management Division, Construction Management Division</p>
<p><b>MM AQ-2: Fleet Modernization for On-road Trucks Used During Construction.</b> Trucks with a Gross Vehicle Weight Rating) of 19,500 pounds (lbs) or greater, including import haulers and earth movers, must comply with EPA 2010 on-road emission standards.</p>	<p><b>Timing:</b> During construction phases. <b>Methods:</b> LAHD will include MM AQ-2 in the contract specifications for construction. LAHD will monitor implementation of mitigation measures during construction.</p>	<p><b>Implementation:</b> LAHD through Construction Contractor <b>Monitoring and Reporting:</b> Environmental Management Division, Construction Management Division</p>
<p><b>MM AQ-3: Fleet Modernization for Construction Equipment.</b> All diesel-fueled construction equipment greater than 50 horsepower (hp) must meet EPA Tier 4 off-road emission standards (excluding vessels, harbor craft, on-road trucks, and dredging equipment).</p>	<p><b>Timing:</b> During construction phases. <b>Methods:</b> LAHD will include MM AQ-3 in the contract specifications for construction. LAHD will monitor implementation of mitigation measures during construction.</p>	<p><b>Implementation:</b> LAHD through Construction Contractor <b>Monitoring and Reporting:</b> Environmental Management Division, Construction Management Division</p>
<p><b>MM AQ-4: General Mitigation Measure.</b> For mitigation measures MM AQ-1 through MM AQ-3, if a CARB-certified technology becomes available and is shown to be as good as, or better than, the existing measure in terms of emissions performance, the technology could replace the existing measure pending approval by LAHD. Measures will be set at the time a specific construction contract is advertised for bid.</p>	<p><b>Timing:</b> During construction phases. <b>Methods:</b> LAHD will include MM AQ-4 in the contract specifications for construction. LAHD will monitor</p>	<p><b>Implementation:</b> LAHD through Construction Contractor <b>Monitoring and Reporting:</b> Environmental Management Division, Construction Management Division</p>

<i>Mitigation Measure or Lease Measure</i>	<i>Timing and Methods</i>	<i>Responsible Parties</i>
	implementation of mitigation measures during construction.	
<b>Air Quality and Meteorology: Operation</b>		
<p><b>MM AQ-5: Vessel Speed Reduction Program (VSRP).</b> 95 percent of tankers calling at Shell Marine Oil Terminal will be required to comply with the expanded VSRP at 12 knots between 40 nm from Point Fermin and the Precautionary Area.</p>	<p><b>Timing:</b> During operation. <b>Methods:</b> LAHD shall include MM AQ-5 in lease agreement with tenant. LAHD shall monitor implementation of mitigation measures during operation.</p>	<p><b>Implementation:</b> LAHD and Shell <b>Monitoring and Reporting:</b> Environmental Management Division</p>
<p><b>LM AQ-1: Periodic Review of New Technology and Regulations.</b> LAHD will require the tenant to review any LAHD-identified or other new emissions-reduction technology, determine whether the technology is feasible, and report to LAHD. Such technology feasibility reviews will take place at the time of LAHD’s consideration of any lease amendment or facility modification for the proposed project site. If the technology is determined by LAHD to be feasible in terms of cost and technical and operational feasibility, the tenant will work with LAHD to implement such technology.</p> <p>Potential technologies that may further reduce emissions and/or result in cost-savings benefits for the tenant may be identified through future work on the Clean Air Action Plan (CAAP). Over the course of the lease, the tenant and LAHD will work together to identify potential new technology. Such technology will be studied for feasibility, in terms of cost, technical and operational feasibility, and emissions reduction benefits. As partial consideration for the lease, the tenant will implement not less frequently than once every five years following the effective date of the permit, new air quality technological advancements, subject to mutual agreement on operational feasibility and cost sharing, which will not be unreasonably withheld. The effectiveness of this measure depends on the advancement of new technologies and the outcome of future feasibility or pilot studies.</p>	<p><b>Timing:</b> During operation, beginning five years after lease agreement if no new purchase or equipment turnover occurs sooner, and then every five years thereafter. <b>Methods:</b> LAHD shall include LM AQ-1 in the lease agreement with tenant. LAHD shall monitor implementation of mitigation measures during operation.</p>	<p><b>Implementation:</b> LAHD and Shell <b>Monitoring and Reporting:</b> Environmental Management Division</p>
<p><b>LM AQ-2: At-Berth Vessel Emissions Capture and Control System Study.</b> The Tenant shall evaluate the financial, technical, and operational feasibility of operating barge and land-based vessel emissions capture and control systems and any other systems associated</p>	<p><b>Timing:</b> During operation.</p>	<p><b>Implementation:</b> LAHD and Shell</p>

