Attachment 8

Appeal Dated May 25, 2015 By Coalition for a Safe Environment, et al.

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May 25, 2015

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Re: Board of Harbor Commissioners - Port of Long Beach
Long Beach Harbor Department
Mitsubishi Cement Terminal, Inc. - MCC Cement Facility Modification Project
Final Environmental Impact Report (FEIR) & Application Summary Report April 2015
SCH No. 2011081098

Su: Appeal Request To Reverse Approval of the MCC Cement Facility Modification Project Final Environmental Impact Report (FEIR) Certification & Application Summary Report by the Board of Harbor Commissioners - Port of Long Beach

The Coalition For A Safe Environment (CFASE), California Kids IAQ, Community Dreams, California Safe Schools, Society For Positive Action, Del Amo Action Committee, Action Now, California Communities Against Toxics, Pastor Alfred Carrillo submits our Appeal Request to the Long Beach City Council to reject, rescind, reverse, void and deny the Board of Harbor Commissioners-Port of Long Beach (BOHC-POLB):

a. Approval of the MCC Cement Facility Modification Project
b. Approval of the Application Summary Report.
c. Adoption of a Resolution Certifying the Final EIR
d. Making Findings, Adopting a Statement of Overriding Considerations
e. Adopting a Mitigation Monitoring and Reporting Program
f. Approving a Level III Harbor Development Permit #06-162
g. Lease Agreement

The Coalition For A Safe Environment (CFASE) was represented at the Port of Long Beach Board of Harbor Commissioners Public Meeting by Jesse N. Marquez, Executive Director, who also represented California Kids IAQ, Community Dreams, California Safe Schools, Society For Positive Action, Del Amo Action Committee, Action Now, California Communities Against Toxics and Pastor Alfred Carrillo. Jesse N. Marquez submitted a Final EIR written public comment letter and provided verbal comment during the public comment period.

Coalition For A Safe Environment (CFASE) History of Public Participation and Legal Standing

The CFASE's 1st public participation involvement began with CFASE seeing and reading the Port of Long Beach Notice of Preparation/Initial Study of a Draft Environmental Impact Report for the Mitsubishi Cement Facility Modification Project on September 1, 2011 dated August 26, 2011, at the Wilmington Branch Library located at 1300 N. Avalon Blvd., Wilmington, CA.

CFASE's 2nd public participation involvement began with CFASE's attendance at the Port of Long Beach Mitsubishi Cement Terminal, Inc. - MCC Cement Facility Modification Project NOP Public Scoping Meeting held on September 14, 2011 at 6:00pm at the City of Long Beach Council Chambers 333 West Ocean Boulevard, Long Beach, CA.

CFASE's 3rd public participation involvement included attendance at the Port of Long Beach Mitsubishi Cement Terminal, Inc. - MCC Cement Facility Modification Project Draft EIR Report public meeting held on November 18, 2014 at 6:00pm at the Port of Long Beach Board room

925 Harbor Plaza, Long Beach, CA. CFASE provided verbal public comments and submitted written public comments against the DEIR due to numerous CEQA deficiencies, errors, omissions and misinformation in the Draft Environmental Impact Report (DEIR).

CFASE's 4th public participation involvement included attendance at the Port of Long Beach Mitsubishi Cement Terminal, Inc. - MCC Cement Facility Modification Project Final EIR Report public meeting held on May 11, 2015 at 6:00pm at the Port of Long Beach board room 4801 Airport Plaza Drive, Long Beach, CA. CFASE provided verbal public comments and submitted written public comments against approval of the project and certification of the Final EIR due to numerous CEQA deficiencies, errors, omissions and misinformation in the Final Environmental Impact Report (FEIR).

Appeal Request: Appeal Of A Decision By The POLB Board Of Harbor Commissioners

CFASE et al Petition For Appeal Of A Decision By The Board Of Harbor Commissioners for the Mitsubishi Cement Terminal, Inc. (MCC) Cement Facility Modification Project: (1) Receive and File Supporting Documentation Into the Record and Conduct a Public Hearing on the Project, and (2) Adopt a Resolution Certifying the Final EIR for the MCC Cement Facility Modification Project and Making Findings, Adopting a Statement of Overriding Considerations, a Mitigation Monitoring and Reporting Program and an Application Summary Report, and Approving the Project and Level III Harbor Development Permit #06-162.

The Coalition For A Safe Environment et al co-signature organizations and individual respectfully files this petition for an Appeal on behalf of its members, organization affiliations and the public to Appeal a decision by the City of Long Beach Harbor Department, Port of Long Beach (POLB) Board of Harbor Commissioners for Mitsubishi Cement Terminal, Inc. - MCC Cement Facility Modification Project.

CFASE et al claim that its members, organization affiliations and the public's life, health, welfare, safety, public mobility, public transportation infrastructure, economic resources, future sustainability, quality of life, environment, wildlife and wildlife habitats will be seriously, negatively and irreversibly impacted by the Mitsubishi Cement Terminal, Inc. - MCC Cement Facility Modification Project as proposed.

CFASE et al further requests a hearing before the Mayor and Long Beach City Council to grant the Appeal, to set aside the environmental determination, to set aside project and report approvals, to remand back to the Board of Harbor Commissioners, to correct all deficiencies, errors, omissions, incorrect facts, comply with all CEQA EIR Requirements and/or deny project approval in its entirety indefinitely.

CFASE et al further requests a hearing to stay of effect, remand, reject, rescind, reverse, void and deny the:

a. Approval of the MCC Cement Facility Modification Project
b. Approval of the Application Summary Report.
c. Adoption of a Resolution Certifying the Final EIR
d. The Making Findings, Adopting a Statement of Overriding Considerations
e. Adopting a Mitigation Monitoring and Reporting Program
f. Approving a Level III Harbor Development Permit #06-162
g. Lease Agreement

Ground # 1. **Board of Harbor Commissioners Failure To Allow Public Rebuttal Or Clarification of Their Comments to MMC Attorney Comments**

CFASE et al allege and claim that the Board of Harbor Commissioners (BOHC) failed to allow the public time to rebuttal comments made by the MCC Attorney who was allowed to go back to the podium to speak or to clarify their comments after Public Comments.

Ground # 2 **Board of Harbor Commissioners Failure To Perform Due Diligence on DoCCS Patent Rights Challenge**

The Coalition For A Safe Environment et al wishes to state that the Board of Harbor Commissioners (BOHC) have a fiduciary responsibility involving trust, good faith, special confidence and obligations in the performance of due diligence in their capacity as a Commissioner representing the public's best interests and in upholding the laws of the State of California and CEQA.

CFASE et al allege and claim that the Board of Harbor Commissioners (BOHC) failed in their fiduciary responsibility to perform due diligence in their decision making when CFASE in its submitted written comments and verbal public comment brought to their attention that the Port of Long Beach (POLB) and Mitsubishi Cement Terminal, Inc. aka MCC did not own the patent or license rights to the DoCCS technology. CFASE additionally testified that it conducted a preliminary patent search.

CFASE further testified that the Port of Long Beach and Mitsubishi Cement Terminal, Inc. aka MCC may violate and infringe on 5 Advanced Cleanup Technologies, Inc. (ACTI)/Advanced Engineering Group (AEG) US Patents for the Advanced Maritime Emissions Control System (AMECS) Technology. CFASE further testified that POLB and MCC would not be able to legally build or operate the DoCCS as part of the project or mitigation.

The Port of Long Beach Board of Harbor Commissioners failed in their responsibility after hearing CFASE's public comment and submitted written public comments to ask:

a. Rick Cameron Managing Director of Environmental Planning or Heather Tomley Director of Environmental Planning at the Port of Long Beach who were present at the BOHC meeting if they had verified the Port of Long Beach or MMC owned the patent rights or licensing rights to the DoCCS technology.

b. Mitsubishi Cement Terminal, Inc. aka MCC representative or their legal counsel who were present at the BOHC meeting if they had verified the Port of Long Beach or MMC owned the patent rights or licensing rights to the DoCCS technology.

c. City of Long Beach/Port of Long Beach City Attorney if they had verified if the Port of Long Beach or MMC owned the patent rights or licensing rights to the DoCCS technology.

Ground # 3 **Board of Harbor Commissioners Failure To Exercise Its Discretion And Caution To Delay Vote Until The DoCCS Patent Ownership & Other Allegations Could Be Validated**

The Coalition For A Safe Environment et al wishes to state that the Board of Harbor Commissioners (BOHC) have a fiduciary responsibility involving trust, good faith, special confidence and obligations in the performance of due diligence in their capacity as a Commissioner representing the public's best interests and in upholding the laws of the State of California and CEQA.

CFASE et al allege and claim that the Board of Harbor Commissioners (BOHC) failed in their fiduciary responsibility to delay the vote on the MCC Cement Facility Modification Project Final Environmental Impact Report (FEIR) & Application Summary Report pending validation of DoCCS patent rights and licensing rights and other allegations. There was no justifiable emergency to warrant an immediate vote.

Ground # 4 **Board of Harbor Commissioners Failure To Exercise Its Discretion And Due Diligence to Validate That The AMECS Technology Was A Superior, More Comprehensive & Efficient Ship Exhaust Toxic Air Emissions Capture Technology**

The Coalition For A Safe Environment et al wishes to state that the Board of Harbor Commissioners (BOHC) have a fiduciary responsibility involving trust, good faith, special confidence and obligations in the performance of due diligence in their capacity as a Commissioner representing the public's best interests and in upholding the laws of the State of California and CEQA.

CFASE et al allege and claim that the Board of Harbor Commissioners (BOHC) failed in their fiduciary responsibility to perform due diligence in their decision making when CFASE in its submitted written comments and verbal public comment brought to their attention that the AMECS Technology was a superior, more comprehensive and efficient ship exhaust toxic air emissions capture technology then DoCCS.

Ground # 5 **Board of Harbor Commissioners Failure To Exercise Its Discretion And Due Diligence to Validate That The South Air Quality Management District Cannot Issue A Permit To The POLB or MCC Because They Do No Own The Patent or Licensing Rights**

The Coalition For A Safe Environment et al wishes to state that the Board of Harbor Commissioners (BOHC) have a fiduciary responsibility involving trust, good faith, special confidence and obligations in the performance of due diligence in their capacity as a Commissioner representing the public's best interests and in upholding the laws of the State of California and CEQA.

CFASE et al allege and claim that the Board of Harbor Commissioners (BOHC) failed in their fiduciary responsibility to perform due diligence in their decision making when CFASE in its submitted written public comments brought to their attention that the South Air Quality Management District cannot issue a permit to the POLB or MCC because they do not own the patent or license rights to the DoCCS Technology and that it may violate and infringe on 5 Advanced Cleanup Technologies, Inc. (ACTI)/Advanced Engineering Group (AEG) US Patents for the Advanced Maritime Emissions Control System (AMECS) Technology. .

Ground # 6 **The Port of Long Beach Managing Director of Environmental Planning Intentionally Misrepresented The Facts Regarding The Status Of The AMECS Technology**

CFASE et al allege and claim that the Managing Director of Environmental Planning, Rick Cameron intentionally and knowingly misrepresented the facts regarding the current status of the AMECS technology when questioned by the Board of Harbor Commissioners.

CFASE in its submitted written public comments and during its public comments stated that the AMECS Technology had been tested on over 70 ships at the Port of Long Beach, that AMECS had been tested on 53 ships as part of the California Air Resources Board CARB Approved Test Protocol, that 34 ships were Bulk Loading Ships similar to what would be used by MCC and that AMECS had completed all testing with 100% success.

The Managing Director of Environmental Planning further failed to disclose that AMECS has the only approved California Air Resources Board CARB Test Protocol and DoCCS does not.

The Managing Director of Environmental Planning further failed to disclose that DoCCS has never been built or tested anywhere on the planet earth. He mislead the BOHC by stating that the DoCCS is made of common off-shelf parts and thus giving the impression that it is a proven technology, when in fact the actual construction and application can disclose numerous unanticipated problems. He further mislead the BOHC by alluding that the South Air Quality Management District permit was the sole permission required to operate when it is a fact that DoCCS is near identical to AMECS in technology and will be required to also have and pass a CARB Approved Test Protocol.

Ground # 7 **The Port of Long Beach Managing Director of Environmental Planning Misrepresented That AMECS Has To Be Certified By CARB When There Is No CEQA Legal Requirement**

CFASE et al allege and claim that the Managing Director of Environmental Planning, Rick Cameron intentionally and knowingly misrepresented the facts regarding the AMECS Technology being required to be CARB Certified when there is no CEQA legal requirement that a technology be certified by a governmental agency. CARB Certification is a Port of Long Beach requirement.

CEQA only requires that a technology be Feasible for the proposed application. A company can prove Feasibility by providing independent 3rd party test validation and application demonstration verification, which can include governmental agency participation.

CFASE et al allege and claim that the Board of Harbor Commissioners (BOHC) failed in their fiduciary responsibility to perform due diligence in their decision making when CFASE in its submitted written public comments brought to their attention that there is no CEQA legal requirement that a technology be certified by a governmental agency.

Ground # 8 **The Port of Long Beach Managing Director of Environmental Planning Failed to Disclose That The DoCCS Proposed Use Of A Bonnet or Hood Technology Was Proven To Be Inferior By AMECS As Compared To The New AMECS Direct-Connect Exhaust Capture Technology**

CFASE et al allege and claim that the Managing Director of Environmental Planning, Rick Cameron intentionally and knowingly withheld information from the BOHC regarding the DoCCS use of a Bonnet or Hood Technology which was proven by Advanced Cleanup Technologies, Inc. (ACTI)/Advanced Engineering Group (AEG) - Advanced Maritime Emissions Control System (AMECS) Technology to be an inferior and less effective technology to capture ship exhaust emissions.

Advanced Cleanup Technologies, Inc./Advanced Engineering Group (AEG) currently uses its new US patented Direct-Connect Exhaust Capture Technology which currently allows the maximum efficiency capture of ship exhaust emissions.

CFASE et al allege and claim that the Board of Harbor Commissioners (BOHC) failed in their fiduciary responsibility to perform due diligence in their decision making when CFASE in its submitted written public comments brought to their attention that the DoCCS use of a Bonnet or Hood Technology which was proven by Advanced Cleanup Technologies, Inc. (ACTI)/Advanced Engineering Group (AEG) - Advanced Maritime Emissions Control System (AMECS) Technology to be an inferior and less effective technology to capture ship exhaust emissions.

Ground # 9 **The Port of Long Beach Intentionally Failed To Include AMECS As A Reasonable Alternative In The Final EIR**

CFASE et al allege and claim that the Port of Long Beach intentionally failed to include AMECS as a Reasonable Alternative in the Final EIR. The Final EIR states that, "the range of reasonable alternatives considered was based on their ability to meet most of the basic Project objectives and lessen any significant effects of the proposed Project. To be considered reasonable, an alternative must meet the Project Objectives stated in Section ES.2, Project Objectives." The Final EIR includes DoCCS as an Alternative.

AMECS meets two (2) of the three (3) project objectives in Section ES.2 as does DoCCS because:

a. It is an emission control system to reduce at-berth nitrogen oxide (NOx) emissions from a ship auxiliary generator engines when vessels are not using shore-to-ship power.
b. Can be included in the modified South Coast Air Quality Management District (SCAQMD) air permit for Bulk Cement Ship Unloading, which currently requires shore-to-ship power ("cold-ironing") for ships at berth, to allow either shore-to-ship power or venting to NO_x emission control equipment.

CFASE et al allege and claim that the Board of Harbor Commissioners (BOHC) failed in their fiduciary responsibility to perform due diligence in their decision making when CFASE in its submitted written public comments brought to their attention that AMECS equals and exceeds the DoCCS technology and therefore should have been included as an Alternative.

Ground # 10 **The Port of Long Beach Intentionally Failed To Include AMECS As A Reasonable Alternative 4 In The Final EIR Table 4.3.1 Which Would Result In A Significant & Unavoidable Impact To A Less Than Significant Impact**

CFASE et al allege and claim that the Port of Long Beach intentionally failed to include AMECS as a Reasonable Alternative 4 in the Final EIR Table 4.3.1 which would have revealed that a determination of a "Significant & Unavoidable" Impact would be a "Less than Significant" Impact using AMECS. The FEIR should also have included an Emissions Reductions Comparison Table so that decision makers and the public could see the differences and determine if additional mitigation measures should be included to achieve a Less Than Significant Impact.

CFASE et al allege and claim that the Board of Harbor Commissioners (BOHC) failed in their fiduciary responsibility to perform due diligence in their decision making when CFASE in its submitted written public comments brought to their attention that if AMECS was included in the Final EIR Table 4.3.1 which would have revealed that a determination of a "Significant & Unavoidable" Impact would be a "Less than Significant" Impact using AMECS. When the BOHC questioned Managing Director of Environmental Planning, Rick Cameron on this they accepted his explanation without any evidence and documentation to support his claim.

Ground # 11 **The Port of Long Beach Managing Director of Environmental Planning Failed to Adequately Disclose That DoCCS Only Captures NOx Emissions From Auxiliary Engines And Not The Ship Boilers**

CFASE et al allege and claim that the Managing Director of Environmental Planning, Rick Cameron intentionally and knowingly withheld information from the BOHC regarding that DoCCS only captures and treats NOx emissions from Auxiliary Engines and not the Ship Boilers, while AMECS captures NOx from both.

The Managing Director of Environmental Planning further failed to disclose that AMECS captures and treats 90%-99% of all NOx, SO2, PM and VOC's from both Auxiliary Engines and Boilers.

The Managing Director of Environmental Planning further failed to disclose that Electric Shorepower aka Cold Ironing does not include preventing Boiler Emissions, due to the fact that the ship Boilers cannot be connected to shorepower.

CFASE et al allege and claim that the Board of Harbor Commissioners (BOHC) failed in their fiduciary responsibility to perform due diligence in their decision making when CFASE in its submitted written public comments brought to their attention that DoCCS only captures NOx emissions from Auxiliary Engines and not the Ship Boilers, while AMECS captures NOx from both, therefore a superior and more efficient technology. Regardless of the fact that DoCCS was proposed and accepted by SCAQMD does not stop the SCAQMD from substituting a superior and more efficient technology in their permit.

Ground # 12 **The Port of Long Beach And Final EIR Failed To Disclose That DoCCS Does Not Have A California Air Resources Board Approved Test Protocol Or A South Coast Air Quality Management District Approved Test Protocol Nor Have They Submitted A Test Protocol For Approval**

CFASE et al allege and claim that the Managing Director of Environmental Planning, Rick Cameron intentionally and knowingly withheld information from the BOHC regarding that DoCCS does not have a California Air Resources Board Approved Test Protocol or a South Coast Air Quality Management District Approved Test Protocol, nor have they submitted one for approval. Reference SCAQMD Rule 1147 NOx Reductions From Miscellaneous Sources.

Ground # 13 **The Port of Long Beach And Final EIR Failed To Disclose That DoCCS Does Not Have A Continuous Emissions Monitoring System (CEMS) As Compared To AMECS**

CFASE et al allege and claim that the Port of Long Beach failed to disclose in the Final EIR that DoCCS does not have a Continuous Emissions Monitoring System (CEMS) as compared to AMECS. A CEMS guarantees that the DoCCS is operating correctly, complies with specified emission limits, that there has been no equipment malfunction and that there is a continuous 24/7 monitoring. Reference SCAQMD Rule 1147 NOx Reductions From Miscellaneous Sources. The AMECS CEMS also has an alarm if equipment malfunctions. Reference SCAQMD Rule 1147 NOx Reductions From Miscellaneous Sources.

Ground # 14 **The Port of Long Beach Claims DoCCS Is A Project Component And Not Mitigation When In Fact Its Purpose Meets All Of The CEQA Definition of Mitigation Elements And Should Be Classified As Mitigation**

CFASE et al allege and claim that the Port of Long Beach failed to disclose in the Final EIR that the DoCCS as part of a project or a feature of a project is still a Mitigation Measure by CEQA definition. A project component or feature which reduces toxic ship exhaust emissions and public exposure to toxic emissions is an environmental mitigation.

Ground # 15 **The Port of Long Beach And Final EIR Failed To Disclose That DoCCS Does Not And Will Not In The Future Comply With The California Airborne Toxic Control Measure for Auxiliary Diesel Engines Operated on Ocean-Going Vessels A-Berth In A California Port Regulation Which Is Currently Under Revision To Include Bulk Loading Ships**

CFASE et al allege and claim that the Port of Long Beach failed to disclose in the Final EIR that DoCCS does not and will not in the future comply with the Airborne Toxic Control Measure for Auxiliary Diesel Engines Operated on Ocean-Going Vessels A-Berth in a California Port Regulation (17 Cal. Code of Regs. 93118.3), which states that if a ship does not connect to electric shorepower it must, "use alternative control technique(s) that achieve equivalent emission reductions," and DoCCS does not comply with this legal requirement because it does not achieve equivalent emissions reductions.

Ground # 16 **The Port of Long Beach And Final EIR Failed To Disclose That Only On-Site And Immediate Vicinity Truck Emissions And Traffic**

Congestion Impacts Were Assessed And Not The 166,400 Truck Trips Leaving The Facility To Travel To Off-Site Destinations

CFASE et al allege and claim that the Port of Long Beach failed to disclose in the Final EIR that only on-site and immediate vicinity truck emissions and traffic congestion impacts were assessed and not the 166,400 truck trips traveling to other off-site customer destinations beyond 3 miles of the project site in the City of Long Beach or in the neighboring City of Los Angeles Environmental Justice Communities of Wilmington, San Pedro, Harbor City and Carson that are near or border Long Beach and regional off-site destinations and freight transportation corridors throughout Los Angeles County. CFASE estimates that as high as 90%+ of the truck destinations will be beyond 3 miles and traveling potentially through a minimum of 10 other cities to get to known and potential new proposed project construction locations.

The Final EIR references the TRAFFIC STUDY FOR THE MITSUBISHI CEMENT FACILITY MODIFICATION PROJECT, the 2010 Congestion Management Program for Los Angeles County, Arterial Monitoring Station Analysis and Freeway Mainline Monitoring Station Analysis but failed to disclose that they did not include any assessment North and West of the I-710 Long Beach Freeway at I-405 San Diego Freeway. Therefore truck emissions, greenhouse gases, traffic congestion and potential public health impacts have been significantly underestimated and determinations of Less Than Significant to be wrong and unmitigated in violation of CEQA and the 2010 Congestion Management Program for Los Angeles County.

Ground # 17 The Port of Long Beach And Final EIR Failed To Disclose That Little Or No Research Was Conducted To Determine If There Were Zero Or Near Zero Emission Trucks Available For The MCC Project.

CFASE et al allege and claim that the Port of Long Beach failed to disclose in the Final EIR that they conducted little to no research on the availability of Zero Emission Electric Plug-In Battery Truck Manufacturers who have built demonstration, pilot project and commercial Heavy Duty On-Road Trucks that will meet MMC requirements. CFASE has found several Zero Emission Electric Plug-In Battery Truck Manufacturers.

CFASE et al allege and claim that the Port of Long Beach failed to disclose in the Final EIR that they conducted little to no research on the availability of Near Zero Emission Natural Gas/CNG/LNG Truck Manufacturers who have built demonstration, pilot project and commercial Heavy Duty On-Road Trucks that will meet MMC requirements. CFASE has found several Near Zero Emission Natural Gas/CNG/LNG Truck Manufacturers

CFASE et al allege and claim that the Port of Long Beach failed to disclose in the Final EIR that they conducted little to no research on the availability of Plug-In Hybrid/Diesel Battery Truck Manufacturers who have built demonstration, pilot project and commercial Heavy Duty On-Road Trucks that will meet MMC requirements. CFASE has found several Plug-In Hybrid/Diesel Battery Truck Manufacturers.

CFASE et al allege and claim that the Port of Long Beach and Final EIR reference outdated reports such as the 2011 Roadmap for Moving Forward with Zero Emission Technologies at the Ports of Long Beach and Los Angeles, when they should have conducted at update search and review of new reports, truck manufacturer websites and information. They further neglected to disclose that alternative trucks in demonstration and pilot project stage could be ready by the time the MCC Facility Terminal Modification Project is complete, so the Project Mitigation should require their immediate incorporation and use, rather than wait 5 years for the next Periodic Technology Review. In addition the long distance truck travel requirement limitation issue would not apply, since all or the majority of deliveries would be less than 20 miles from the POLB.

Ground # 18 **The Port of Long Beach And Final EIR Failed To Disclose That CFASE Et Al Recommended That The POLB And MCC Could Sponsor And Finance A Zero Emissions Truck Demonstration And Pilot Project As Mitigation**

CFASE et al allege and claim that the Port of Long Beach failed to conduct a current alternative zero emissions and near zero emissions truck industry technology status and to disclose to the BOHC that CFASE et al FEIR Public Comments requested that the Port of Long Beach as a co-member of the Clean Air Action Plan (CAAP) member of the Technology Advancement Program (TAP) could sponsor and finance a zero emissions truck demonstration or pilot project as mitigation.

Ground # 19 **The Port of Long Beach And Final EIR Failed To Disclose If It Will Comply With The SCAQMD RULE 1157. PM10 EMISSION REDUCTIONS FROM AGGREGATE AND RELATED OPERATIONS**

CFASE et al allege and claim that the Port of Long Beach failed to disclose that the project will not comply with the SCAQMD Rule 1157. PM10 Emission Reductions From Aggregate and Related Operations.

Ground # 20 **The Port of Long Beach And Final EIR Failed To Disclose That The MMC Project Does Not Comply With The Green Port Policy to Protect The community From Harmful Environmental Impacts, To Promote Sustainability And Other Elements**

CFASE et al allege and claim that the Port of Long Beach failed to disclose that the project will not comply with all elements of the Port of Long Beach adopted Green Port Policy. The Port and Final EIR only referenced things that did comply with the Green Port Policy giving the BOHC a false impression that everything was in compliance, while not referencing those they were not complying with.

Ground # 21 **The Port of Long Beach's Proposal to Include AMECS As Part Of The Periodic Technology Review And Lease Agreement Is Unacceptable Because The POLB Did Not Comply With The Tesoro Agreement For Tesoro To Sponsor And Finance An AMECS Demonstration Project Which Never Occurred**

CFASE et al allege and claim that the Port of Long Beach failed to disclose to the BOHC that they did not comply with the Tesoro Mitigation Agreement for Tesoro to sponsor and finance an AMECS demonstration.

We object to Mitigation Measures AQ-5 and AQ-6 because AMECS has now been proven as a Feasible Alternative Technology that has been successfully tested on 34 Bulk Loading Ships at the Port of Long Beach as part of the Approved CARB Test Protocol and also complies with the current and proposed update CARB Airborne Toxic Control Measure for Auxiliary Diesel Engines Operated on Ocean-Going Vessels A-Berth in a California Port Regulation (17 Cal. Code of Regs. 93118.3).

Ground # 22 **The Port of Long Beach And Final EIR Failed To Disclose That Little Or No Research Was Conducted To Determine If There Were Zero Or**

Near Zero Emission Top Front End Payloaders Available For The MMC Project

CFASE et al allege and claim that the Port of Long Beach failed to disclose in the Final EIR that they conducted little to no research on the availability of Zero Emission Electric Top Front End Payloaders Manufacturers who have built demonstration, pilot and commercial project Zero Emission Electric Top Front End Payloaders that will meet MMC requirements. CFASE has found Zero Emission Electric Top Front End Payloaders.

Ground # 23 The Port of Long Beach And Final EIR Failed To Disclose To The BOHC That The Final EIR Violates CEQA Cumulative Impact Assessment Requirements On Environmental Justice Communities, Sensitive Receptors and Protected Classes And/OR Federal, State And City Polices And Laws On Environmental Justice And Title VI

CFASE et al allege and claim that the Port of Long Beach and Final EIR failed to include an assessment of MMC Terminal Untreated Ship Emissions and Off-Site Diesel Truck travel destinations toxic emissions, traffic congestion, negative socio-economic and Cumulative Impacts to Environmental Justice Communities, Sensitive Receptors, Protected Classes and the public.

The FIER states that 166,400 diesel trucks annually will leave the MCC Terminal and travel off-site passing through numerous cities, environmental justice communities, sensitive receptors, protected classes and the public on public streets, highways, freeways and bridges locally and regionally to deliver cement and then return that were not identified, assessed and mitigated. It also did not address off-site environmental justice community noise impacts due to diesel truck travel, idling, delivery, un-loading and project site construction.

Uncaptured and Non-Treated Ship Emissions and Off-Site Diesel Truck travel will have an increased, significant and disproportionate environmental, public health and socio-economic impact on Environmental Justice Communities, Sensitive Receptors, Protected Civil Rights Classes and the public. Some omitted project examples include the Kaiser Permanente Hospital Expansion Projects, Inglewood Hollywood Park Redevelopment Project, the proposed Inglewood Football Stadium and Carson Football Stadium. The FEIR only identities nearby Port of Long Beach and Port of Los Angeles Projects.

Ground # 24 The Port of Long Beach And Final EIR Failed To Disclose To The BOHC That The Final EIR Does Not Comply With CEQA Requirement For Assessment Of Direct Or Primary Effects, Indirect Or Secondary Effects and Cumulative Effects

CFASE et al allege and claim that the Port of Long Beach and Final EIR did not include MCC Terminal off-site CEQA required assessment of Direct or Primary Effects that are caused by a project, Indirect or Secondary Effects that are reasonably foreseeable and caused by a project, but occur at a different time or place and Cumulative Impacts of two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. CEQA Guidelines also state that "With some projects, the only feasible mitigation for cumulative impacts may involve the adoption of ordinances or regulations rather than the imposition of conditions on a project-by-project basis."

The FEIR states that the MCC Terminal will generate 166,400 annual truck trips but the Cumulative Impact Assessment omitted identifying off-site project destinations and travel routes that would increase air pollution, greenhouse gases, increased public health impacts, increased traffic congestion and premature transportation infrastructure degradation. It also did not address off-site environmental justice community noise impacts due to diesel truck travel, idling, delivery, un-loading and project site construction. The 166,400 diesel trucks will leave the MCC Terminal and travel off-site passing through numerous cities, environmental justice communities on public streets, highways, freeways and bridges locally and regionally to deliver cement and then return.

This will have an increased, significant and disproportionate public health and socio-economic impact on Environmental Justice Communities, Sensitive Receptors, Protected Civil Rights Classes and the public. The FEIR only identities nearby Port of Long Beach and Port of Los Angeles Projects. Some omitted project examples include the Kaiser Permanente Hospital Expansion Projects, Inglewood Hollywood Park Redevelopment Project, the proposed Inglewood Football Stadium and Carson Football Stadium.

Ground # 25 The Port of Long Beach And Final EIR Proposed POLB Greenhouse Gas Reduction Grant Program Fails To Include Mitigation For Long Term Impacts From Its Proposed Long Term Lease

CFASE et al allege and claim that the Port of Long Beach has proposed an unacceptable 1 year Greenhouse Gas Reduction Grant Program. The MMC Project will be given a multi-year lease which typically ranges from 25-40 years and the MCC Project should contribute annually as Mitigation for its Greenhouse Gas Emissions.

Long Beach, Wilmington, San Pedro, Harbor City-Los Angeles and Carson residents request to have all POLB and MMC Project Mitigation administered through the Harbor Community Benefit Foundation (HCBF) which has no port, project, city or community mitigation administration or funding restrictions except where designated by a donor.

Ground # 26 The Port of Long Beach And Final EIR Fail To Disclose That Fugitive Cement Dust Emissions That Does Not Land On The Existing Terminal Area Is Not Identified, Assessed And Mitigated

CFASE et al allege and claim that the Final EIR describes that that fugitive emissions will be 20.3 pounds per day and states that it is assumed that this material will settle evenly on the existing terminal area of 4.21 acres which not true. Fugitive dust fill fall off or blow off both sides of the ship. One side is the terminal and the other side if the ocean, so the ocean will be contaminated and marine biology will be negatively impacted and unmitigated, by at least 50% of the fugitive dust. In addition, the ocean wind also blows north inland which is also nearby ocean water and the neighboring terminal, which means more than 50% will settle in the ocean waters. Therefore the ocean floor silt built-up has been underestimated and future port dredging costs will be higher.

Ground # 27 **POLB And MCC Could Sponsor And Finance A Potential Ship Hatch Fugitive Dust Shroud Or Bonnet Demonstration Project As Mitigation**

CFASE et al allege and claim that the Port of Long Beach could as co-member of the Clean Air Action Plan (CAAP) and member of the Technology Advancement Program (TAP) could sponsor and finance a Ship Hatch Fugitive Emissions Shroud or Bonnet Technology RFQ Demonstration Project demonstration or pilot project as mitigation and future project incorporation.

Ground # 28 **The Port of Long Beach failed to disclose to the Board of Harbor Commissioners and the FEIR failed to properly discuss its reference to Table 3, "Source Tests for ACTI AMECS" is vastly misleading.**

CFASE et al allege and claim that the POLB staff failed to disclose to the Board of Harbor Commissioners and the FEIR failed to properly discuss its reference to Table 3, "Source Tests for ACTI AMECS" is vastly misleading. The First Test (885 hours) is not representative of any inconsistency in the AMECS performance – it simply shows that the first source test was not performed well by the source test company, an issue later corrected in subsequent testing as protocol and measurement aspects were perfected for testing previously unknown innovative technology in a brand new frontier of emissions control and air quality. In every other test, AMECS showed high 90%'s treatment performance. The reference to this table for this reason is misleading and deceitful.

Ground # 29 **The Port of Long Beach And Final EIR Failed To Disclose That A Health Impact Assessment Is A More Accurate And Comprehensive Assessment Of Public Health Than A Health Risk Assessment**

CFASE et al allege and claim that the Final EIR fails to demonstrate to the public that it is being protected, because we and the public has requested and provided information on Health Impact Assessments (HIA) which are a more accurate and comprehensive assessment of the public current health status and future health status changes as compared to a Health Risk Assessment (HRA). There are no legal restrictions on any additional Public Health Assessment Tools that can be used.

The POLB gives the impression that it can only rely on Health Risk Assessments, when the fact is that an HRA cannot tell you how many people in the project area have Asthma, Lung Cancer, COPD or any health problem. An HIA can include a Public Health Survey in order to establish a Public Health Baseline (PHB). The POLB FEIR cannot claim its mitigation for current public health mitigation or future health mitigation from the projects toxic emissions and greenhouse gases is adequate when they do not know how many people are ill, what age group, what ethnic group, how grave is their illness, where they are located, what the health care cost has been, how many have health insurance and other negative socio-economic impacts.

Ground # 30 **The Port of Long Beach And Final EIR Failed To Disclose That The Project And Proposed Mitigation Will Not Comply With California Health And Safety Code Sections 39000-39002**

CFASE et al allege and claim that the Final EIR failed to disclose that in addition to CEQA a project must also comply with other local, regional, state and federal applicable laws, rules, regulations and codes. The MCC Project and proposed mitigation does not comply with the California Health & Safety Code which states that the public interest shall be safeguarded by an intensive, coordinated state, regional, and local effort to protect and enhance the ambient air quality of the state and local and regional authorities have the primary responsibility for control of air pollution from all sources other than vehicular sources.

Ground # 31 The Port of Long Beach And Final EIR Failed To Disclose That They Conduced Little To No Research On Available Whale Mitigation For Potential Ship Whale Strikes

CFASE et al allege and claim that the Port of Long Beach and Final EIR failed to disclose that they conducted little to no research on available Whale Mitigation for potential ship strikes. CFASE conducted an internet search and found numerous reports, studies and new technologies that could be incorporated into the Final EIR as appropriate Whale Strike Prevention Mitigation. The POLB failed to disclose that in the recent past ships entering the San Pedro Bay arrived with a dead whale carcass on its bow.

Ground # 32 The Port of Long Beach And Final EIR Failed To Disclose What Is The Safe Ship And Ship Traffic Congestion Capacity Of The Long Beach Harbor And Outer Harbor

CFASE et al allege and claim that the Final EIR fails to disclose what is the safe ship and ship traffic congestion capacity of the Long Beach Harbor and Outer Harbor. The FEIR states that the MMC Project will increase overall marine vessel traffic by 64 ship vessels annually, but does not disclose what is the maximum and ship traffic level capacity in the Long Beach Harbor and near the MMC Terminal. It also does disclose, assess or include mitigation measures for ship safety in regards to ship collision or terminal accident prevention. It further does not disclose, assess or mitigate the Outer Harbor Increased Ship Traffic traveling to and entering the San Pedro Bay twin ports nor impacts to recreational boaters.

Ground # 33 The Port of Long Beach And Final EIR Failed To Disclose What Will Be The Sanctions, Penalties & Monitoring Method To Determine If 66% Of Vessels Are Complying With Cold Ironing And Mitigation Plan Has Been Established

CFASE et al allege and claim that the Final EIR fails to disclose what will be the sanctions, penalties and monitoring method to determine if 66% of MCC arriving vessels are complying with cold ironing. The FEIR only states that they would be in breach of lease and subject to consequences but does not describe or list what is the process of monitoring compliance and what are the consequences. If it is a dollar fine for example, it might be in the public's opinion too low to deter MCC from repeating the violation and would be considered a low cost of doing business. We would also request that the Sanctions, Penalties Plan, Monitoring Plan and a Mitigation Plan be established in advance and incorporated into the POLB Final EIR and Lease Agreement.

Although the FIER references CEQA Guidelines 15126.4(a)(2) which states that it allows imposition of requirements through contractual agreements the POLB and FEIR it did not do it. This is another example of how the POLB intentionally references legal documents and requirements even though it is not complying with all legal requirements or allowable authorities thus giving the false impression to the reader, public and decision maker it is in compliance, all precautions have been identified and incorporated into the project.

Ground # 34 The Port of Long Beach And Final EIR Failed To Disclose The Origin Or Sources Of The Imported Concrete Which Can Contain Toxic Chemicals, Substances, Heavy Metals & Natural Occurring Radiation

MCC Cement Facility Modification Project Final Environmental Impact Report (EIR) and Application Summary Report

SCH No. 2011081098

Prepared for:

Port of LONG BEACH
The Green Port

April 2015

Prepared by:

leidos

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ACRONYMS AND ABBREVIATIONS

°F	degrees Fahrenheit
μg/L	micrograms per liter
μg/m^3	micrograms per cubic meter
AB	Assembly Bill
ACM	asbestos containing material
ACTA	Alameda Corridor Transportation Authority
AEI	Air Emissions Inventory
ANSI	American National Standards Institute
AQMP	Air Quality Management Plan
ARB	Air Resources Board
BAT	best available technology economically achievable
BCT	best conventional pollutant control technology
BMP	best management practice
BTEX	benzene, toluene, ethylbenzene, and xylenes
CAA	Clean Air Act
CAAP	Clean Air Action Plan
CAAQS	California Ambient Air Quality Standards
CalEPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCA	California Coastal Act
CCAR	California Climate Action Registry
CCC	California Coastal Commission
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CH_4	methane
CHE	cargo handling equipment
CLE	Contingency Level Event
cm	centimeter
CMP	Congestion Management Program
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	CO_2 equivalent
CO-CAT	Coastal and Ocean Working Group of the California Climate Action Team
COTP	Captain of the Port
CRS Plan	Coastal Resiliency Strategic Plan
CSLC	California State Lands Commission
CTP	Clean Trucks Program
CTR	California Toxics Rule
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
dB	decibel
dBA	A-weighted sound level
DDT	dichloro-diphenyl-tricloroethane
DO	Dissolved Oxygen
DoD	Department of Defense
DoCCS	Dockside Catalytic Control System
DPF	diesel particulate filter
DPM	diesel particulate matter
DTSC	Department of Toxic Substances Control

EC	environmental control
ECA	Emission Control Area
EEZ	Exclusive Economic Zone
EFH	essential fish habitat
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EO	Executive Order
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FMP	Fishery Management Plan
g	gravitational acceleration
GCC	global climate change
GHG	greenhouse gas
GHG Guidelines	Greenhouse Gas Emission Reduction Program Guidelines
GHG Plan	Greenhouse Gas Strategic Plan
GHG Reduction Program	Greenhouse Gas Emissions Reduction Grant Program
GWP	global warming potential
HC	hydrocarbons
HCM	Highway Capacity Manual
HEP	Harbors Environmental Projects
HHI	health hazard index
HRA	health risk assessment
HSP	Harbor Safety Plan
HSWA	Hazardous and Solid Waste Amendments
Hz	Hertz
I	Interstate
ICTF	intermodal container transfer facility
ICU	intersection capacity utilization
IMO	International Maritime Organization
IS	Initial Study
JWPCP	Joint Water Pollution Control Plant
kW	kilowatts
LACFD	Los Angeles County Fire Department
LACSD	Los Angeles County Sanitation District
LADOT	Los Angeles Department of Transportation
LBFD	Long Beach Fire Department
LBMC	Long Beach Municipal Code
LBMP	Long Beach Monitoring Program
LBPD	Long Beach Police Department
LBSWMP	Long Beach Stormwater Management Plan
LBWD	Long Beach Water Department
LEPC	Local Emergency Planning Committee
Leq	Equivalent Noise Level
LOS	level of service
LST	Localized Significance Threshold
LT	long term
LUD	Land Use District
M	Richter magnitude
MARPOL	Marine Pollution
MATES	Multiple Air Toxics Exposure Study
MBTA	Migratory Bird Treaty Act
MCC	Mitsubishi Cement Company
MCE	maximum credible earthquake
M.D.	midday
mg/L	milligrams per liter
MGD	million gallons per day
MLLW	mean lower low water
MMPA	Marine Mammal Protection Act
MMRP	Mitigation, Monitoring, and Reporting Program
MSCF	million standard cubic feet

MSL	mean sea level
MT	metric ton
MTA	Metropolitan Transportation Authority
MWD	Metropolitan Water District of Southern California
MWh	megawatt hours
NAAQS	National Ambient Air Quality Standards
NAS	National Academy of Sciences
nm	nautical miles
NMFS	National Marine Fisheries Service
NO_2	nitrogen dioxide
NO_x	nitrogen oxides
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NRC	National Research Council
O_3	ozone
OEHHA	California Environmental Protection Agency's Office of Environmental Health Hazard Assessment
OES	California Office of Emergency Services
OGV	ocean-going vessel
OLE	Operating Level Event
OPA	Oil Pollution Act
OSHA	Occupational Safety and Health Administration
OSPR	(California) Office of Spill Prevention and Response
PCB	polychlorinated biphenyl
PCE	passenger car equivalent
PERP	Statewide Portable Equipment Registration Program
PGA	peak ground acceleration
pH	hydrogen ion concentration
PM	particulate matter
PM_{10}	particulate matter less than 10 microns in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
PMP	Port of Long Beach Master Plan
POLA	Port of Los Angeles
POLB	Port of Long Beach
Port	Port of Long Beach
PORTS	Physical Oceanographic Real Time System
ppm	parts per million
ppt	parts per thousand
PRC	Public Resources Code
QV	qualifying vessels
RCPG	Regional Comprehensive Plan and Guide
RCRA	Resource Conservation and Recovery Act
Resources Agency	California Natural Resources Agency
RIMS	Response Information Management System
RMP	Risk Management Program
RNA	Regulated Navigation Area
rpm	revolutions per minute
RTP	Regional Transportation Plan
RWQCB	(Los Angeles) Regional Water Quality Control Board
SARA	Superfund Amendments and Reauthorization Act
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SCR	Selective Catalytic Reduction
SEA	Significant Ecological Area

SERC	State Emergency Response Commission
s.f.	square feet
SIP	State Implementation Plan
SLM	sound level meters
SLR	sea level rise
SOLAS	Safety of Life at Sea
SO_2	sulfur dioxide
SO_x	sulfur oxides
SPBS	San Pedro Bay Standards
SPCC	Spill Prevention, Control, and Countermeasure Plan
SR	State Route
SRA	source receptor area
ST	short term
SVOC	semi-volatile organic compound
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
TCR	The Climate Registry
TEU	twenty-foot-equivalent unit
TITP	Terminal Island Treatment Plant
TMDL	total maximum daily load
TSS	Traffic Separation Scheme
UBC	Uniform Building Code
UFP	ultrafine particles
U.S.	United States
U.S.C	U.S. Code
USACE	U.S. Army Corps of Engineers
USCG	U.S. Coast Guard
USFWS	United States Fish and Wildlife Service
USGS	U.S. Geological Survey
UWMP	Urban Water Management Plan
V/C	volume-to-capacity
VOC	volatile organic compound
vph	vehicles per hour
VSRP	vessel speed reduction program
VT	Vessel Transportation
VTS	Vessel Traffic Service
WHO	World Health Organization
YTI	Yusen Terminals, Inc.