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<p>with emission reductions (hereinafter “Control Systems”) that are available within three (3) months after the Effective Date. The City of Los Angeles (City) and Tenant will decide which systems should be considered for the reduction of emissions from all vessels calling at the Premises. The evaluation of feasibility shall consider any potential impacts upon navigation, safety, and emission reductions. Cost Effectiveness (as defined below), and any other factors reasonably determined by Tenant to be relevant shall also be considered. For purposes of the feasibility evaluation, “Cost Effectiveness” shall be defined as the annualized cost (in Dollars per year) of the Control Systems (“Annualized Cost”) based on an agreed time period (the duration of such period determined with reasonable consideration of the Carl Moyer grant guidelines), divided by the annual net emission reductions (unweighted aggregate of net emissions reduction in tons per year of VOC, NO<sub>x</sub>, and PM<sub>10</sub>) over the same time period during use of the Control Systems (“Net Annual Emission Reductions”). Annualized Cost shall include all costs associated with the Control Systems, including without limitation, all capital costs associated with design, permitting and construction of the Control Systems and all costs associated with system evaluation, operations and maintenance. Cost Effectiveness (dollars per ton) may be calculated pursuant to the formulas below.</p> <ul style="list-style-type: none"> <li>• Cost Effectiveness (\$/ton) = Annualized Cost (\$/year) / Net Annual Emission Reductions (tons/year)</li> <li>• Net Annual Emission Reductions = Annual Vessel Emission Reductions – Annual Emissions Generated by Control System and Associated Equipment Operations</li> </ul> <p>If Cost Effectiveness is greater than the Carl Moyer Program Guidelines, as approved by the California Air Resources Board as of the Effective Date, then implementation of the Control Systems shall not be considered feasible.</p> <p>Tenant shall provide the Director of Environmental Management Division for the Harbor Department with a written report (the “Report”) documenting the findings and conclusions of the feasibility analysis within one year of the Effective Date. The Report’s feasibility conclusion shall include, but not be limited to, specific findings in the following areas: (1) size constraints; (2) allowance for articulation of the recovery crane/device to service a variety of ship sizes that may reasonably call at the premises during the term of the</p>	<p><b>Methods:</b> LAHD shall include LM AQ-2 in the lease agreement with tenant.</p>	<p><b>Monitoring and Reporting:</b> Environmental Management Division</p>

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<p>proposed permit; (3) navigation for terminal operations as well as those of adjacent terminals; (4) compliance with Marine Oil Terminal Engineering and Maintenance Standards; (5) operational safety issues; and (6) compliance with the rules and orders of any applicable regulatory agency. The deadline for Tenant to submit the Report may be extended with the approval of the Board of Harbor Commissioners (Board), provided that such approval shall not be unreasonably withheld. City shall have six months to review and comment on the Report unless the Board reasonably determines that additional time is needed as a result of unanticipated events or any events beyond the reasonable control of the City. The Report and any associated staff comments from the City will be presented by the City to the Board at a public meeting. If the City’s review of the Report is delayed beyond one year, then the City shall present this information to the Board at a public meeting along with a proposed new comment deadline for the City.</p> <p>If the Board and Tenant agree that implementation of a Control System(s) is/are feasible, then Tenant shall complete a pilot study (“Pilot Study”) within three years of the later of (i) receiving all approvals and permits required by Applicable Laws for such study; (ii) receiving any and all licenses and other intellectual property rights required by Applicable Laws to conduct such study; (iii) commencing with terminal operations upon the completion of all New Improvements and Tenant Constructed Improvements; and (iv) Board providing Tenant with approval to proceed. The deadline for Tenant to complete the Pilot Study may be extended with approval by the Board, provided that such approval shall not be unreasonably withheld. The Pilot Study shall consist of (i) installation of a test control system (the “Test System”) for purposes of testing the performance of a Control System; and (ii) testing of the Test System and the collection of data therefrom. At the conclusion of testing, the Tenant shall submit a report (the “Pilot Study Report”) to the Board. The Pilot Study Report shall include the following information: vessels tested, operation and maintenance costs, emission reductions, operational considerations and any other information Tenant reasonably determines to be relevant. The results of the Pilot Study, and any intellectual property rights therein, shall be owned by Tenant. The City and the Board shall use the results and Pilot Study Report only for the evaluation of the Pilot Study. City shall not issue any press releases or make any written public disclosures with respect to the Report or the Pilot Study Report without first providing Tenant with a reasonable opportunity to review such releases or disclosure for accuracy and to ensure that no technical information is disclosed where such public disclosure is not necessary</p>		