EXECUTIVE SUMMARY

ES.1 INTENDED USES AND AUTHORIZING ACTIONS

This Environmental Impact Report (EIR) fulfills the requirements of the California Environmental Quality Act (CEQA) (Public Resources Code [PRC], Section 21000 et seq.), CEQA Guidelines (14 California Code of Regulations [CCR], Section 15000 et seq.), and Port of Long Beach (POLB or Port) Procedures for the Implementation of CEQA (Resolution No. HD-1973). According to CEQA Guidelines Section 15121(a) (CCR, Title 14, Division 6, Chapter 3), the purpose of an EIR is to serve as an informational document that:

> *…will inform public agency decision makers and the public generally of the significant environmental effect of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project.*

ES.2 PROJECT OBJECTIVES

CEQA requires that an EIR state the objectives of a proposed project to explain the reasons for project development, and why this particular solution is currently being recommended. Additionally, the project objectives are instrumental in determining which alternatives should be considered in the document.

The objectives of the proposed Project are to:

- Upgrade existing facilities operated by MCC Terminal, Inc. (MCC) to improve operational efficiency and provide 40,000 metric tons of additional storage capacity to meet future cement demand in the Los Angeles region;
- Install an emission control system (Dockside Catalytic Control System [DoCCS]) to reduce at-berth nitrogen oxide (NO_x) emissions from ship auxiliary generator engines when vessels are not using shore-to-ship power; and
- Modify the South Coast Air Quality Management District (SCAQMD) air permit for Bulk Cement Ship Unloading, which currently requires shore-to-ship power ("cold-ironing") for ships at berth, to allow either shore-to-ship power or venting to NO_x emission control equipment.

ES.3 DESCRIPTION OF THE PROJECT AND ALTERNATIVES

Project Location

The Project site is located on Pier F at 1150 Pier F Avenue in the Southeast Harbor Planning District of the POLB (Figure ES-1). The Project site is within the highly industrialized inner Port Complex and bordered by Pier F Avenue and the Long Beach Container Terminal to the north and northwest, the Chemoil Marine Terminal to the east, the Southeast Basin to the south, and Crescent Terminal (SSA) to the west. The Project site is owned by the POLB.

Proposed Project (Alternative 1) Overview

The proposed Project would consist of:

- Installing an emission control system (DoCCS) to capture and reduce NO_x emissions from ship auxiliary generators at berth;
- Constructing additional storage capacity on an adjacent lot consisting of 40,000 metric tons of storage and loading silos; and
- Upgrading existing facilities and ship unloading equipment.

MCC is proposing to construct the additional cement storage silos and truck loading equipment in the location formerly used as the warehouse for Pacific Banana operations. The warehouse was demolished in 2011 due to its failure to meet fire and building codes.

The four, 10,000 metric ton silos that would be installed as part of the proposed Project would provide additional storage capacity. This additional capacity would alleviate delays in unloading ships during periods when the existing warehouse capacity is insufficient to accommodate cement from an arriving ship. This is important because cement deliveries to the MCC facility are ordered months in advance. Therefore, if the demand for cement changes suddenly, it is possible that available warehouse capacity at the facility could be less than the cement volume carried by the ship. Under these conditions, the ship would be required to wait either at berth or at anchor until sufficient warehouse space becomes available to unload

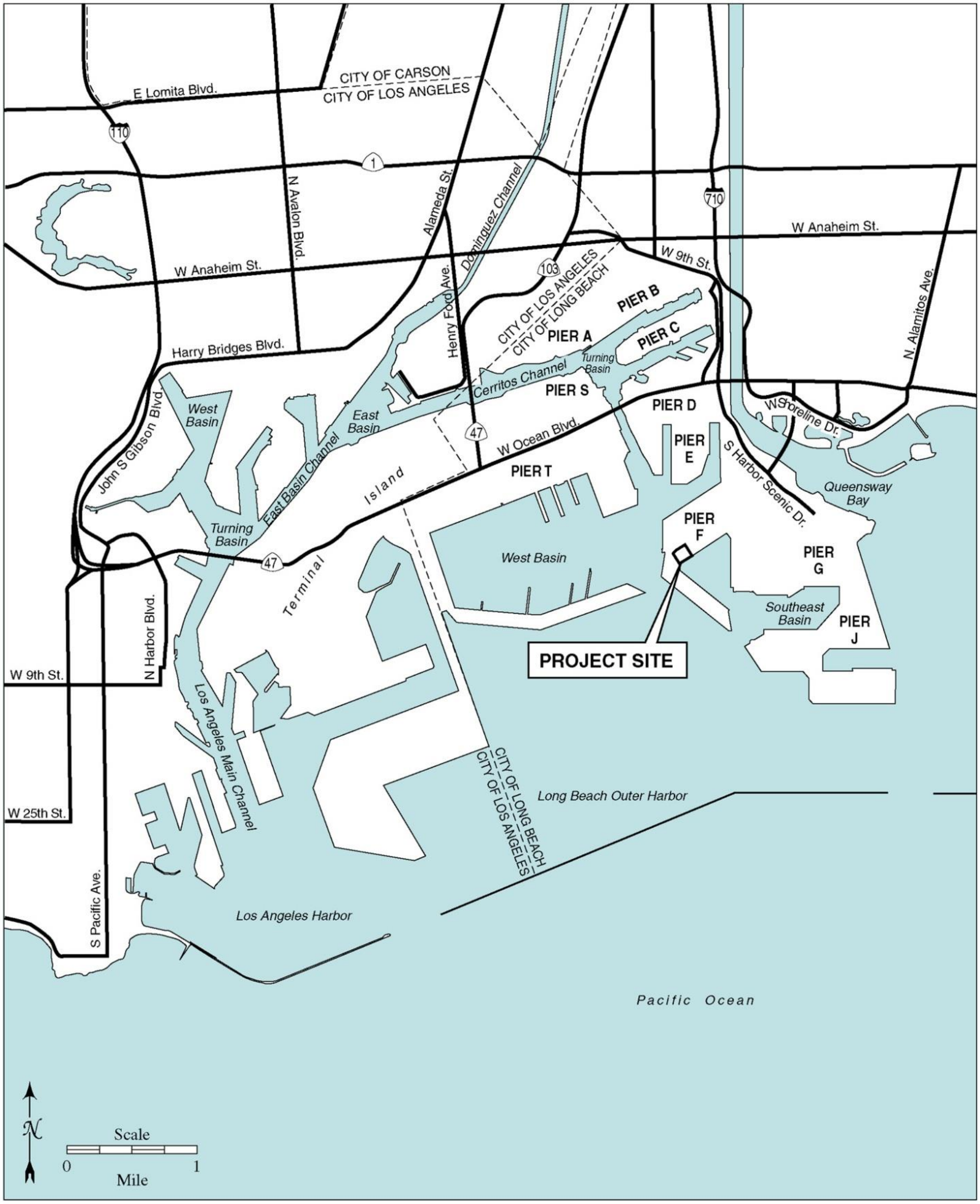

Figure ES-1. Regional Map

the entire ship. The addition of 40,000 metric tons of storage capacity would help to alleviate unloading delays since ships would be able to fully offload the entire cargo load (equal to about 40,000 metric tons). Accordingly, ships would spend less time at berth and move more efficiently through the Port.

A new cement unloader would be added, the larger existing unloader would be upgraded, and the smaller existing unloader would be decommissioned. The new cement unloaders would be connected to the existing warehouse and new cement silos via new piping. The current 4.21-acre site would be enlarged to 5.92 acres. If the project is approved, the Port would issue a Harbor Department Permit and new lease.

Construction

The proposed Project involves constructing up to four cement storage and loading silos, with one new truck lane under each pair of silos, in addition to the DoCCS and upgraded unloading equipment. Construction would occur in phases and would include pavement removal at the former Pacific Banana site, as well as preparation of the Project site for construction, wharf improvements, and DoCCS installation.

Each phase of silo construction, assuming two silos are constructed at a time, would take approximately 12 months and require a maximum of 38 workers per day. The timing and sequence for constructing the silos would be determined by MCC based on economic conditions at the time construction commences.

The MCC terminal could operate as new silos and other improvements are constructed. Although the timing of full build-out would depend on market demand, this EIR assumes that full build-out would occur in 2015 following completion of site preparation. A slight delay in the timing of full build-out would not alter the findings of the impact analyses presented in this EIR.

Operation

When completed, the Project would consist of one consolidated dry-bulk (cement) facility to offload cement from marine vessels at Berth F208 and load trucks for the transport of bulk cement to batch plants in the Los Angeles region. One additional longshoreman and one contractor would be required to operate the additional truck lanes and DoCCS, respectively. After the Project is constructed, the MCC facility is expected to operate 24 hours a day, 6 days a week.

According to a capacity analysis by AECOM (AECOM 2012), the MCC facility at full build-out would be able to accommodate a maximum throughput of approximately 4.6 million short tons (4.2 million metric tons) of cement. However, the maximum permitted limit for truck loading under MCC's SCAQMD permit is 3.8 million short tons. MCC does not propose to change this permit limit. However, as a conservative assumption, the maximum capacity throughput of 4.6 million short tons is used as the basis for the environmental impact analyses.

Based on the maximum capacity throughput, Project operations would result in 99 vessel calls per year. All vessel-offloading activities associated with the Project would occur at Berth F208. Under the proposed Project, the annual truck trips to and from the MCC facility would increase to 166,400, with an estimated 132 peak hour passenger car equivalent (PCE) trips.

Alternatives

The range of reasonable alternatives considered was based on their ability to meet most of the basic Project objectives and lessen any significant effects of the proposed Project. To be considered reasonable, an alternative must meet the Project Objectives stated in Section ES.2, Project Objectives.

The alternatives considered but not carried forward for analysis include the following, which are discussed in more detail in Section 1.7.1:

- Relocate the MCC facility to another West Coast port;
- Use of other existing facilities at southern California ports;
- Upgrade cement unloading equipment and construct additional capacity without the DoCCS; and
- Install only the DoCCS.

In addition to the proposed Project (Alternative 1), the other alternatives evaluated in this EIR include the Reduced Throughput Alternative (Alternative 2) and the No Project Alternative (Alternative 3). These alternatives are described below.

Reduced Throughput Alternative (Alternative 2)

The Reduced Throughput Alternative would be the same as the proposed Project except that only two cement silos and one additional truck lane would be constructed for loading trucks beneath the two new silos. Both silos would be constructed at the same time. Construction would occur over an 18-month period and is anticipated to be completed in 2015 (i.e., build-out year). Similar to the proposed Project, this alternative would include demolition or relocation of existing subsurface utilities and construction of new utility mains and lines; installation of the DoCCS; upgrades to the cement unloading equipment (including the addition of a new 882 short ton [800 metric ton] per hour unloader and extension of wharf rails); and construction of backland support facilities and infrastructure. However, the two silos that would be installed for the Reduced Throughput Alternative would provide only 20,000 metric tons of additional cement storage capacity. Similar to the proposed Project, an additional longshoreman and one contractor would be required to operate the additional truck loading lane and DoCCS.

Similar to the proposed Project, the Reduced Throughput Alternative would be expected to operate 24 hours a day, 6 days a week. When at maximum capacity (anticipated in approximately year 2015), the MCC facility would handle approximately 3.7 million short tons (3.3 million metric tons) of cement per year (AECOM 2012). Operations would result in a maximum of 79 vessel calls per year. All vessel offloading activities would occur at Berth F208. Under this alternative, the annual truck trips to and from the MCC facility would increase to 133,120 with an estimated 108 peak hour PCE trips.

No Project Alternative (Alternative 3)

The No Project Alternative considers what could occur at the Project site if the proposed Project was not constructed. Under this alternative, no construction and, consequently, no construction-related impacts, would occur. There would be no reinforcement of the wharf or extension of the rails for the unloader. The equipment would not be upgraded, no new unloader would be installed, no additional silos would be constructed, and the DoCCS would not be installed. Cement storage capacity at the MCC facility would not be increased. The MCC facility could resume operating with no expansion and would generate operational impacts: ships would perform unloading activities; facility equipment would handle bulk cement; and trucks would transport the cement product to outlying distribution facilities. Facility throughput would be limited by truck loading capacity being confined to the existing three truck loading lanes.

The No Project Alternative assumes the existing SCAQMD permit for Bulk Cement Ship Unloading would not be modified and MCC's Stipulated Order for Abatement from the SCAQMD would not be reinstated. Therefore, all vessels would be required to use shore-to-ship-power while unloading according to existing SCAQMD permit conditions for the facility. Many vessels are unable to unload completely while using shore-to-ship power because the equipment required for final unloading (payloader) cannot be lowered into the hold without the vessel's auxiliary generators running to operate the ship's crane. Those vessels would need to be diverted to another cement terminal to complete unloading.

For the purposes of this analysis, it is assumed that vessels would, on average, be unable to unload the final 20 percent of their cargo at the MCC facility, and would have to move to another cement terminal to complete unloading. Therefore, each nominal 42,000 metric ton vessel would only be able to unload an estimated 33,600 metric tons at the MCC facility, with the balance being unloaded elsewhere.

Under the No Project Alternative, vessels calling at the MCC facility could be unloaded more rapidly since the most efficient aspect of unloading (the pneumatic removal of easily accessible cement using the existing 800 metric ton per hour and 120 metric ton per hour unloaders) would be accomplished at the MCC facility, while the least efficient aspects (in-hold equipment and manual unloading) would occur elsewhere in most cases. Therefore, the time involved in each vessel unloading would be considerably shorter than during baseline operations. However, because of the reduced tonnage of cement involved in each vessel unloading operation, there would be more vessel calls to the MCC terminal for any given annual amount of cement shipped by truck.

Under the No Project Alternative, it is assumed that the MCC facility would handle a maximum throughput capacity of approximately 2.5 million short tons per year (2.2 million metric tons per year). An estimated 67 vessel calls per year would occur under this alternative, taking account of the assumed 20 percent of cargo, on average, that could not be unloaded at the MCC facility because of the shore-to-ship power requirement. Annual truck trips would be 89,856, and operations would result in an estimated 72 peak hour PCE trips.

ES.4 THE PORT'S ENVIRONMENTAL PLANS AND POLICIES

The Port has implemented a variety of plans and policies to reduce the environmental effects associated with Port operations. The applicable policies are described below.

Green Port Policy

The Green Port Policy, which was approved by the Board of Harbor Commissioners in January 2005, serves as a guide for decision making and established a framework for reducing environmental impacts associated with Port operations. The policy contains specific environmental principles that govern all Port activities and establishes a series of goals for each element of the policy. The Green Port Policy includes specific metrics to measure progress toward meeting the policy's goals and identifies new environmental programs that are designed to achieve progress toward the goals. Additionally, the policy identifies specific incentives to promote program participation among tenants.

Clean Air Action Plan

The San Pedro Bay Clean Air Action Plan (CAAP) was developed jointly by the POLB and the Port of Los Angeles (POLA) in cooperation with the U.S. Environmental Protection Agency (EPA), California Air Resource Board (ARB) and the SCAQMD. The CAAP was adopted on November 20, 2006 and an update to the CAAP was adopted in 2010. The CAAP is a comprehensive strategy to develop mitigation measures and incentive programs necessary to reduce air pollution and health risks associated with Port activities. The CAAP focuses on reducing emissions based on two main goals: 1) reduce Port-related air emissions in the interest of public health, and 2) accommodate growth in trade. The CAAP includes control measures for all Port emission sources, including ocean-going vessels (OGVs), trains, trucks, terminal equipment, and harbor craft. The CAAP proposes to implement near-term measures largely through new lease agreements, the environmental review process, and tariffs.

Project control measures and mitigation measures applied to the proposed Project and alternatives to reduce air emissions and public health impacts are consistent with the emission reduction strategies stipulated in the CAAP.

ES.5 ENVIRONMENTAL ISSUES

This EIR evaluates the potential impacts related to the following:

- Geology, Groundwater, and Soils (Section 3.1);
- Air Quality and Health Risk (Section 3.2);
- Global Climate Change (Section 3.3);
- Hydrology and Water Quality (Section 3.4);
- Biological Resources and Habitat (Section 3.5);
- Ground Transportation (Section 3.6);
- Vessel Transportation (Section 3.7);
- Noise (Section 3.8);
- Hazards and Hazardous Materials (Section 3.9); and
- Utilities and Service Systems (Section 3.10).

As addressed in Section 3.0, Environmental Setting and Project Impacts, all other issue areas were determined to have either no impact or less than significant impacts, as analyzed in the Notice of Preparation (NOP)/Initial Study (IS) published for the proposed Project by the POLB in August 2011.

This section summarizes the impact criteria applied to the proposed Project and alternatives, a description of potential impacts and their significance, and the mitigation measures to be applied to reduce potentially significant impacts to the extent feasible.

Geology, Groundwater, and Soils

Impacts on geology, groundwater, and soils were evaluated by determining the potential for construction to result in:

1) Substantial alteration of the topography beyond that resulting from natural erosion and depositional processes (**Impact GEO-1**);
2) Unique geologic features (such as paleontological resources) or geologic features of unusual scientific value would be disturbed or otherwise adversely affected (**Impact GEO-2**);
3) Geologic processes such as erosion would be triggered or accelerated (**Impact GEO-3**);
4) Known mineral (petroleum or natural gas) resources would be rendered inaccessible (**Impact GEO-4**); or
5) Presence of soil or groundwater contamination that creates a significant hazard to the public or the environment (**Impact GEO-5**).

In addition, impacts due to operation of the proposed Project were evaluated to determine if the Project would experience:

6) Ground rupture due to an earthquake at the site and attendant damage to structures, limiting their use due to safety considerations or physical condition (**Impact GEO-6**);
7) Earthquake-induced ground motion (shaking) causing liquefaction, settlement, or surface cracks at the site and attendant damage to proposed structures, resulting in a substantial loss of use for more than 60 days or exposing the public to substantial risk of injury (**Impact GEO-7**); and
8) Exposure of people or property to a greater than average risk of tsunamis or seiches (**Impact GEO-8**).

The proposed Project (Alternative 1) would result in less than significant impacts with respect to alteration of the topography, beyond that resulting from natural erosion and depositional processes (**Impact GEO-1**).

The Project site is located on Pier F, which consists of hydraulic fill materials. No paleontological resources are present in these fill materials. No impacts would occur with respect to unique geologic features (**Impact GEO-2**).

Project construction would result in a temporary increase in the potential for wind and water erosion and associated siltation of adjacent marine waters. Runoff of soil would be controlled by use of best management practices (BMPs), as required by either the General Construction Activity Stormwater Permit or a site-specific Storm Water Pollution Prevention Plan (SWPPP) for the Project, issued by the Regional Water Quality Control Board (RWQCB). This would result in less than significant erosional impacts (**Impact GEO-3**).

The proposed Project would preclude oil and gas drilling from within Project boundaries. However, petroleum reserves beneath the Project site could be accessed from remote locations, using directional (or slant) drilling techniques. Therefore, mineral resource impacts would be less than significant (**Impact GEO-4**).

Undocumented oil field equipment could be encountered during grading, and residual concentrations of various types of hazardous substances may be present in onsite soils and/or groundwater. However, because the contractor would be required to remediate and/or dispose of undocumented oil field equipment and/or contaminated soil and groundwater encountered during construction in accordance with all federal, state, and local regulations, impacts would be less than significant (**Impact GEO-5**).

There are no known active or potentially active faults crossing the Project area that might result in ground rupture and attendant damage to structures. Therefore, impacts associated with seismically induced ground surface rupture would not occur (**Impact GEO-6**).

A minor increase in exposure of people and property to seismic hazards from a major or great earthquake during operations cannot be precluded. However, construction in accordance with the City of Long Beach Building Code requirements would limit the severity of consequences from severe seismically induced ground movement during operations. Therefore, impacts associated with seismically induced ground failure would be less than significant (**Impact GEO-7**).

Due to the historic occurrence of earthquakes and tsunamis along the Pacific Rim, placement of any development on or near the shore in Southern California, including the Project site, would involve some measure of risk of impacts from a tsunami or seiche. However, because proposed structures would be located a minimum of 16 to 18 feet above mean lower low water (MLLW), which is 5 to 7 feet above maximum likely wave action, tsunami-induced flooding would not likely occur. As a result, impacts would be less than significant (**Impact GEO-8**).

Geology and soils impacts resulting from the Reduced Throughput Alternative (Alternative 2) would be similar in nature to, but less than those described under **Impacts GEO-1 through GEO-8** for the proposed Project, because the extent of construction activity causing short-term impacts and extent of new structures and infrastructure subject to geologic hazards would be somewhat reduced. Implementation of the Reduced Throughput Alternative would result in less than significant impacts (**Impacts GEO-1 through GEO-8**).

No new construction would occur under the No Project Alternative (Alternative 3); therefore, construction related impacts (**Impacts GEO-1 through GEO-5**) would not occur. No active faults traverse the Project site; therefore, no impacts associated with seismically-induced ground surface rupture would occur (**Impact GEO-6**). The Project site would continue to be subject to seismically-induced ground failure, tsunamis, and seiches (**Impacts GEO-7** and **GEO-9**). However, as with the proposed Project, implementation of this alternative would result in less than significant impacts.

With incorporation of modern construction engineering and safety standards, the proposed Project would not contribute to a considerable increase in cumulative risk of damage or risk of injury as a result of seismically-induced ground movement. Similarly, the Project's contribution to a cumulative tsunami-related impact would be less than significant due to the low probability of such an event. The Project's contribution to cumulative, erosion-induced sedimentation of harbor waters would be less than significant due to implementation of SWPPPs and construction BMPs that would be required for all future projects.

Air Quality and Health Risk

Impacts on air quality and health risk were evaluated by determining the potential for construction or operation of the proposed Project to:

1) Result in construction or operation-related emissions that exceed any of the regional SCAQMD's daily thresholds of significance (**Impact AQ-1** and **Impact AQ-3);**
2) Result in construction or operation-related offsite ambient air pollutant concentrations that exceed any of the SCAQMD thresholds of significance (**Impact AQ-2** and **Impact AQ-4**);
3) Result in operational emissions that create an objectionable odor pursuant to SCAQMD Rule 402 at the nearest sensitive receptor (**Impact AQ-5**);
4) Result in operations that expose the public to significant levels of toxic air contaminants (TACs) (**Impact AQ-6**); and
5) Conflict with or obstruct implementation of an applicable Air Quality Management Plan (AQMP) **(Impact AQ-7**).

Construction of the proposed Project would result in less than significant impacts to **Impact AQ-1** since emissions would remain below all significance thresholds.

Regarding **Impact AQ-2**, unmitigated peak daily emissions generated by Project construction would not exceed the significance thresholds for carbon monoxide (CO) or NO_x but they would exceed the thresholds for particulate matter (PM) less than 10 microns in diameter (PM_{10}) and less than 2.5 microns in diameter ($PM_{2.5}$). As a result, unmitigated emissions from Project construction would produce significant impacts to ambient 24-hour PM_{10} and $PM_{2.5}$. All other pollutant impacts would remain below significance levels. Implementation of **Mitigation Measure AQ-1** (Additional Fugitive Dust Controls) would reduce these PM_{10} and $PM_{2.5}$ impacts to less than significant levels.

Operation of the unmitigated proposed Project would result in significant impacts with regard to **Impact AQ-3**, as average daily emissions would exceed the SCAQMD daily emission threshold for NO_x. Implementation of **Mitigation Measure AQ-2** (Modernization of Delivery Truck Fleet) would reduce daily NO_x emissions, but mitigated operations would continue to exceed the SCAQMD daily NO_x emission threshold. Additionally, **Mitigation Measures AQ-5** (Participation in AMECS Testing) and **AQ-6** (Periodic Technology Review) would evaluate alternative technologies, including zero emissions and near-zero emissions technologies for cement delivery trucks and cement handling equipment (e.g. payloader) that may reduce future emissions at the MCC facility. However, the applicability and potential effectiveness of alternative technologies in reducing emissions cannot be quantified at this time. Therefore, this impact from the proposed Project would be significant and unavoidable.

Operation of the unmitigated proposed Project would result in significant impacts with regard to **Impact AQ-4** due to exceedances of the SCAQMD ambient thresholds for one-hour nitrogen dioxide (NO_2), 24-hour PM_{10} and $PM_{2.5}$, and annual PM_{10}. Implementation of **Mitigation Measures AQ-2** (Modernization of Delivery Truck Fleet) and **AQ-3** (Diesel Particulate Filter for the DoCCS) would reduce ambient pollutant impacts, but mitigated operations would continue to exceed these SCAQMD ambient thresholds. As noted above, **Mitigation Measures AQ-5** (Participation in AMECS Testing) and **AQ-6** (Periodic Technology Review) may also contribute to future reductions in emissions at the MCC facility. However, the applicability and potential effectiveness of alternative technologies in reducing emissions cannot be quantified at this time. Therefore, these impacts from the proposed Project would be significant and unavoidable.

Proposed Project operations would increase air pollutants due to the combustion of diesel fuels compared to CEQA Baseline levels. The distance between proposed emission sources and sensitive receptors would be far enough to allow for adequate dispersion of these emissions to below objectionable odor levels. As a result, odor impacts from the unmitigated Project operations would be less than significant (**Impact AQ-5**).

A health risk assessment (HRA) was conducted to quantify health effects of emissions of TACs associated with development of the proposed Project. The HRA was conducted in accordance with the most current methods (at the time the analysis was conducted) identified by the SCAQMD and California Office of Environmental Health Hazard Assessment and it evaluated individual lifetime cancer risks, cancer burden, and chronic and acute non-cancer hazard indices associated with the proposed Project and its alternatives. All estimated cancer and non-cancer risks under the proposed Project would be substantially lower than the applicable significance thresholds. Therefore, potential health risks associated with the proposed Project would be less than significant (**Impact AQ-6**).

Construction and operation of the proposed Project would result in less than significant impacts related to the objective to implement the applicable AQMP (**Impact AQ-7**).

Air quality impacts resulting from the Reduced Throughput Alternative (Alternative 2) would be similar to, but less than those described under **Impacts AQ-1 through AQ-7** for the proposed Project, since the magnitudes of construction and operational activities proposed by Alternative 2 would be somewhat less than for the Project. Implementation of the Reduced Throughput Alternative would result in less than significant air quality impacts, except that average daily NO_x emissions (**Impact AQ-3**) and one-hour NO_2, 24-hour $PM_{2.5}$, and 2 4-hour and annual PM_{10} ambient impacts (**Impact AQ-4**) during operations would be significant. **Mitigation Measures AQ-2** and **AQ-3** would reduce impacts, however, impacts would still remain significant and unavoidable.

Air quality impacts resulting from the No Project Alternative (Alternative 3) would be less than those described for the proposed Project because Alternative 3 proposes no construction and operational activities would be less than those of the Project. Implementation of the No Project Alternative would result in less than significant air quality impacts, except that average daily NO_x emissions (**Impact AQ-3**) and one-hour NO_2 and 24-hour and annual PM_{10} ambient impacts (**Impact AQ-4**) during operations would be significant.

Project construction and operations would incrementally contribute to significant cumulative regional and localized pollutant impacts under **Impacts AQ-1 through AQ-4**. **Mitigation Measures AQ-2 through AQ-4** would reduce the magnitude of impacts, and **Mitigation**

Measures AQ-5 and AQ-6 have the potential to contribute to future reductions in impacts. However, impacts would still remain significant and unavoidable. Unmitigated Project operations would produce less than cumulatively considerable contributions to ambient odor levels under **Impact AQ-5** and to cancer and non-cancer health effects under **Impact AQ-6**. The proposed Project would have no cumulative impact under **Impact AQ-7**.

Global Climate Change

Impacts on global climate change (GCC) were evaluated by determining the potential for the proposed Project and its alternatives to:

1) Produce greenhouse gas (GHG) emissions that exceed the SCAQMD interim annualized threshold of significance (**Impact GCC-1**); and

2) Expose people and structure to significant risk of loss, injury, or death involving flooding as a result of sea level rise (SLR) (**Impact GCC-2**).

The proposed Project would produce GHG emissions during construction and operation (net increase above baseline of 22,248 metric tons of carbon dioxide equivalent [CO_2e]) that would be above the SCAQMD's annualized California GHG interim significance threshold of 10,000 metric tons of CO_2e emissions per year. Implementation of **Mitigation Measures GCC-1 through GCC-3** would reduce this impact. However, the net increase in Project mitigated GHG emissions compared to CEQA baseline levels would remain above the SCAQMD interim significance threshold. Therefore, GHG emissions from the Project would remain significant and unavoidable (**Impact GCC-1**).

The analysis for SLR and risk of increased flooding over the next century within the Project vicinity concludes that these effects would produce less than significant impacts to the proposed Project (**Impact GCC-2**).

Impacts on GCC resulting from the Reduced Throughput Alternative would be similar to, but less than, those described under **Impacts GCC-1** and **GCC-2** for the proposed Project. GHG emissions from Alternative 2 (net increase above baseline of 15,106 metric tons of CO_2e) would remain significant and unavoidable (**Impact GCC-1**). SLR would produce less than significant impacts to Alternative 2 (**Impact GCC-2**).

Operation of the No Project Alternative would generate a net increase of 9,143 metric tons of unmitigated CO_2e emissions compared to CEQA baseline levels. These emission levels would not exceed the SCAQMD interim significance threshold of 10,000 metric tons of CO_2e per year and therefore would be less than significant under **Impact GCC-1**. Similar to the proposed Project, SLR would produce less than significant impacts on the No Project Alternative (**Impact GCC-2)**.

GHG and GCC impacts are by nature cumulative impacts. Therefore, there is no separate cumulative impact analysis for GCC.

Hydrology and Water Quality

Potential water quality impacts of the proposed Project and alternatives were assessed through a combination of literature review (including applicable water quality criteria), results from past projects in the Port, results from previous stormwater testing, and professional judgment of the preparers. For flooding, potential impacts were assessed using the project description, Federal Emergency Management Agency (FEMA) flood zone maps, and preparer expertise. Impacts would be considered significant if the proposed Project would:

1) Result in violation of regulatory standards or guidelines (e.g., California Water Code, Water Quality Control Plan, Clean Water Act, California Toxics Rule, etc.) (**Impact WQ-1**);

2) Substantially alter water circulation (**Impact WQ-2**);

3) Result in flooding that could harm people, damage property, or adversely affect biological resources (**Impact WQ-3**); or

4) Result in wind or water erosion that causes substantial soil runoff or deposition not contained or controlled onsite (**Impact WQ-4**).

Project demolition and construction activities have the potential to adversely affect harbor water quality in the immediate vicinity of storm drains where runoff of soils can enter the harbor **(Impact WQ-1)**. These construction activities, however, generally would not accelerate natural processes of wind and water erosion resulting in soil runoff or deposition which could not be contained or controlled onsite through implementation of BMPs to control runoff during construction. Runoff from general construction activities would have limited short-term, localized impacts on water quality that would be less than significant.

Project construction and operation would not substantially alter water circulation (**Impact WQ-2**). Site grading would result in minor changes in topography and drainage patterns that would not substantially alter water movement at the site. Surface water would be directed to flow across paved, impermeable surfaces and through surface drains toward the waters of the harbor. Impacts to water circulation would therefore be less than significant.

Project construction and operation would not result in increased flooding (**Impact WQ-3**). The Project site is not located within a 100-year flood zone, and the proposed Project would not increase the potential for flooding onsite. Site elevations would remain generally the same as prior to construction, and the risk of flooding would not be increased above that under baseline conditions. Therefore, impacts would be less than significant.

Construction and operation of the proposed Project would not result in wind or water erosion that causes substantial soil runoff or deposition that could not be contained or controlled onsite (**Impact WQ-4**). Ground disturbances and construction activities related to utilities demolition, site preparation, construction of additional storage capacity, and wharf improvements could result in temporary impacts on surface water quality through runoff of soils. However, eroded soils would be controlled by use of BMPs in compliance with the State General Permit for Stormwater Discharges Associated with Construction Activity (Water Quality Order 2009-0009-DWQ as amended by 2010-0014 DWQ and 2012-0006-DWQ) and the Project-specific SWPPP. The small amount of soils that could reach harbor waters via storm drains would be minor and limited to the vicinity of the drain discharge locations, due to the small amount of soils and short duration of storm runoff. Therefore, short-term water quality impacts resulting from grading and construction induced erosion would be less than significant (**Impact WQ-4.1**). Consequently, impacts on hydrology and water quality would be less than significant.

The Reduced Throughput Alternative would result in impacts similar to, but less than those described under **Impacts WQ-1 through WQ-4** for the proposed Project. As with the proposed Project, implementation of this alternative would result in less than significant impacts.

The No Project Alternative would not include site preparation, construction of additional storage capacity, and wharf improvements. With no new construction, **Impacts WQ-1.1 through WQ-4.1** would not occur. However, operation related **Impacts WQ-1.2 through WQ-4.2** would be similar but less than those described for the proposed Project. As with the proposed Project, implementation of this alternative would result in less than significant impacts.

The proposed Project would not make a cumulatively considerable contribution to effects on water quality due to the implementation of runoff control measures, such as SWPPPs, as required in project permits.

Biological Resources and Habitats

Impacts on biological resources and habitats were evaluated by determining the potential for the Project to:

1) Substantially affect any rare, threatened, or endangered species or their habitat (**Impact BIO-1**);
2) Interfere with migration or movement of fish or wildlife (**Impact BIO-2**);
3) Result in a substantial loss or alteration of marine habitat (**Impact BIO-3**);
4) Substantially affect a natural habitat or plant community, including wetlands (**Impact BIO-4**); or
5) Substantially disrupt local biological communities (**Impact BIO-5**).

The Project site is fully developed and no sensitive terrestrial resources occur. Construction and operation would not result in impacts to any rare, threatened, or endangered species or their habitat since none is present in the Project vicinity (**Impact BIO-1**). Site improvements and temporary construction effects (noise, vibration, and activity disturbance) would be unlikely to affect any special status species. There would be no loss of individuals or habitat for rare, threatened, or endangered species from construction activities. Therefore, impacts from construction of the proposed Project and Reduced Throughput Alternative would be less than significant (**Impact BIO-1.1**).

Operations at the modified terminal facilities would result in no loss of individuals or habitat for rare, threatened, or endangered species. Underwater sound from Project-related vessels would affect few, if any, marine mammals. Vessel collisions with marine mammals or sea turtles are unlikely within the harbor or nearshore waters. Therefore, proposed Project impacts from operations on sensitive species or their habitat would be less than significant (**Impact BIO-1.2**).

The Project area is fully developed and within an industrial complex where natural terrestrial corridors are lacking. Therefore, there would be no impact to movement of terrestrial species from the proposed Project and Reduced Throughput Alternative (**Impact BIO-2**).

No in-water construction activities would occur with the proposed Project and Reduced Throughput Alternatives. Therefore, there would be no substantial loss or alteration of marine habitat from project construction (**Impact BIO-3.1**). Similarly, operations associated with the proposed Project and Reduced Throughput Alternatives would not entail any substantial changes to in-water activities that would result in loss or alteration of marine habitat (**Impact BIO-3.2**).

No natural plant community would be impacted by construction or operational activities associated with the proposed Project and Reduced Throughput Alternative because the Project site is fully developed and no natural communities or habitat occur. Construction on land would have no direct impact on aquatic habitats, essential fish habitat, wetlands, or eelgrass beds (**Impact BIO-4.1**). Increased vessel traffic and minor change in runoff during operations would have less than significant impacts on essential fish habitat or kelp beds. Operations would have no impacts on natural habitat or communities, such as eelgrass beds, salt marsh, or freshwater wetlands (**Impact BIO-4.2).**

Construction of the proposed Project and Reduced Throughput Alternative would not directly impact natural habitats or biological communities. Runoff effects would be minimized and accidental spills, if any, would be immediately cleaned up, resulting in only localized, less than significant impacts (**Impact BIO-5.1**).

Increased vessel traffic and minor change in runoff from the Project site into the marine environment could occur during operations of the proposed Project and Reduced Throughput Alternative. A remote potential exists for an accidental vessel spill that could harm biological resources in the harbor or ocean during Project-related operations. In the unlikely event of occurrence, response plans and resources are in place to rapidly respond. Accordingly, impacts to biological resources would be less than significant (**Impact BIO-5.2**).

The proposed Project and Reduced Throughput Alternative would result in increases in annual ship calls to the Port compared to baseline. Operation of the Project facilities has a low potential to result in the introduction of non-native species into the harbor with the consequent potential to disrupt local biological communities. Vessel hulls are generally coated with antifouling paints and cleaned at intervals to reduce frictional drag from growths of organisms on the hull. This would reduce the potential for transport of exotic species; therefore, the impact would be less than significant (**Impact BIO-5.2**).

No new construction activities would occur within the Project area under the No Project Alternative and no construction impacts on terrestrial or marine habitats or resources would occur (**Impacts BIO-1.1 through BIO-5.1**). Operation of the existing facilities would result in an increase of 32 vessel calls per year, which is half the increase for the proposed Project. Due to the smaller number of vessels, the potential for introduction of invasive species would be relatively lower. Due to the limited increase in vessel arrivals, impacts would be less than significant.

Construction and operation of the proposed Project would not contribute to a cumulatively considerable impact on any rare, threatened, or endangered species or their habitat or on other natural habitats or communities within the harbor. Additionally, the proposed Project would not contribute to a cumulatively considerable impact on wildlife movement/migration corridors. The proposed Project's contribution to underwater sound from the small increase in vessel traffic would be less than cumulatively considerable. The increase in vessel traffic from the proposed Project in combination with other cumulative projects would increase the risk of accidental leaks or spills with the potential for adverse impacts to biological resources. However, the proposed Project's small incremental contribution to this risk would be less than cumulatively considerable. In contrast, the incremental contribution of the Project's vessel traffic to the incidence of migrating whale strikes and to the risk of invasive species introductions are considered potentially significant and unavoidable.

No feasible mitigation measures beyond compliance with existing federal, state and Port rules and regulations (e.g., tariffs, vessel speed reduction program [VSRP]) are available to further lessen cumulatively significant and unavoidable impacts associated with invasive species introductions and offshore whale strikes.

Ground Transportation

Impacts to ground transportation were evaluated by determining whether the proposed Project and alternatives would:

1) Increase an intersection's volume-to-capacity (V/C) ratio to E or F if at a Level of Service (LOS) of A, B, C, or D or change the ratio by more than 0.02 if at LOS E or F (**Impact TRANS-1**); or
2) Increase a Congestion Management Program (CMP) monitoring location V/C ratio such that it violates the CMP standards (**Impact TRANS-2**).

Construction of the proposed Project and Reduced Throughput Alternative would have the potential to increase traffic at the intersections of Pico Avenue/Pier G Avenue and Harbor Plaza and Pico Avenue and the Pier E Avenue/ Ocean Boulevard ramps, as well as roadway segments, due to the transportation of equipment, materials, and temporary construction workers commuting to and from the Project site. Based on the low levels of estimated construction traffic, construction-related transportation impacts would be less than significant (**Impact TRANS-1**).

Both study intersections would continue to operate at LOS D or better during the proposed Project and Reduced Throughput Alternative operations. Thus, operation related transportation impacts would be less than significant for both the proposed Project and Reduced Throughput Alternative (**Impact TRANS-1**).

Operation of the proposed Project and Reduced Throughput Alternative would not increase a CMP monitoring location V/C ratio such that it would violate the CMP standards. Since incremental project-related traffic in any direction during either peak hour is projected to be less than the minimum criteria, operations-related transportation impacts would be less than significant (**Impact TRANS-2**).

The No Project Alternative would not involve construction. However, the MCC facility could resume operating without any expansion and generate operational impacts. Based on the estimated low levels of operation traffic, operation-related transportation impacts would be less than significant (**Impact TRANS-1**). Operations associated with the No Project Alternative would not increase an intersection's V/C ratio or LOS in a manner that exceeds adopted performance standards. Further, operation of the No Project Alternative would not increase a CMP monitoring location V/C ratio such that it would violate the CMP standards. Therefore, impacts would be less than significant (**Impact TRANS-2**).