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<p>(Tenant understands that nothing herein shall be interpreted to supersede the California Public Records Act and the City’s responsibilities thereto).</p> <p>If, based on the results of the Pilot Study set forth in the Pilot Study Report, the City and Tenant determine that all of the issues relating to feasibility and regulatory requirements of the Control System were adequately addressed, then Tenant shall, as soon as reasonably practicable after such determination, implement the Control System(s) into its operations throughout the remainder of the permit.</p> <p>All capitalized terms not otherwise defined herein shall have the meaning ascribed to them in the tenant’s permit.</p>		
<b>Biological Resources: Construction</b>		
<p><b>MM BIO-1: Protect marine mammals.</b> Although it is expected that marine mammals will voluntarily move away from the area at the commencement of the vibratory or “soft start” of pile driving activities, as a precautionary measure, pile driving activities will include establishment of a safety zone, by a qualified marine mammal professional, and the area surrounding the operations (including the safety zones) will be monitored for marine mammals by a qualified marine mammal observer.<sup>1</sup> The pile driving site will move with each new pile; therefore, the safety zones will move accordingly.</p> <p><sup>1</sup> Marine 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 award winning 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 Anthropogenic Sound on Marine Mammal Hearing (NMFS, 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>	<p><b>Timing:</b> Throughout pile driving operations.</p> <p><b>Methods:</b> LAHD shall include BIO-1 in the contract specifications for construction. LAHD shall monitor implementation of mitigation measures during pile-driving construction.</p>	<p><b>Implementation:</b> LAHD through Construction Contractor</p> <p><b>Monitoring and Reporting:</b> Environmental Management Division and Construction Management Division.</p>
<p><b>MM BIO-2: Protect Eelgrass.</b> The proposed Project shall comply with the California Eelgrass Mitigation Policy. Pursuant to the Policy, the following activities shall be performed:</p>	<p><b>Timing:</b> Prior to construction, and if eelgrass is present, following completion of construction. If mitigation is required (i.e., eelgrass</p>	<p><b>Implementation:</b> LAHD through Construction Contractor</p>

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<i>Mitigation Measure or Lease Measure</i>	<i>Timing and Methods</i>	<i>Responsible Parties</i>
<ul style="list-style-type: none"> <li>• A pre-construction eelgrass survey to map the location and extent of eelgrass that could potentially be affected by wharf demolition and construction;</li> <li>• Use of minimization measures or Best Management Practices, such as silt curtains, to reduce potential effects to eelgrass during Project construction;</li> <li>• A post-construction eelgrass survey to map the location and extent of eelgrass after completion of wharf demolition and construction;</li> <li>• If eelgrass is lost due to Project construction, eelgrass shall be mitigated at a ratio of at least 1.2 to 1.</li> </ul> <p>Timing of eelgrass surveys, including the frequency of post-mitigation surveys (if applicable), shall comply with provisions in the California Eelgrass Mitigation Policy.</p>	<p>transplant or other mitigation technique), mitigation site monitoring would be required at specific intervals.</p> <p><b>Methods:</b> As required in the California Eelgrass Mitigation Policy, including but not limited to visual survey by divers, remotely operated vehicle, or sidescan sonar.</p>	<p><b>Monitoring and Reporting:</b> Environmental Management Division and Construction Management Division</p>
<b>Greenhouse Gas Emissions</b>		
<p><b>LM GHG-1: GHG Credit Fund.</b> SCAQMD has established a CEQA threshold for greenhouse gas emissions (GHGs) of 10,000 metric tons (MT) per year. The project would exceed this level in year 27 of their 30-year lease by approximately 3,500 MT per year. This is based on the assumption that both berths will be in operation.</p> <p>The Los Angeles Harbor Department (LAHD) shall establish a GHG Mitigation Fund (“Fund”), which may be accomplished through a Memorandum of Understanding with the California Air Resources Board or another appropriate entity, to mitigate project GHG impacts to the maximum extent feasible. The Fund shall be used for GHG-reducing projects and programs on Port of Los Angeles property.</p> <p>Upon completion of the second wharf/berth at the Shell Marine Oil facility, the Tenant shall purchase GHG credits from the LAHD GHG Mitigation Fund to mitigate 3,500 MT at the then existing market rate. Tenant’s Fund contribution shall not exceed one percent of the average of the previous five years’ rents paid by the Tenant to the LAHD.</p> <p>If LAHD is unable to establish the fund within a reasonable period of time, the Tenant shall instead purchase credits from an approved GHG offset registry in the same amount.</p>	<p><b>Timing:</b> Payable upon substantial completion of Project construction.</p> <p><b>Methods:</b> LAHD shall include LM GHG-1 in the lease agreement with tenant. LAHD shall monitor implementation of mitigation measures during operation.</p>	<p><b>Implementation:</b> LAHD and Shell</p> <p><b>Monitoring and Reporting:</b> Environmental Management Division</p>