When cumulative traffic impacts were compared against future (2035) No Project conditions, the intersection of Pico Avenue & Pier E Street/ Ocean Boulevard ramps was the only intersection projected to operate at LOS F with and without the proposed Project. The incremental increase in V/C ratio at this intersection during the analyzed peak hours would not exceed 0.005 relative to the future conditions. Thus, the proposed Project impact would be less than the impact threshold and would not represent a cumulatively considerable contribution to traffic impacts under future (2035) plus project conditions. Therefore, impacts would not be considered significant.

Vessel Transportation

Impacts on vessel transportation were evaluated by determining the potential for the Project to:

1) Result in an increase in vessel traffic and/or operations that results in congestion within the harbor, and/or if the ability for maritime commerce to operate efficiently and safely is exceeded (**Impact VT-1**).

There is no in-water construction associated with the proposed Project and Reduced Throughput Alternative. Therefore, there would be no marine vessel transportation impacts from project construction.

Operation of the proposed Project and Reduced Throughput Alternative would result in a minimal increase in the number of vessels compared to baseline conditions. Therefore, vessel calls would not increase vessel traffic to an extent that would cause congestion in the harbor or exceed the ability of maritime commerce to operate efficiently and safely. As such, marine transportation impacts would be less than significant (**Impact VT-1**).

Under the No Project Alternative, no construction and, consequently, no construction-related impacts on vessel transportation would occur. The No Project Alternative would result in operational impacts that would be similar to, but less than, those described for the proposed Project due to the fewer number of vessel calls. Therefore, the No Project Alternative would result in less than significant impacts on vessel transportation (**Impact VT-1**).

The proposed Project would result in an estimated 1.9 percent increase in vessel movements compared to baseline conditions for the entire Port, and would be a smaller fraction of total vessel movements in the Port in future years given the expectation of increasing vessel calls in the future. Vessel management via the U.S. Coast Guard Captain of the Port and the Marine Exchange of Southern California via the Vessel Traffic Service would prevent conflicts among vessels to destinations in the vicinity of the Project site. Therefore, the contribution of the Project to cumulative vessel traffic impacts would not be cumulatively considerable.

Noise

Noise impacts resulting from the proposed Project and alternatives were evaluated by determining the potential for the project to:

1) Increase ambient noise levels by 3 A-weighted decibels (dBA) (**Impact NOI-1**); or
2) Exceed the maximum noise levels allowed by the Long Beach Municipal Code (LBMC) (**Impact NOI-2**).

When combined with existing ambient noise levels during daytime hours, the proposed Project would not result in an appreciable increase in ambient noise levels at nearby sensitive receptors, including schools, outside the Port during construction or operation (**Impact NOI-1**).

According to Section 8 of the LBMC, the exterior noise limit for predominantly industrial areas, such as POLB, is 70 dBA equivalent sound level at any time. Construction activities for the proposed Project and Reduced Throughput Alternative would not cause ambient noise levels to exceed LBMC maximum noise levels (**Impact NOI-2.1**); therefore, no significant short-term impacts would occur.

Noise associated with operation of the proposed Project and Reduced Throughput Alternative would include traffic noise generated during operational activities. However, operational-related traffic would not result in noise levels that exceed the maximum thresholds allowed by the LBMC and noise impacts would be less than significant (**Impact NOI-2.2**).

The No Project Alternative would not include construction of any improvements. Therefore, no construction noise impacts would occur. Forecasted increases in cement deliveries would still occur under this alternative. The No Project Alternative would not result in a substantial increase in noise levels at surrounding sensitive receptor locations (**Impact NOI-1**) and would not exceed LBMC maximum noise levels (**Impact NOI-2**). Therefore, noise impacts would be less than significant.

Where construction schedules for cumulative projects overlap, there is the potential for cumulative construction noise impacts because multiple sources could jointly contribute to increases in ambient noise at one or more locations. This would occur only if the construction projects are reasonably close to one another. Nevertheless, the intervening structures within POLB between the Project site and sensitive receptor locations would attenuate noise sufficiently such that the Project’s contribution to noise levels would be less than cumulatively considerable. The Project’s contribution to cumulative vehicular traffic noise would be less than 0.5 dB and substantially inaudible. Therefore, the Project's contribution to cumulative noise impacts from operations would not be cumulatively considerable.

Hazards and Hazardous Materials

Impacts on hazards and hazardous materials were evaluated by determining the potential for the proposed Project and alternatives to:

1) Accidentally release hazardous materials that would adversely affect the health and safety of the general public or workers (**Impact HAZ-1**); or

2) Result in inconsistency with the Risk Management Program (**Impact HAZ-2**).

Construction of the proposed Project and Reduced Throughput Alternative would be required to comply with all existing hazardous waste laws and regulations including the Resource Conservation and Recovery Act (RCRA), Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and California Code of Regulations (CCR) Title 22 and Title 26, which would ensure that potential hazardous materials handling would occur in an acceptable manner (**Impact HAZ-1**).

Demolition and construction equipment could spill oil, gasoline, or other fluids during normal usage or during refueling. However, spills would be short term and localized. Coverage would be established under the General Construction Activity Storm Water Permit, in order to contain construction-induced stormwater runoff. Implementation of standard BMPs, proper use and storage of hazardous materials and petroleum products, and proper removal of asbestos containing materials (ACMs) and polychlorinated biphenyls, in accordance with applicable federal, state, and local regulations, would result in less than significant impacts related to hazards and hazardous materials during construction (**Impact HAZ-1.1**).

Operation of the proposed Project and Reduced Throughput Alternative could result in hazardous substances and petroleum products potentially being spilled or exposed during Project operations, resulting in health and safety impacts to onsite personnel and/or the environment. However, standard BMPs established in a site-specific SWPPP would be implemented to reduce these short-term impacts. An existing SWPPP (URS Greiner Woodward Clyde 2009) would be updated in association with the National Pollutant Discharge Elimination System permit to reflect post-construction, operational conditions. Spill prevention and control measures detailed in the SWPPP, in combination with proper use and storage of hazardous materials and petroleum products, in accordance with applicable federal, state, and local regulations, would result in less than significant impacts related to hazards and hazardous materials (**Impact HAZ-1.2**).

Under the proposed Project and Reduced Throughput Alternative, the proposed facilities are not expected to store, handle, or transport substantial quantities of hazardous materials or petroleum products. The facility would use urea to facilitate the catalytic conversion of NO_x in the DoCCS. However, a maximum of 500 gallons would be onsite at any time and all applicable handling requirements would be followed. Since impacts from spills would be localized and readily remediated, the risk criticality matrix is not applicable to the proposed Project and Reduced Throughput Alternative. Therefore, the proposed Project and Reduced Throughput Alternative would not result in inconsistency with the Risk Management Plan and no impacts would occur (**Impact HAZ-2**).

The No Project Alternative would not result in new construction. Therefore, no construction impacts from accidental releases of hazardous materials would occur that would adversely affect the health and safety of personnel or the environment (**Impact HAZ-1.1**).

Under the No Project Alternative, the existing facility would continue to store and handle small quantities of hazardous materials and petroleum products. However, facility throughput would be limited by truck loading capacity being confined to the existing three truck loading lanes. Operational impacts would be similar but less than those described for the proposed Project due to limited truck loading capacity (**Impact HAZ-1.2**). Similar to the proposed Project, the Risk Management Program would not be applicable to the No Project Alternative and, therefore, would not result in an inconsistency with the Risk Management Program (**Impact HAZ-2**).

The proposed Project's contribution to cumulative impacts from hazards and hazardous materials from other projects would be minimal. Compliance with applicable federal, state, and local laws and regulations governing packing, labeling, and transporting and manifesting hazardous materials, along with emergency response to hazardous materials spills, would minimize the potential for adverse public safety impacts associated with all cumulative projects. The proposed Project's construction and operation would not contribute to cumulatively significant hazards and hazardous material impacts. Therefore, the proposed Project's contribution to cumulative impacts would be less than cumulatively considerable.

Utilities and Service Systems

Impacts on Utilities and service systems were evaluated by determining the potential for the proposed Project and alternatives to:

1) Require or result in the construction or expansion of water, wastewater, storm drains, natural gas, or electrical utility lines for infrastructure (**Impact UTIL-1**); or
2) Exhaust or exceed existing water, wastewater, or landfill capacities (**Impact UTIL-2**).

Construction and operation of the proposed Project and Reduced Throughput Alternative would not require new connections or upgrades to existing water supply. Minor modifications (tie-ins) to existing wastewater and electrical infrastructure would be required. However, new natural gas supply lines would need to be connected to the local gas supply pipeline network. Long Beach Gas and Oil Department gas lines would be extended to the Project site with connections to the DoCCS. The new gas utility lines would be in conformance with current design standards and would adequately accommodate Project demands. Therefore, impacts from the proposed Project and Reduced Throughput Alternative would be less than significant (**Impact UTIL-1).**

The Project would result in minimal demands on municipal utilities/service systems during construction and operation, including water services, wastewater, and solid waste. Therefore, impacts on utilities and service systems would be less than significant (**Impact UTIL-2**)

Under the No Project Alternative, there would be no construction-related impacts to utilities and service systems (**Impacts UTIL-1.1** and **Impact UTIL-2.1**) because no construction activities would occur. Operational impacts on utilities and service systems would be lower than the proposed Project, but greater than baseline conditions (**Impact UTIL-1.2** and **Impact UTIL-2.2**). Therefore, impacts would be less than significant.

The proposed Project would not contribute to a cumulative need to expand utility systems or alter demand such that it would exceed the supply of any service. Therefore, impacts of the proposed Project would be less than cumulatively considerable.

ES.6 PUBLIC INVOLVEMENT

In August 2011, the Port issued a NOP/IS for the proposed Project. The NOP/IS described the Project and the environmental review process, and solicited public input on environmental issues to be addressed in the EIR. The Port conducted one public scoping meeting on September 14, 2011 at the Long Beach City Council Chambers. Table ES.6-1 summarizes the environmental issues that were identified during the public scoping process and indicates the EIR sections in which these issues are addressed.

A public hearing was held at the Long Beach City Council Chambers in Long Beach, CA on October 22, 2014, during the public review period for the Draft EIR. The Final EIR (Chapter 10) addresses comments received from the public and from public agencies during the Draft EIR public review period.

ES.7 IMPACTS AND MITIGATION MEASURES

Table ES.7-1 summarizes the environmental impacts and mitigation measures identified in this EIR for the proposed Project. The table also identifies environmental controls that would be included in the proposed Project. MCC also would be required to acquire and comply with several regulatory permits and approvals, as well as all applicable Port- and agency-related plans, policies and BMPs for environmental protection.

Table ES.6-1. Comments Received During the MCC Cement Facility Modification Project EIR Public Scoping Process

Commenter	Comment Summary	Draft EIR Section Addressing Comment
Bilma G. Rhinehart, Executive Director, California Transportation commission	Notes that "Consideration of environmental impacts of a project are required prior to the Commission's allocation of funds for design, right of way or construction activities as well as for new public road connections and route adoptions."	Comment noted, see Section 3.6.2, Ground Transportation
Dianna Watson, IGR/CEQA Branch Chief, Caltrans (09/15/2011)	Expresses concerns about queuing of vehicles using off-ramps that will backup mainline lanes.	Addressed in Section 3.6.2, Ground Transportation
	Requests consistency with other regional and local modeling forecasts	Addressed in Section 3.6.2, Ground Transportation
	Requests analysis of average daily trip, AM and PM peak-hour volumes for both the existing and future conditions in the affected area	Addressed in Section 3.6.2 and 3.6.3, Ground Transportation
	Requests inclusion of appropriate traffic volumes including existing, project, and cumulative	Addressed in Section 3.6.1, Ground Transportation and Appendix B
	Requests discussion of mitigation measures appropriate to alleviate anticipated project impacts	Addressed in Section 3.6.2.1, Ground Transportation
	Recommends a ratio should fair share contributions towards pre-established or future improvements to the State Highway System	Comment noted. As discussed in Section 3.6, Ground Transportation, project-related impacts to traffic would not be significant. Therefore, fair share contributions to highway improvements are not addressed in the EIR.
Dianna Watson, IGR/CEQA Branch Chief, Caltrans (09/27/2012)	Notes that the current freeway capacity is near or behind capacity in the project vicinity and recommends adoption of the proposed "Reduced Project" Alternative.	Addressed in Section 3.6.2.1, Ground Transportation
	Notes that storm water run-off is a sensitive issue in Los Angeles and Ventura Counties and recommends project design to discharge clean run-off water.	Addressed in Section 3.4.2.3, Hydrology and Water Quality
	Notes that transportation of oversize loads will require a permit and recommends that large loads be limited to off-peak hours.	Addressed in Chapter 1.
Sydni Pompa, Associate Oil & Gas Engineer, Division of Oil, Gas, & Geothermal Resources	Notes that Drill Site A-1-A is adjacent to the project and requests the district office be notified if excavation or grading uncover a previously unrecorded well	Addressed in Section 3.1, Geology,
Al Shami, Project Manager, Brownfields and Environmental Restoration Program, Department of Toxic Substances Control	The EIR should evaluate whether the project would pose a threat to human health or the environment	Addressed in Section 3.9.2, Hazards and Hazardous Materials
	Recommends that the EIR identify the mechanism to initiate any required investigation for any site that may be contaminated	Addressed in Section 3.9.2, Hazards and Hazardous Materials
	Recommends that any environmental investigations involve an approved Workplan	Addressed in Section 3.9.2, Hazards and Hazardous Materials
	Recommends that the presence of ACMs be evaluated where demolition is involved	Addressed in Section 3.9.2, Hazards and Hazardous Materials
	Recommends that if contaminated soil is encountered, it be properly disposed	Addressed in Section 3.9.2, Hazards and Hazardous Materials
	Recommends that sensitive receptors be protected during construction or demolition activities	Addressed in Section 3.9.2, Hazards and Hazardous Materials

Table ES.6-1. Comments Received During the MCC Cement Facility Modification Project EIR Public Scoping Process

Commenter	Comment Summary	Draft EIR Section Addressing Comment
	Notes that hazardous wastes must be managed in accordance with the California Hazardous Waste Control Law and other regulations	Addressed in Section 3.9.2, Hazards and Hazardous Materials
	Notes: Department of Toxic Substances Control (DTSC) can provide cleanup oversight, if needed	Comment noted, thank you.
Dave Singleton, Program Analyst, Native American Heritage Commission	The letter notes that an EIR must evaluate the significance of effects on historical resources, including archaeological resources	See Section 3.0.4, Environmental Resources not Affected by the Proposed Project
	The letter recommends early consultation with Native American tribes	See Section 3.0.4, Environmental Resources not Affected by the Proposed Project
	The letter opines that the project is subject to the National Environmental Policy Act (NEPA)	There is no in-water or upland activity subject to the United States Army Corps of Engineers (USACE) jurisdiction and, therefore, no federal nexus
	The letter notes the confidentiality of information regarding historic properties of religious and cultural significance	See Section 3.0.4, Environmental Resources not Affected by the Proposed Project
Ian McMillan, Program Supervisor, CEQA Intra-Governmental Review Planning, Rule Development, & Area Sources, South Coast Air Quality Management District	The letter recommends using approved methodologies and models for the air quality impact analyses	See Section 3.1.2, Air Quality and Health Risk
	The letter recommends analyzing all air quality impacts of the project including construction, demolition, and operations including stationary sources, area sources, and vehicular trips	See Section 3.1.2, Air Quality and Health Risk
	The letter recommends using the SCAQMD methodology for estimating $PM_{2.5}$ emissions	See Section 3.1.2, Air Quality and Health Risk
	The letter recommends using localized significance thresholds (LSTs) or dispersion modeling to perform localized impact analyses.	See Section 3.1.2, Air Quality and Health Risk
	The letter recommends doing a health risk assessment for projects with heavy duty diesel-fuel vehicles.	See Section 3.1.2, Air Quality and Health Risk
	The letter notes that CEQA requires all feasible mitigation measures that go beyond what is required by law during construction and operation to minimize significant adverse air quality impacts.	See Section 3.1.2, Air Quality and Health Risk
Carri M. Matsumoto, Executive Director, Facilities Development & Planning Branch, Long Beach Unified School District	The letter identifies schools within two miles of the project facility and recommends addressing potential construction and operational impacts thereto.	See Sections 3.1.2, Air Quality and Health Risk, and 3.8.2.3, Noise
	The letter requests that the Port implement all applicable control measures in the CAAP.	See Section 3.1.2, Air Quality and Health Risk
	The letter notes that diesel particulate matter (DPM) accounts for a majority of the health risk from air pollution and recommends that the EIR explicitly analyze DPM emissions from ship auxiliary generators and other sources.	See Section 3.1.2, Air Quality and Health Risk

Table ES.7-1. Summary of Environmental Impacts, Mitigation Measures, and Environmental Controls of the Proposed Project

Impact	Significance Before Mitigation	Mitigation	Significance After Mitigation	Environmental Controls
Geology, Groundwater, and Soils				
GEO-1: Project construction activities would not substantially alter the topography beyond that resulting from natural erosion and depositional processes.	Less than significant	None necessary.	Less than significant	
GEO-2: Project construction activities would not disturb or alter unique geologic features (e.g., paleontological resources) or geologic features of unusual scientific value.	No impact	None necessary.	No impact	
GEO-3: Project construction activities would not trigger or accelerate geologic processes such as erosion.	Less than significant	None necessary.	Less than significant	
GEO-4: Project construction activities would not render inaccessible known mineral (petroleum or natural gas) resources.	Less than significant	None necessary.	Less than significant	
GEO-5: Project construction activities would not contaminate soil or groundwater that creates a significant hazard to the public or the environment.	Less than significant	None necessary.	Less than significant	
GEO-6: Project operations would not be affected by ground rupture due to an earthquake at the site and attendant damage to structures, limiting their use due to safety considerations or physical condition.	No impact	None necessary.	No impact	
GEO-7: Project operations would not be affected by earthquake-induced ground motion (shaking) causing liquefaction, settlement, or surface cracks at the site and attendant damage to proposed structures, resulting in a substantial loss of use for more than 60 days or exposing the public to substantial risk of injury.	Less than significant	None necessary.	Less than significant	
GEO-8: Project operations would not expose people and structures to a greater than average risk of tsunamis or seiches.	Less than significant	None necessary.	Less than significant	

Table ES.7-1. Summary of Environmental Impacts, Mitigation Measures, and Environmental Controls of the Proposed Project				
Impact	**Significance Before Mitigation**	**Mitigation**	**Significance After Mitigation**	**Environmental Controls**
		Air Quality		
AQ-1: Project construction activities would produce emissions that would not exceed SCAQMD emission significance thresholds.	Less than significant	None necessary.	Less than significant	
AQ-2: Project construction activities would result in offsite ambient air pollutant concentrations that would exceed a SCAQMD threshold of significance.	Significant	**MM AQ-1: Additional Fugitive Dust Controls.** The Project construction contractor shall implement additional dust control measures that achieve a 90 percent reduction in PM_{10}/$PM_{2.5}$ emissions from uncontrolled levels. The contractor shall document these measures in a dust control plan that is approved by the SCAQMD under the requirements of Rule 403. The contractor shall designate personnel to monitor the dust control program and shall order increased watering, as necessary, to ensure a 90 percent control level. Their duties shall include holiday and weekend periods when work may not be in progress. Additional measures to reduce fugitive dust shall include, but are not limited to, the following: • Apply water three times daily or as needed to areas where soil is disturbed. • Apply approved non-toxic chemical soil stabilizers according to manufacturer specifications to all inactive construction areas or replace groundcover in disturbed areas: • Provide temporary wind fencing around sites being graded or cleared. • Cover truck loads that haul dirt, sand, or gravel or maintain at least two feet of freeboard in accordance with Section 23114 of the California Vehicle Code.	Less than Significant	

Table ES.7-1. Summary of Environmental Impacts, Mitigation Measures, and Environmental Controls of the Proposed Project				
Impact	**Significance Before Mitigation**	**Mitigation**	**Significance After Mitigation**	**Environmental Controls**
		• Install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off tires of vehicles and any equipment leaving the construction site. • Suspend all soil disturbance activities when winds exceed 25 miles per hour as instantaneous gusts or when visible dust plumes emanate from the site and stabilize all disturbed areas. • Appoint a construction relations officer to act as a community liaison concerning onsite construction activity including resolution of issues related to PM_{10} generation. • Sweep all streets at least once a day using SCAQMD Rule 1186.1 certified street sweepers or roadway washing trucks if visible soil materials are carried to adjacent streets (recommend water sweepers with reclaimed water). and • Apply water three times daily, or non-toxic soil stabilizers according to manufacturers' specifications, to all unpaved parking or staging areas or unpaved road surfaces.		
AQ-3: The Project would generate operational emissions of NO_x that exceed a SCAQMD threshold of significance.	Significant	**MM AQ-2: Modernization of Delivery Truck Fleet.** No less than 90 percent of the trucks loading cement or cementitious material at the MCC facility shall be equipped with an engine that meets one of the following requirements: 1) is no more than five years old, based on engine model year ("5-Year Engine"); 2) has been designed or retrofitted to comply with federal and state on-road heavy-duty engine emissions standards	Significant and unavoidable	**EC AQ-1: Expanded Vessel Speed Reduction Program (VSRP)** - All OGVs that call at the MCC terminal shall comply with the expanded VSRP of 12 knots within 40nm of Point Fermin and the Precautionary Area (equal to CAAP measure OGV1). **EC AQ-2: Shore-to Ship Power/Cold Ironing**. OGVs that call at the MCC facility shall use shore-to-ship power (i.e., cold iron)

Table ES.7-1. Summary of Environmental Impacts, Mitigation Measures, and Environmental Controls of the Proposed Project				
Impact	**Significance Before Mitigation**	**Mitigation**	**Significance After Mitigation**	**Environmental Controls**
		(e.g. EPA 2010 engine emission standards or successor rules or regulations for on-road heavy duty diesel engines) for a 5-Year Engine ("Emission Equivalent Engine"); or 3) uses alternative engine technology or fuels demonstrated to produce emissions no greater than a 5-Year Engine ("Alternative Equivalent Engine"). The remaining 10 percent of the trucks shall comply with all applicable federal and state heavy-duty on-road truck regulations. In addition, all trucks loading cement or cementitious materials at the MCC facility shall be registered in the Port of Long Beach and Los Angeles Clean Truck Program Drayage Truck Registry and the CARB Drayage Truck Registry. Compliance with this 90 percent requirement shall be determined on a calendar year basis. Documentation of compliance, showing the following information, shall be submitted to the Port's Environmental Planning Division on an annual basis by January 31 following each year of operation: 1) truck vehicle identification number (VIN), 2) engine model year, 3) annual truck trips, and 4) if non-diesel technology, manufacturer engine standards. **MM AQ-5: Participation in AMECS Emission Testing.** After construction of the proposed project has been completed and operations have resumed at the MCC facility, MCC shall use its best effort to participate in the SCAQMD's AMECS demonstration project at the Port of Long		no less than 66 percent of the time at berth based on an annual average. The DoCCS shall be used for the portion of time at berth that OGVs are not using shore-to-ship power. MCC shall submit annual reports to the Port's Environmental Planning Division on or before January 31 of each year, demonstrating compliance with this environmental control measure for the previous calendar year. If an emergency event [as defined in California Air Resources Board's (ARB) At-Berth Regulation, Title 17, CCR Section 93118.3, subsection (c)(14)], prevents MCC from achieving the required annual average shore-to-ship power rate (equal to or greater than 66 percent), MCC may demonstrate compliance over a two-year period, so long as MCC submits documentation to the Port which describes the emergency event(s) and explains the basis for MCC's inability to demonstrate compliance using an annual average. The Port will review the documentation submitted by MCC and, if the Port determines that MCC made sufficient effort to comply with the environmental control, it will notify MCC in writing that use of the two-year average is acceptable. **EC AQ-3: Payloaders**. Wheeled loaders used for final unloading shall attain EPA nonroad Tier 4 emission standards for cargo-handling equipment (equal to CAAP measure CHE-1). **EC AQ-1 through EC AQ-3**

Table ES.7-1. Summary of Environmental Impacts, Mitigation Measures, and Environmental Controls of the Proposed Project				
Impact	**Significance Before Mitigation**	**Mitigation**	**Significance After Mitigation**	**Environmental Controls**
		Beach (Port). MCC's participation specifically pertains to Task 10 Durability Testing as described in Exhibit A to the contract between the City of Long Beach and the SCAQMD, approved by the Port of Long Beach Board of Harbor Commissioners on February 10, 2014 (the "AMECS Demonstration Testing"), if at such time, AMECS technology is undergoing Task 10 Durability Testing at the Port. If MCC participates in the testing of a vessel pursuant to the AMECS Demonstration Testing, the costs of testing will be borne as indicated in the contract, and no testing costs shall be borne by MCC (with the exception of in-kind staff time associated with coordinating the logistics of the testing). Additionally, if MCC participates in the AMECS Demonstration Testing, such vessel hoteling hours shall be exempt from the requirements of Project Environmental Control (EC AQ-2) – Shore to Ship Power/Cold Ironing, which requires OGVs that call at the MCC facility to use shore-to-ship power (cold-ironing) no less than 66 percent of the time (on an annual average) while at berth. **MM AQ-6: Periodic Technology Review**. To promote new emission control technologies, MCC shall perform an investigation and submit a report to the POLB Chief Executive, every 5 years following the effective date of the new lease on any POLB-identified or other new emissions-reduction technologies		

Table ES.7-1. Summary of Environmental Impacts, Mitigation Measures, and Environmental Controls of the Proposed Project				
Impact	**Significance Before Mitigation**	**Mitigation**	**Significance After Mitigation**	**Environmental Controls**
		that may reduce emissions at the MCC facility, including the feasibility of zero emissions and near-zero emissions technologies for cement delivery trucks and cement handling equipment (e.g. payloader). If the Periodic Technology Review demonstrates the new technology will be effective in reducing emissions and is determined through mutual agreement between the Port and MCC to be feasible, including but not limited to from a financial, technical, legal and operational perspective, MCC shall work with the Port to implement such technology.		
AQ-4: Project operations would result in offsite ambient air pollutant concentrations that exceed a SCAQMD threshold of significance.	Significant	**MM AQ-2, MM AQ-5, and MM AQ-6** **MM AQ-3: Diesel Particulate Filter for the DoCCS.** MCC shall participate in a demonstration project for integrating an active diesel particulate filter (DPF) system into the DoCCS. Within three (3) months after the start-up/initial use of the DoCCS to control emissions from a ship, MCC shall submit to the Port a proposed plan, budget, and schedule for the demonstration project that includes, but is not limited to, designing, procuring, permitting, installing, operating, and emissions testing of the DPF system. The Port shall review and approve MCC's proposal and the demonstration project shall commence within six (6) months of the Port's approval. As part of the demonstration project, MCC shall operate the combined DPF and DoCCS system for 1,000 hours and conduct emissions testing of the combined DPF and DoCCS system in a manner that is compliant with testing requirements for both the	Significant and unavoidable	

Table ES.7-1. Summary of Environmental Impacts, Mitigation Measures, and Environmental Controls of the Proposed Project				
Impact	**Significance Before Mitigation**	**Mitigation**	**Significance After Mitigation**	**Environmental Controls**
		SCAQMD and California Air Resources Board. The demonstration project shall be completed within two (2) years after installation and start-up of the DPF system. The demonstration project may be terminated after less than 1,000 hours of operation in the event that MCC determines, and the Port concurs, that the DPF is not compatible with MCC's equipment and operations, or the technology has not yet sufficiently advanced for this application. No later than six (6) months after the completion of the demonstration project, MCC shall provide a final report to the Port that includes a summary of the demonstration project, technical specifications and costs of the DPF system, emissions testing results, and a discussion of any operational considerations of adding the DPF system to the DoCCS. If it is determined through mutual agreement by MCC and the Port that the DPF system is compatible with MCC's equipment and operations, MCC shall permanently install the DPF and use the DPF whenever ships are treated with the DoCCS. Vessel hoteling hours associated with the testing of the DPF system shall be exempt from the requirements of project Environmental Control - Shore-to-Ship Power/Cold Ironing. This measure requires OGVs that call at the MCC facility to use shore-to-ship power (cold-ironing) no less than 66 percent of the time (on an annual average) while at berth. The total		

Table ES.7-1. Summary of Environmental Impacts, Mitigation Measures, and Environmental Controls of the Proposed Project				
Impact	**Significance Before Mitigation**	**Mitigation**	**Significance After Mitigation**	**Environmental Controls**
		number of OGV hoteling hours allowed by this exemption shall not exceed 1,000.		
AQ-5: Project operations would not create objectionable odors to sensitive receptors.	Less than significant	None necessary.	Less than significant	
AQ-6: Project operations would not expose receptors to significant levels of TACs.	Less than significant	None necessary.	Less than significant	
AQ-7: Project operations would not conflict with or obstruct implementation of the applicable AQMP.	Less than significant	None necessary.	Less than significant	
Cumulative Impact AQ-1: Project construction would produce cumulatively considerable contributions that would exceed SCAQMD emission significance thresholds.	Significant	**MM AQ-1** **MM AQ-4: Construction Equipment** – Construction contractors shall use construction equipment that achieves the equivalent of EPA Tier 4 non-road standards at a minimum by January 1, 2015.	Significant and unavoidable	
Cumulative Impact AQ-2: Project construction would produce cumulatively considerable construction contributions that would result in offsite ambient air pollutant concentrations that would exceed a SCAQMD threshold of significance.	Significant	**MM AQ-1 and MM AQ-4**	Significant and unavoidable	
Cumulative Impact AQ-3: Project operations would produce cumulatively considerable contributions of air emissions that would exceed a SCAQMD threshold of significance.	Significant	**MM AQ-2, MM AQ-5, and MM AQ-6**	Significant and unavoidable	
Cumulative Impact AQ-4: Project operations would produce cumulatively considerable contributions that would result in offsite ambient air pollutant concentrations that exceed a SCAQMD threshold of significance	Significant	**MM AQ-2, MM AQ-3, MM AQ-5, and MM AQ-6**	Significant and unavoidable	
Cumulative Impact AQ-5: The Project would not produce cumulatively considerable contributions of objectionable odors to sensitive receptors.	Less than significant	None necessary.	Less than significant	
Cumulative Impact AQ-6: The Project would not produce cumulatively considerable contributions of airborne cancer and non-cancer effects within the project region.	Less than significant	None necessary.	Less than significant	

Table ES.7-1. Summary of Environmental Impacts, Mitigation Measures, and Environmental Controls of the Proposed Project				
Impact	**Significance Before Mitigation**	**Mitigation**	**Significance After Mitigation**	**Environmental Controls**
Global Climate Change				
GCC-1: The Project would produce GHG emissions that exceed the SCAQMD interim annualized significant emissions threshold for industrial projects.	Significant	**MM GCC-1: Indirect GHG Emission Reduction/Avoidance.** MCC shall minimize the release of indirect GHG emissions through measures that reduce or avoid electricity consumption at the facility. Measures to reduce indirect GHG emissions from electricity generation shall include: 1) installation of low-energy demand lighting (e.g., fluorescent or light-emitting diode) in the existing office building, other facility buildings, and the existing and new exterior lighting, except where compatible energy efficient lighting is not available or its installation could compromise safety and 2) installation of approximately 1,000 square feet of solar panels on the existing office building, with the total amount to be determined based on available space and the additional weight that can be borne by the existing roof. Prior to the start of Project construction, MCC shall submit to the Port a proposed plan and schedule for implementing these two measures. The low-energy demand lighting and solar panels shall be installed no later than three (3) years from the start of Project construction. Once these installations have been completed, MCC shall prepare and submit to the Port a report detailing the number of existing lights replaced, number of new low-energy demand lighting installed, and the final total square feet of solar panels installed. The report also shall include a quantitative assessment of the amount of greenhouse gas emissions reduced	Significant and unavoidable	Air Quality **EC AQ-1 through AQ-3**.

Table ES.7-1. Summary of Environmental Impacts, Mitigation Measures, and Environmental Controls of the Proposed Project				
Impact	**Significance Before Mitigation**	**Mitigation**	**Significance After Mitigation**	**Environmental Controls**
		from each of the two measures and the amount of power generated from the solar panels in kilowatt-hours per year. **MM GCC-2: Energy Audit.** To identify future opportunities to reduce GHG emissions, commencing 2018 and every five years thereafter, MCC at its expense shall complete a site-specific energy audit using a qualified third party energy auditor. Both the energy auditor and the scope of the audit must be approved by the Port. This audit shall evaluate MCC's facility and operations to determine whether there are additional, cost-effective measures that would reduce overall power use. No later than six (6) months following completion of the energy audit, MCC shall submit a report to the Port that presents 1) the results of the audit and 2) a schedule for implementation of the feasible, cost-effective energy-efficiency or conservation measures identified in the report. **MM GCC-3: Funding Contributions to the POLB Greenhouse Gas Emissions Reduction Grant Program.** MCC shall provide a one-time lump sum contribution of $333,720 to the POLB GHG Emissions Reduction Grant Program. This fee is based on the following: 1) Project operations are estimated to increase CO_2e emissions from baseline conditions by as much as 22,248 metric tons at maximum design throughput of 4.58 million tons per year of cement and 2) the SCAQMD has established Rule 2702 (GHG Reduction Program), which offers GHG emission reductions at a rate		

Table ES.7-1. Summary of Environmental Impacts, Mitigation Measures, and Environmental Controls of the Proposed Project				
Impact	**Significance Before Mitigation**	**Mitigation**	**Significance After Mitigation**	**Environmental Controls**
		of $15 per metric ton of CO_2e. The Project-related cost would be based on: 22,248 metric tons CO_2e emissions x $15 per metric ton = $333,720. This contribution would be used to fund projects pursuant to the GHG Program, including, but not limited to, generation of green power from renewable energy sources; installation of urban forests and drought-tolerant community gardens; purchase of electric vehicles; lighting replacement with light-emitting diode fixtures; and energy-efficiency projects such as building insulation; and heating, ventilation, and air conditioning, and boiler replacements. This contribution may not be used to fund projects at MCC's project site. The timing of the payment pursuant to this mitigation measure shall be made by the later of the following two dates: 1) the date that MCC issues a Notice to Proceed or otherwise authorizes the commencement of construction on the construction contract or 2) the date that the Final EIR is conclusively determined to be valid, either by operation of PRC Section 21167.2 or by final judgment or final adjudication.		
GCC-2: The Project would not expose people or structures to a significant risk of loss, injury, or death involving flooding as a result of sea level rise.	Less than significant	None necessary.	Less than significant	

Table ES.7-1. Summary of Environmental Impacts, Mitigation Measures, and Environmental Controls of the Proposed Project

Impact	Significance Before Mitigation	Mitigation	Significance After Mitigation	Environmental Controls
Hydrology and Water Quality				
WQ-1.1: Project construction activities would not result in violation of regulatory standards or guidelines.	Less than significant	None necessary.	Less than significant	
WQ-2.1: Project construction activities would not substantially alter water circulation.	Less than significant	None necessary.	Less than significant	
WQ-3.1: Project construction activities would not result in flooding that could harm people, damage property, or adversely affect biological resources.	Less than significant	None necessary.	Less than significant	
WQ-4.1: Project construction activities would not result in wind or water erosion that causes substantial soil runoff or deposition not contained or controlled onsite.	Less than significant	None necessary.	Less than significant	
WQ-1.2: Project operations would not result in violation of regulatory standards or guidelines.	Less than significant	None necessary.	Less than significant	
WQ-2.2: Project operations would not substantially alter water circulation.	Less than significant	None necessary.	Less than significant	
WQ-3.2: Project operations would not result in flooding that could harm people, damage property, or adversely affect biological resources.	Less than significant	None necessary.	Less than significant	
WQ-4.2: Project operations would not result in wind or water erosion that causes substantial soil runoff or deposition not contained or controlled onsite.	Less than significant	None necessary.	Less than significant	
Biological Resources and Habitat				
BIO-1.1: Project construction activities would not substantially affect any rare, threatened, or endangered species or their habitat.	Less than significant	None necessary.	Less than significant	
BIO-2.1: Project construction activities would not interfere with wildlife movement/ migration corridors.	Less than significant	None necessary.	Less than significant	
BIO-3.1: Project construction activities would not result in a substantial loss or alteration of marine habitat.	No impact	None necessary.	No impact	
BIO-4.1: Project construction activities would not substantially affect a natural habitat or plant community.	No impact	None necessary.	No impact	

Table ES.7-1. Summary of Environmental Impacts, Mitigation Measures, and Environmental Controls of the Proposed Project				
Impact	**Significance Before Mitigation**	**Mitigation**	**Significance After Mitigation**	**Environmental Controls**
BIO-5.1: Project construction activities would not substantially disrupt local biological communities.	Less than significant	None necessary.	Less than significant	
BIO-1.2: Project operations would not substantially affect any endangered, threatened, or rare species or their habitat.	Less than significant	None necessary.	Less than significant	
BIO-2.2: Project operations would not interfere with wildlife movement or migration corridors.	Less than significant	None necessary.	Less than significant	
BIO-3.2: Project operations would not substantially reduce or alter marine habitat.	No impact	None necessary.	No impact	
BIO-4.2: Project operations would not substantially affect a natural habitat or plant community.	Less than significant	None necessary.	Less than significant	
BIO-5.2: Project operations would not substantially disrupt local biological communities.	Less than significant	None necessary.	Less than significant	
Cumulative Impact BIO-5. Project operations would substantially disrupt local biological communities.	Significant	No feasible mitigation measures beyond compliance with existing federal, state and Port rules and regulations (e.g., tariffs, VSRP) are available to further lessen cumulatively significant and unavoidable impacts associated with invasive species introductions and offshore whale strikes.	Significant and unavoidable	**EC BIO-1: Expanded VSRP** – To reduce the potential for accidental whale strikes, OGVs that call at the MCC terminal shall comply with the expanded VSRP of 12 knots.
Ground Transportation				
TRANS-1.1: Project construction activities would not increase an intersection's V/C ratio or LOS in a manner that exceeds adopted performance standards.	Less than significant	None necessary.	Less than significant	None
TRANS-1.2: Project operations would not increase an intersection's V/C ratio or LOS in a manner that exceeds adopted performance standards.	Less than significant	None necessary.	Less than significant	
Vessel Transportation				
VT-1: Project operations would not result in an increase in vessel traffic that results in congestion within the harbor, nor would the ability for maritime commerce to operate efficiently and safely be exceeded.	Less than significant	None necessary.	Less than significant	None

Table ES.7-1. Summary of Environmental Impacts, Mitigation Measures, and Environmental Controls of the Proposed Project

Impact	Significance Before Mitigation	Mitigation	Significance After Mitigation	Environmental Controls
Noise				
NOI-1.1: Project construction activities would not increase ambient noise levels by 3 dBA.	Less than significant	None necessary.	Less than significant	**EC NOI-1: Construction Equipment** - All construction equipment powered by internal combustion engines shall be properly muffled and maintained. **EC NOI-2: Idling Prohibitions -** Unnecessary idling of internal combustion engines near any noise sensitive areas shall be prohibited. **EC NOI-3: Equipment Location -** All stationary noise-generating construction equipment, such as air compressors and portable power generators shall be located as far as practical from any existing noise sensitive land uses.
NOI-2.1: Project construction activities would not exceed City of Long Beach Municipal Code maximum noise levels.	Less than significant	None necessary.	Less than significant	
NOI-1.2: Project operations would not generate noise that would increase ambient noise levels by 3 dBA.	Less than significant	None necessary.	Less than significant	
NOI-2.2: Project operations would not exceed City of Long Beach Municipal Code maximum noise levels.	Less than significant	None necessary.	Less than significant	
Hazards and Hazardous Materials				
HAZ-1.1: Project construction would not result in an accidental release of hazardous materials that would adversely affect the health and safety of the general public or workers.	Less than significant	None necessary.	Less than significant	
HAZ-1.2: Project operations would not result in an accidental release of hazardous materials that would adversely affect the health and safety of the general public or workers.	Less than significant	None necessary.	Less than significant	
Utilities and Service Systems				
UTIL-1.1: Project construction activities would not result in expansion of water, wastewater, storm drains, natural gas, or electrical utility lines or distribution infrastructure.	Less than significant	None necessary.	Less than significant	
UTIL-2.1: Project construction activities would not exhaust or exceed existing water, wastewater, or landfill capacities.	Less than significant	None necessary.	Less than significant	
UTIL-1.2: Project operations would not result in expansion of water, wastewater, storm drains, natural gas, or electrical utility lines or distribution infrastructure.	Less than significant	None necessary.	Less than significant	
UTIL-2.2: Project operations would not exhaust or exceed existing water supply, wastewater, or landfill capacities.	Less than significant	None necessary.	Less than significant	

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CHAPTER 1
INTRODUCTION AND PROJECT DESCRIPTION

1.1 INTRODUCTION

The City of Long Beach, acting by and through its Board of Harbor Commissioners (Port of Long Beach [Port or POLB]), has prepared this Environmental Impact Report (EIR) to identify and evaluate the potential environmental impacts associated with implementation of the proposed MCC Terminal, Inc. Cement Facility Modification Project (hereinafter "Project", "proposed Project", or "Alternative 1"). MCC Terminal, Inc. (hereinafter "MCC") is proposing modifications to its facility located on Pier F at 1150 Pier F Avenue, within the Port (Figures 1.1-1 and 1.1-2). MCC's existing facility can receive bulk cement and cement-like materials (including Portland cement, blast furnace slag, pozzolans, and fly ash) at Berth F208 via bulk cargo vessels. MCC stores the product in a warehouse and loading silos and loads the product onto customer trucks via three truck loading racks. A variety of trucking companies may transport the product from the truck loading racks to local and regional concrete batch plants. Berth F208 occupies the southern portion of the Project site and has a total wharf length of 550 feet.

The proposed Project would consist of:

- Installing an emission control system (Dockside Catalytic Control System [DoCCS]) to capture and reduce nitrogen oxide (NO_x) emissions from ship auxiliary generators at berth;
- Constructing additional storage capacity consisting of storage and loading silos on vacated Port property adjacent to MCC's existing facility; and
- Upgrading existing facilities and ship unloading equipment.

The adjacent property previously included the abandoned Pacific Banana Building that was demolished in 2011 due to its failure to meet fire and building codes. The existing MCC facility has a South Coast Air Quality Management District (SCAQMD) permit limit for ship unloading of 9.66 million short tons (8.76 million metric tons) per year. The facility also has a SCAQMD throughput (truck loading) limitation of 3.8 million short tons (3.45 million metric tons) per year. The proposed Project would not modify the permitted unloading and loading limits (Section 1.6, Project Operations).

The Port is the lead agency for California Environmental Quality Act (CEQA) compliance. Based on the Initial Study (IS) prepared for the Project, the Port has determined that an EIR is the appropriate level of environmental review. The Project does not involve any federal action; therefore, the National Environmental Policy Act (NEPA) does not apply.

This EIR is intended to inform decision makers, other agencies, and the public of the affected environmental resources and potential impacts to those resources that would result from constructing and operating the Project. It also identifies mitigation measures for significant environmental impacts to reduce or avoid those impacts and evaluates a reasonable range of alternatives to the Project.

1.1.1 CEQA

This EIR fulfills the requirements of CEQA (Public Resources Code [PRC], Section 21000 et seq.), CEQA Guidelines (14 California Code of Regulations [CCR], Section 15000 et seq.), and POLB Procedures for Implementation of the CEQA (Resolution No. HD-1973). According to CEQA Guidelines Section 15121(a) (CCR, Title 14, Division 6, Chapter 3), the purpose of an EIR is to serve as an informational document that:

> *…will inform public agency decision makers and the public generally of the significant environmental effect of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project.*

This EIR evaluates the direct, indirect, and cumulative impacts of the proposed Project in accordance with CEQA and the provisions set forth in the CEQA Guidelines. Other state and local agencies that have jurisdiction or regulatory responsibility over components of the Project will also rely on this EIR for CEQA compliance as part of their decision-making processes (Section 1.8, Intended Uses of the EIR).

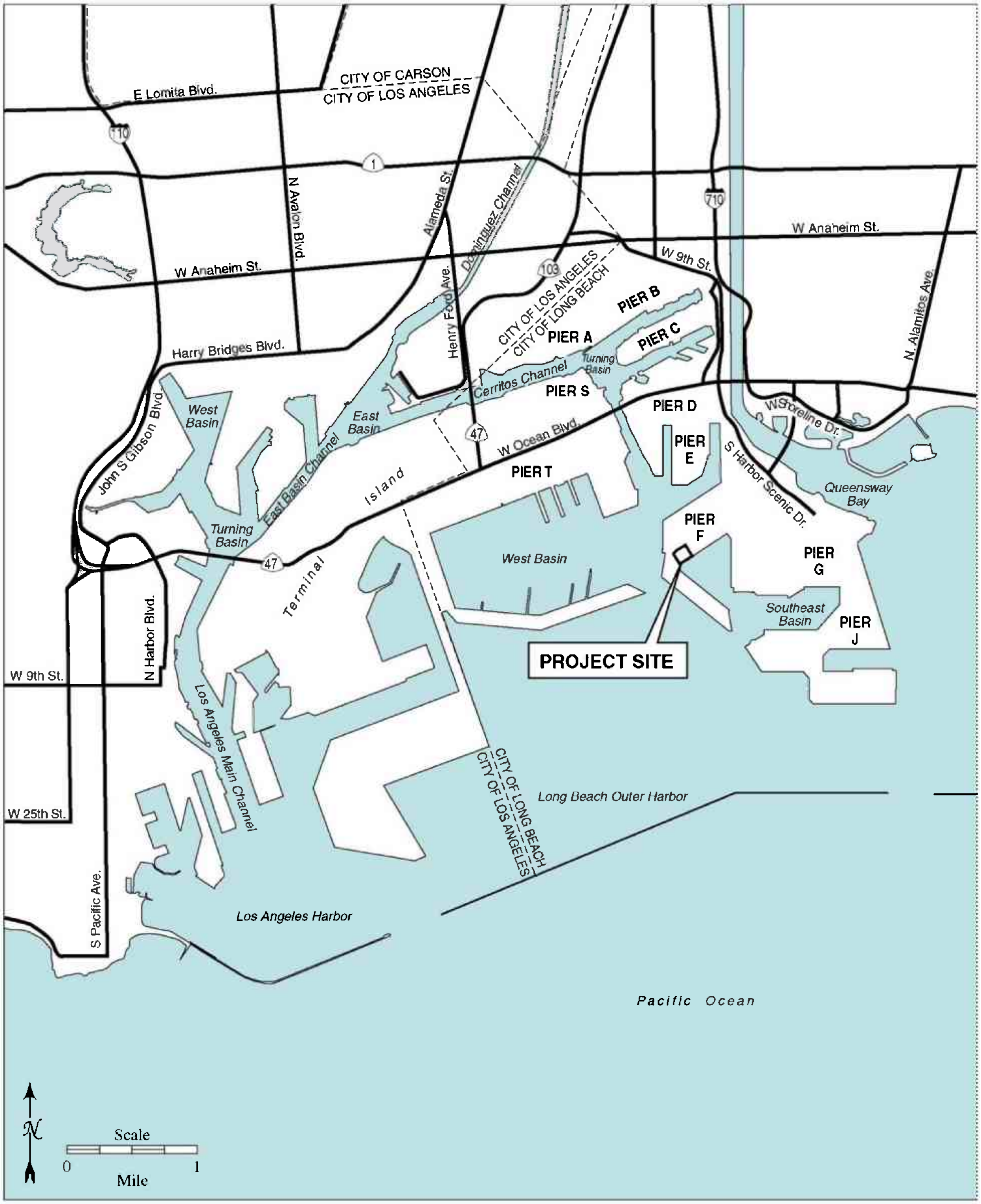


Figure 1.1-1. Regional Map

Figure 1.1-2. Project Vicinity Map

1.1.2 Background

POLB is one of the world's busiest seaports, and is a leading gateway for trade between the United States (U.S.) and Asia. The Port includes 3,200 acres of land, 10 piers, and 71 post-PANAMAX gantry cranes. In total, the POLB has approximately 17 miles of berthing frontage for commercial vessels and 157 named berths, of which 77 are deep-water berths. All berths lie within 4.5 nautical miles (nm) of the open sea. Containers are the primary cargo moving through the Port, with major container terminals at Piers A, C, E, F, G, J, and T. Bulk oil and product cargo terminals are located at Piers B, D, F, and T, and dry-bulk cargo is handled at Piers F and G. Other cargoes moving through the POLB include forest products at Piers D and T, and scrap metal recycling and export at Pier T (Figure 1.1-1).

The POLB is the second busiest port in the U.S. and handles a significant portion of dry-bulk cargo (cement, gypsum, petroleum coke, white bulks [soda ash, sulfates, and borax]) within southern California. These products are handled at six POLB terminals. Cement imports are received at the MCC facility on Pier F and the CEMEX cement facility located on Pier D.

The primary source of cement for the California market is local production. Due to the high transportation costs relative to the cost of cement, production and use of cement tends to be regional (i.e., within 200 miles of a plant/terminal) (BST Associates 2010). However, when the local supply is not sufficient to meet local demands, additional product is imported from out of the region. In recent years, bulk cement imported via vessels from Asia and shipped via rail from other states has accounted for a growing share of the market.

Portland cement is the primary ingredient in the production of concrete and, therefore, is essential to all types of construction, including public infrastructure projects (e.g., roads and highways), residential, and non-residential developments. The economic recession that started in 2007 severely impacted the demand for cement. However, it is forecasted that there will continue to be a need for cement imports to supplement domestic production (BST Associates 2010). According to the forecast for Spring 2014, the U.S. cement market is expected to grow by 7.8 percent in 2014 and by ten percent during 2015 and 2016 (PCA 2014).

1.2 PROJECT HISTORY

The cement import facility on Pier F was formerly leased and operated by Lucky Cement Corporation. MCC leased the facility in 2002 and has been in possession of the facility since that date. MCC has a Permit to Operate from SCAQMD for the existing MCC facility that allows MCC to operate specified equipment according to defined operating and compliance requirements.

The existing SCAQMD permit limits the ship unloading throughput to 9.66 million short tons (8.76 million metric tons) per year and the truck loading throughput to 3.8 million short tons (3.45 million metric tons) per year. The permit also requires that all ships be in “cold iron status” while unloading (that is, they must use shore-to-ship power instead of onboard auxiliary generators). Because MCC charters and does not own the vessels that deliver cement to the facility, it does not control whether the vessels are equipped to connect to shore-to-ship power during unloading operations as required by the SCAQMD permit. Nevertheless, MCC has worked with various charter companies and has negotiated commitments to equip some vessels to use shore-to-ship power. However, even ships that are equipped to use shore-to-ship power sometimes cannot unload the entirety of their cargo while using shore-to-ship power. In particular, because of the high electrical load, some ships are unable to operate their cranes from shore-to-ship power to lift the equipment necessary to remove the last cement from the vessel’s hold into and out of the vessel. They must then start the shipboard generators to complete unloading. MCC was only able to achieve approximately 66 percent average shore-to-ship power use in 2006.

In 2005, MCC obtained an Order for Abatement from SCAQMD that allowed limited on-vessel generator use during unloading at the facility. From 2005 to 2010, the Order for Abatement from SCAQMD permitted limited on-vessel generator use for unloading activities. However, in January 2011, SCAQMD denied a request to extend the Order for Abatement.

While the Order for Abatement has not been extended, MCC still is entitled to unload vessels according to the SCAQMD permit requirements. MCC has applied to the SCAQMD to modify its existing SCAQMD permit to allow vessels that call at the MCC facility to either use shore-to-ship electricity or use the proposed DoCCS at-berth emission control system when unloading. The proposed control system would capture NO_x emissions from the generators of ships that cannot use shore-to-ship power and process the exhaust through a selective catalytic NO_x reduction system. The SCAQMD permit modification is pending and will be considered upon completion of the CEQA review process.

In addition to limitations under the SCAQMD permit, the existing MCC facility has experienced inefficiencies associated with limited storage capacity and fluctuations in cement demand. Since cement deliveries to the MCC facility are ordered months in advance, changes in the demand for cement can occur after the order has been placed. There have been periods when the warehouse was full and ships calling at the facility could not unload upon arrival. The vessels had to wait at berth or at anchor until sufficient warehouse capacity was available for the ship to fully offload the entire ship load. When vessels are kept waiting, MCC incurs demurrage charges (additional fees for being idle).

In addition, because of the limited reach of the rail-mounted unloader, it has sometimes been necessary to turn a ship bow to stern at the berth in order to reach the last of the cement in the aft hold. This maneuvering process is inefficient, and results in additional air pollutant emissions from the tugs required for these turning movements. To remedy these limitations, the proposed Project would provide additional storage capacity (four cement silos) to better deal with irregular ship deliveries and keep up with cement demand. Also, MCC proposes to extend the unloader rails so the aft hold can be accessed and the ships fully unloaded without turning. The proposed Project would not modify the permitted unloading and loading limits.

In 2006, the facility throughput was approximately 1.51 million short tons (1.40 million metric tons) of cement from 35 ship visits, resulting in 53,067 truck trips. However, as a result of the economic recession that started in 2007 and regional decline in demand for cement, the MCC facility temporarily stopped receiving cement shipments by vessel in December 2008 and temporarily suspended delivering product locally in October 2010. All facility permits have remained in effect since this time. This temporary cessation of operations is due to economic circumstances and operations are expected to resume and expand with the economic recovery.

While cement is an essential building component for most construction projects, it is also a low value commodity and transportation costs substantially affect the price of cement. During weak economic periods, markets are very sensitive to the combined cost of raw cement and its transportation. Also, at current low demand levels, local cement producers have the capacity to meet the demand, generally at a lower price than imported material. Imported cement tends to be more costly than locally produced cement because it is transported long distances even though its cost at the source may be lower. However, when construction demand is high and local sources cannot meet demand, cement imported by bulk vessels finds a ready market. MCC expects that, as the local economy recovers, demand for imported cement will resume and ultimately increase from prior levels. The proposed facility modifications are intended to enable MCC to meet that future anticipated demand.

1.3 PROJECT OBJECTIVES

CEQA requires that an EIR state the objectives of a proposed Project to explain the reasons for project development and why this particular solution is being recommended. Also, the Project objectives are instrumental in determining which alternatives should be considered in the EIR.

The objectives of the proposed Project are to:

- Upgrade existing facilities to improve operational efficiency and provide 40,000 metric tons of additional storage capacity to meet future cement demand in the Los Angeles region;
- Install an emission control system (DoCCS) to reduce at-berth NO_x emissions from ship auxiliary generator engines when vessels are not using shore-to-ship power; and
- Modify the SCAQMD air permit for Bulk Cement Ship Unloading, which currently requires shore-to-ship power (“cold-ironing”) for ships at berth, to allow either shore-to-ship power or venting on-vessel generators to the DoCCS NO_x emission control equipment.

1.4 PROJECT SETTING AND LOCATION

1.4.1 Regional Context

The Port is located in San Pedro Bay in southern Los Angeles County, adjacent to the Port of Los Angeles (POLA). The vicinity of the two ports is characterized by marine terminals and associated uses, heavy and light industry (including several refineries), commercial uses, and transportation facilities (including a major railyard). Residential areas in the immediate vicinity include the neighborhood of west Long Beach, approximately 1.5 miles north of the Project site, and downtown Long Beach, less than 1 mile east and northeast of the Project site.

The Port includes diverse land uses that include containerized and bulk cargo terminals; light manufacturing and industry; recreational destinations; and commercial operations including sport fishing concessions, hotels, retail shops, and a public boat launch. Major Port activities include commercial shipping and transfer of containerized cargo, petroleum/ petrochemical and non-petroleum liquid-bulk cargo; dry-bulk cargo (such as petroleum coke, salt, and cement); neo-bulk cargo (such as autos, steel, and lumber); recreation; and tourism.

1.4.2 Project Location

The Project site is located on Pier F at 1150 Pier F Avenue in the Southeast Harbor Planning District of the Port. The Project site is within the highly industrialized inner Port complex and bordered by Pier F Avenue and Long Beach Container Terminal to the north and northwest, Chemoil Marine Terminal to the east, the Southeast Basin to the south, and Crescent Terminal (SSA) to the west. The Project site is entirely owned by the Port. Figure 1.4-1 shows the existing Project site layout.

1.5 PROJECT DESCRIPTION

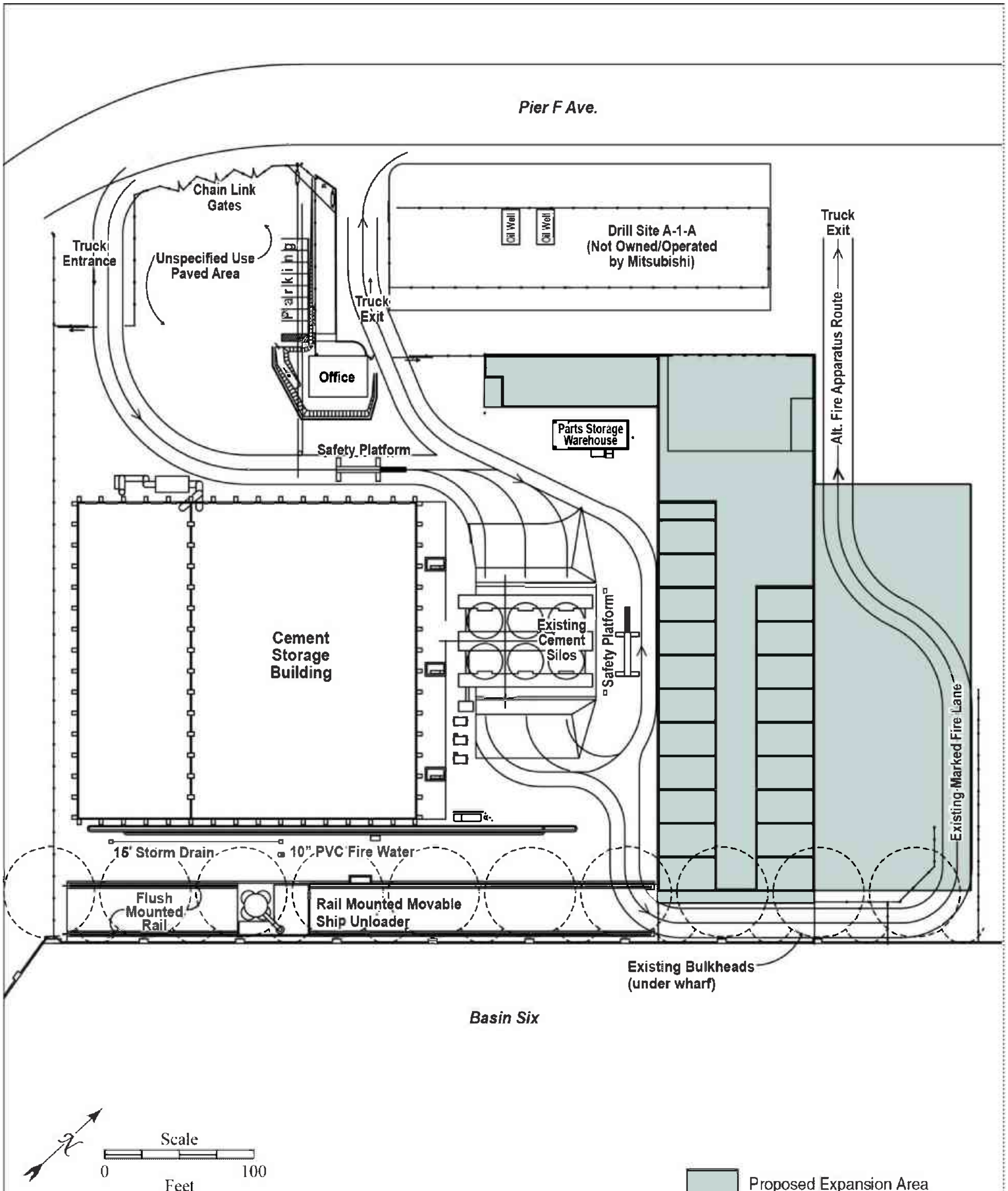
The proposed Project includes expansion of the MCC facility at Berth F208 into the adjacent vacant property, construction of four additional cement storage and loading silos with a truck lane under each pair of silos, installation of an emission control system (DoCCS) to control at-berth vessel emissions, and upgrades to ship unloading equipment. MCC is proposing to construct the additional cement storage silos and truck loading equipment on the vacant property that is the location of the former warehouse for Pacific Banana operations (Figure 1.5-1). The warehouse has been demolished and the site is vacant. A new ship unloader would be added, the larger existing unloader would be upgraded, and the smaller existing unloader would be decommissioned. The new cement unloaders would be connected to the existing warehouse and new cement silos via new piping. The 4.21 acre Project site would be expanded to 5.92 acres. If the Project is approved, the Port would issue a Harbor Department Permit and a new lease.

Construction would occur in phases, and the construction sequence would be determined by MCC based on economic conditions at the time construction commences. All construction would include removal of pavement and other site preparation at the adjacent vacant site preliminary to the construction, wharf improvements, installation of the new unloader, and DoCCS installation. Transport by truck of non-divisible, oversize loads to the Project site would require an appropriate Caltrans permit. This initial site preparation would require approximately 6 months. Subsequent phases of silo construction would require approximately 12 months each and require a maximum of 38 workers per day.

The existing MCC cement terminal could resume operations as new silos and other improvements are constructed. Although the timing of full build-out would depend on market demand, this EIR assumes that full build-out would occur in 2015 following completion of site preparation. A slight delay in the timing of full build-out would not alter the findings of the impact analyses presented in this EIR. Specific elements of the proposed Project are described below.

1.5.1 Demolition and Site Preparation

Demolition would involve removal or relocation of existing underground utility mains and lines (including storm drains, electrical, and natural gas) within the portions of the Project area that would contain the new facilities. Demolition and construction of new utility mains and lines would be planned and implemented so that services remain uninterrupted for adjacent tenants.



Source: Environmental Audit, Inc. 2011

Figure 1.4-1. Existing Site Layout

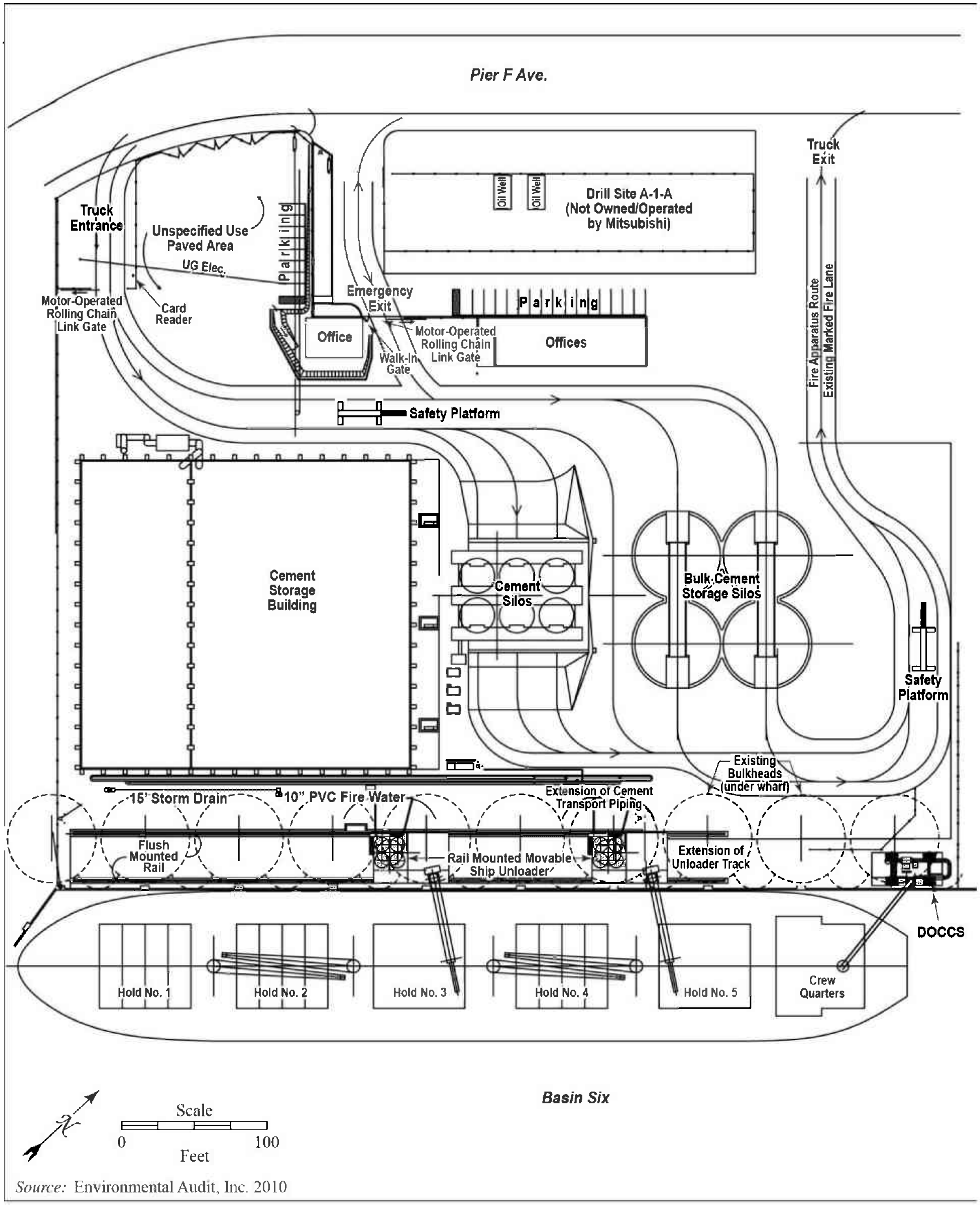


Figure 1.5-1. Proposed Site Layout

1.5.2 Installation of a DoCCS to Control NO_x Emissions from Vessels

The DoCCS would be located on the wharf to control NO_x emissions from vessels at berth while they are unloading. Emission control would be accomplished by capturing generator exhaust with a hood on an arm extending over the vessel's exhaust stack from the DoCCS and diverting it through the emission control system. The DoCCS would provide a system to reduce NO_x emissions at berth when using shore-to-ship power is not feasible. For example, many of the ships that call at the facility are not equipped to cold-iron and those that are often cannot unload the entirety of their cargo using shore-to-ship power either because: 1) the vessel is not suitably equipped; or 2) the unloading process that requires equipment to be lowered into the hold cannot be accomplished using shore power. Vessels would continue to cold-iron when feasible.

Installation of the DoCCS would occur simultaneously with site preparation needed to accommodate construction of the storage silos on the adjacent site and completion of upgrades to unloading equipment. The proposed Project would require minor trenching to install electrical and fuel gas lines to the DoCCS. Installation of the DoCCS would include the following components: a capture system (arm and hood); a Selective Catalytic Reduction (SCR) system; and a process controller to maintain the correct SCR inlet temperature and flow rates. DoCCS operations would require the delivery and storage of urea solution. The DoCCS has a storage capacity of 500 gallons of urea. During operations, the urea solution is injected into the SCR system upstream of the catalyst where it reacts under heat to produce ammonia and facilitate NO_x removal (the ammonia reacts with NO_x in the exhaust stream to reduce NO_x emissions by 90 percent).

Operation of the DoCCS would emit a small amount of ammonia from the stack, which is often termed "ammonia slip".

1.5.3 Construction of Additional Storage Capacity

The proposed Project would include construction of additional storage capacity (i.e., four cement silos) to minimize inefficiencies associated with limited storage capacity and fluctuations in cement demand and expand truck loading capacity. The existing limited storage capacity has resulted in periods when cement was unavailable because the warehouse was full and ships would have to wait at berth or at anchor, incurring demurrage.

The four, 10,000 metric ton silos that would be installed as part of the proposed Project would provide additional storage capacity (40,000 metric tons total) approximately equal to the volume of one ship load. This additional capacity would alleviate delays in unloading ships during periods when the existing warehouse capacity is insufficient to accommodate cement from an arriving ship.

The direct loading cement silos installed for proposed Project would be approximately 160 feet in height, and they would be supported on pre-stressed, 24-inch octagonal concrete piles driven up to 85 feet below the existing ground surface using conventional pile-driving (impact hammer) equipment. Pile driving would be performed during site preparation prior to commencing silo construction. A foundation mat would be installed over the piles and would require up to 3,400 cubic yards of cement. In addition, two new truck lanes would be constructed to permit loading beneath the silos (Figure 1.5-1).

1.5.4 Upgrading Cement Unloading Equipment

The ship unloading process is completed in three phases. During the first phase, pneumatic vacuum systems are used to evacuate the majority of the cargo in the holds of the ships. As the pneumatic unloaders cannot access cargo in the corners of the holds, a payloader (also called a "power squeegee") is lowered into the hold to unload additional material. The payloader is a modified front end loader with a blade rather than a scoop. This blade is used to push cement from the inaccessible areas into piles that can be removed by the pneumatic unloaders. Once the payloader has moved as much cargo as possible for unloader access, a manual cleaning process begins. During this phase, the remaining cargo is manually gathered so the payloader can consolidate the material in a location for the vacuum unloader to remove the cement.

The MCC facility is currently equipped with two cement unloaders (Kovako and van Aalst). The 882 short ton (800-metric ton) per hour Kovako was originally permitted by SCAQMD in July 1997; however, since that time advancements in the design have made newer systems more efficient. The proposed Project would install a new unloader of similar design capacity. It would be used while the existing Kovako is upgraded. Once the original Kovako is upgraded, both 882 short ton (800-metric ton) per hour unloaders would be able to operate simultaneously, thereby considerably reducing the time required to unload a vessel. The smaller 132 short ton (120-metric ton) per hour van Aalst would be decommissioned after the upgraded Kovako becomes operational.

In addition, the existing dockside ship unloader crane rails would be extended approximately 220 feet to the east to allow the new cement unloader to reach the aft holds of vessels. The new crane rails would consist of rail beams on concrete grade beams that would be supported on 24-inch or larger octagonal concrete piles with concrete cross-ties.

1.5.5 Improvements to Wharf Structure

In order to support the extension of the ship unloader crane rails, new 24-inch octagonal concrete piles would be driven to provide structural reinforcement for the extended rails. Piles would be driven within or behind the existing bulkheads using conventional pile-driving (impact hammer) equipment; however, no piles would be installed outside the existing cellular bulkhead and into the water. Extending the existing wharf would not be required.

Ground improvements will also occur in the backland soils behind the existing bulkhead to improve the seismic stability of the bulkhead and crane rails. These improvements may include installing stone columns and/or deep soil mix panels reinforced with vertical I-beams to compact onsite soils and ensure adequate structural support for the bulkhead. The stone columns would be installed using a vibro-probe and compressed air equipment.

Pile driving and stone column installation would occur over a 2.5 month period during the 6 month site preparation phase.

1.5.6 Backland Support Facilities

Some ancillary infrastructure would be constructed to support operations at the MCC facility, including miscellaneous structures and other terminal improvements such as utilities (i.e., new natural gas lines and minor modifications (tie-ins) to wastewater and electrical lines), new asphalt paving, perimeter fencing, lighting, and pavement striping.

1.5.7 Construction Schedule

The construction would occur in phases depending on economic conditions and demand for cement. MCC proposed a multi-phased approach that involves several variations of silo and truck lane construction. For the purposes of environmental review the construction schedule can be broken down as follows:

- Site preparation – site and ground preparation consisting of removing the semi-permeable pavement temporarily installed when the adjacent building was demolished, initial grading, reinforcement of material behind the bulkheads, pile driving for silo foundations, and mat installation. This phase would also include installation of the DoCCS and would precede all construction scenarios. Site preparation would occur over an approximately 6 month period;
- Phase 1 – construction of the first two silos and the associated truck lane. Phase 1 would require approximately 12 months to complete; and
- Phase 2 – construction of the second two silos and the associated second truck lane. This phase would also have a duration of approximately 12 months.

1.6 PROJECT OPERATIONS

When completed, the Project would consist of one consolidated dry-bulk (cement) facility to offload cement from marine vessels at Berth F208 (Figure 1.5-1) and load trucks for the transport of bulk cement to batch plants in the Los Angeles basin. The Project site would be a secured property with no public access. One additional longshoreman and one contractor would be required to operate the additional truck lanes and DoCCS, respectively. After the Project is constructed, the MCC facility is expected to operate 24 hours a day, 6 days a week.

According to a capacity analysis by AECOM (AECOM 2012), the MCC facility at full build-out would be able to accommodate a maximum annual throughput of approximately 4.58 million short tons (4.16 million metric tons) of cement (Table 1.6-1). However, the maximum permitted limit for truck loading under MCC's SCAQMD permit is 3.8 million short tons annually. MCC does not propose to change this permit limit. However, in the interest of a conservative analysis, the maximum capacity throughput of 4.6 million short tons is the basis for the environmental impact analyses for the proposed Project.

Based on the maximum capacity throughput, proposed operations would result in 99 vessel calls per year. All vessel-offloading activities associated with the Project would occur at Berth F208. Under the proposed Project, the annual truck trips to and from the MCC facility would increase to 166,400 (Table 1.6-1). Proposed operations would result in an estimated 132 peak hour passenger car equivalent (PCE) trips.

1.7 PROJECT ALTERNATIVES

CEQA Guidelines Section 15126.6 requires that an EIR examine alternatives to a project in order to explore a reasonable range of alternatives that meet most of the basic project objectives, while reducing the severity of potentially significant environmental impacts. This EIR compares the impacts of the alternatives and determines an environmentally superior alternative (Section 4.3.2, Environmentally Superior Alternative).

CEQA Guidelines Section 15126.6(a) states:

> *An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives which are unfeasible. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason.*

CEQA Guidelines Section 15126.6 stipulates that an EIR alternatives analysis is required to include analysis of the "No Project" Alternative, assuming the reasonable future use of the project parcel if the application was not approved. If the environmentally superior alternative is the No Project Alternative, the EIR must identify an additional "environmentally superior" choice among the other project alternatives.

The alternatives were also screened in accordance with CEQA Guidelines Section 15126.6(f), which states:

> *The range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project.*

Table 1.6-1. Proposed Project Operational Summary

	Baseline	Proposed Project
Project Site Acreage	4.21	5.92
Total Throughput – Short Tons (Metric Tons) in millions	1.55 (1.40)	4.58 (4.16)
Annual Vessel Calls	35	99
Annual Truck Trips (Round Trip)	53,067	166,400
Peak Hour Trips (Passenger Car Equivalents)[a]	56	132

Notes:
[a] – Trip generation adjusted to account for heavy trucks in the traffic stream by applying a PCE factor of 2.0. Each truckload of cement requires two truck trips (one inbound and one outbound).Trips based on a 6 day work week; see Table 3.6-4 in Section 3.6.

1.7.1 Alternatives Considered but Not Carried Forward for Analysis

The range of alternatives considered was based on their ability to meet most of the Project's basic objectives and to lessen any significant effects of the Project. To be considered reasonable, an alternative should include:

- Upgraded facilities to improve operational efficiency and provide 40,000 metric tons of additional storage capacity to meet future cement demand in the Los Angeles region;
- The DoCCS emission control system to reduce at-berth NO_x emissions from ship auxiliary generator engines when vessels are not using shore-to-ship power; and
- Modifying the SCAQMD air permit for Bulk Cement Ship Unloading to allow either the use of shore-to-ship power or venting to NO_x emission control equipment.

This section discusses the alternatives considered but eliminated from further discussion, including the rationale to eliminate the alternatives from detailed analysis. Those alternatives are:

- Relocate the MCC facility to another West Coast port;
- Use other existing facilities at Southern California ports;
- Upgrade cement unloading equipment and construct additional capacity without the DoCCS; and
- Install only the DoCCS.

1.7.1.1 Relocate the MCC Facility to another West Coast Port

This alternative would eliminate the need to expand and modernize the MCC facility in the POLB by relocating the facility to another port on the West Coast. This alternative would require that other West Coast ports have the specialized facilities and navigational channels and berths to safely accommodate dry-bulk vessels. While other West Coast ports, such as POLA and San Diego, provide navigational channels and berths that can accommodate dry-bulk vessels, this option would require construction of new facilities to meet the needs of the proposed Project. Constructing the necessary infrastructure would likely involve substantial in-water construction for wharf upgrades as well as onshore construction of warehousing and truck loading facilities. The environmental effects of constructing these facilities would likely be substantially greater than those for the proposed Project.

Similar to POLB, POLA continues to maximize the use of its port properties to accommodate increased cargo volumes. However, even if POLA could accommodate the increase in dry-bulk (cement) deliveries, given the proximity of the two ports, development would have very similar impacts to that of the proposed Project at the POLB. As a result, it would be unlikely to reduce overall impacts of development.

Diverting cargo to other West Coast ports, other than POLA, would also result in bulk cement needing to be transported back to the Los Angeles area by less efficient land-based transportation, resulting in increases in cost and air emissions. Because the use of other West Coast ports would require longer, more costly, and more polluting ground transportation to the Los Angeles area and would not meet the Project objectives to improve operational efficiency and capacity of the MCC facility, this alternative is considered infeasible and was eliminated from further consideration in this EIR.

1.7.1.2 Use of Existing Facilities at Other Southern California Ports

Under this alternative, the MCC facility would not be modernized or expanded, and no new cement storage silos would be built at POLB. Instead, bulk cement shipments would be diverted to other Southern California ports (i.e., Port Hueneme, San Diego, and Los Angeles) with existing facilities. This would require that other ports have, or be able to create, cement-handling facilities with sufficient capacity to handle the diverted bulk cement cargo in addition to their own forecasted increased throughput volumes. The other two terminals in the POLB/POLA complex with facilities for handling cement (CEMEX at 601 Pier D Avenue, Long Beach, and CPC Terminal at 401 Canal Street, Wilmington) are not equipped with cold ironing or NO_x control devices for ship emissions. Additionally, these facilities do not have excess capacity for increased cement throughput. Thus, use of an existing facility would not meet the project objectives.

Other ports in Southern California do not have existing waterfront facilities and infrastructure necessary to accommodate the forecasted increases in cement deliveries. While Port Hueneme and Port of San Diego may have berthing and terminal space for handling smaller volumes of cement deliveries, neither port has the expansion potential or existing infrastructure capacity to accommodate a significant increase in dry-bulk throughput. Furthermore, the increased land transportation distances involved in getting product to the Los Angeles market would render this alternative economically and environmentally unattractive. Using existing facilities at other Southern California ports to accommodate future dry-bulk cargo volumes is therefore infeasible because facilities with sufficient capacity do not exist and could only be constructed at considerably greater cost than for the proposed Project. Therefore, this alternative was eliminated from further consideration in this EIR.

1.7.1.3 Upgrade Cement Unloading Equipment and Construct Additional Capacity without the DoCCS

This alternative would include the proposed upgrades to the cement unloading equipment, including installation of a new unloader and construction of additional storage capacity (i.e., four cement silos). However, installation of the DoCCS to reduce NO_x emissions from vessels that cannot use shore-to-ship power during the entire unloading operation would not occur. Under this alternative, ships that are not capable of using shore-to-ship power the entire time at berth would be required to leave the terminal and unload the rest of their cargo at another terminal, the same as would occur under the No Project Alternative (Section 1.7.2.2, No Project Alternative). Since no other cement import terminal is equipped to provide either shore-to-ship power or NO_x emission control devices, this alternative would result in higher overall air pollutant emissions.

While this alternative would increase the capacity of the facility to receive and ship cement, construction of proposed equipment upgrades and additional capacity without the DoCCS would not meet the Project objectives to modify the SCAQMD air permit or install an emission control system (DoCCS) for vessels. In addition, as is the case for the No Project Alternative, the feasibility of unloading cement at another terminal if a vessel cannot use shore-to-ship power at MCC is uncertain. As a result, this alternative was eliminated from further consideration.

1.7.1.4 Installation of only the DoCCS

This alternative would only install the DoCCS. Under this alternative, construction of the additional capacity (i.e., four cement silos) and upgrades to the cement unloading equipment, including installation of a new unloader, would not occur. This alternative would not include leasing the adjacent lot.

This alternative would meet the Project objectives to modify the SCAQMD air permit by installing the DoCCS to reduce NO_x emissions from vessels. However, this alternative would not meet the basic Project's objectives for increasing storage capacity, installing a new unloader, and upgrading the existing unloader. Therefore, this alternative was eliminated from further consideration in this EIR.

1.7.2 Alternatives Evaluated in this EIR

The alternatives discussed in this section include: the Reduced Throughput Alternative and the No Project Alternative. The Reduced Throughput Alternative would include construction of only two silos and one truck lane, roughly half the facilities included in the proposed Project. This represents a practical intermediate throughput alternative that achieves most of the basic Project objectives and likely lessens the environmental impacts of the proposed Project.

1.7.2.1 Reduced Throughput Alternative

The Reduced Throughput Alternative would be the same as the proposed Project except that only two cement silos and one additional truck lane would be constructed in order to accommodate loading beneath the two new silos. Both silos would be constructed in one phase. Construction would occur over an 18-month period and anticipated to be completed in 2015 (i.e., build-out year).

This alternative would include the same site preparation as the proposed Project including: demolition and/or relocation of existing subsurface utilities and construction of new natural gas lines and minor modifications (tie-ins) to existing wastewater and electrical lines; installation of the DoCCS; and construction of backland support facilities and infrastructure, as well as upgrades to the cement unloading equipment (including the addition of a new 882 short ton [800 metric ton] per hour unloader). However, the two silos that would be installed for the Reduced Throughput Alternative would provide only 20,000 metric tons of additional cement storage capacity. Similar to the proposed Project, no additional MCC employees above baseline levels would be required to support proposed operations; however, an additional longshore-man and one contractor would be required to operate the additional truck loading lane and DoCCS.

The Reduced Throughput Alternative would operate 24 hours a day, 6 days a week. When operating at maximum projected throughput capacity (anticipated in approximately year 2015), the MCC facility would be capable of handling approximately 3.7 million short tons (3.3 million metric tons) of cement per year (Table 1.7-1) (AECOM 2012). Operations would result in 79 vessel calls per year. All vessel offloading activities would occur at Berth F208. Under this alternative, the annual truck trips to and from the MCC facility would increase to 133,120, with an estimated 108 peak hour PCE trips.

1.7.2.2 No Project Alternative

The No Project alternative considers what could occur at the Project site if the proposed Project was not approved. Under this alternative, no construction and, consequently, no construction-related impacts would occur. There would be no reinforcement of the wharf or extension of the rails for the Kovako unloader. The equipment would not be upgraded, no new unloader would be installed, no additional silos would be constructed, and the DoCCS would not be installed. Cement storage capacity at the MCC facility would not be increased. The MCC facility would generate operational impacts in the following manner:

- Ships would perform unloading activities.
- Facility equipment would handle bulk cement.
- Trucks would transport cement product to outlying distribution facilities.

Facility throughput would be limited by truck loading capacity because it would be confined to the existing three truck loading lanes and by the AQMD permit conditions.

This alternative assumes the existing SCAQMD permit for Bulk Cement Ship Unloading would not be modified and MCC's Stipulated Order for Abatement from the SCAQMD would not be reissued. Therefore, all vessels would be required to use shore-to-ship power while unloading in order to comply with existing SCAQMD permit conditions. Many vessels are unable to unload completely while using shore-to-ship power because the payloader cannot be lowered into the hold without the vessel's auxiliary generators running to operate the ship's crane. Those vessels would need to be unloaded at another location. It is not possible to predict where vessels could go for the final unloading or how this could be accomplished economically.

The analyses herein assume that vessels would, on average, be unable to unload the final 20 percent of their cargo at the MCC facility and would have to move to another cement terminal to complete unloading. Therefore, each nominal 42,000 metric ton vessel would only be able to unload approximately 33,600 metric tons at MCC, with the balance being unloaded elsewhere.

Table 1.7-1. Reduced Throughput Alternative Operational Summary

	Baseline	Reduced Throughput Alternative
Project Site Acreage	4.21	5.92
Total Throughput – Short Tons (Metric Tons) in millions	1.55 (1.40)	3.7 (3.3)
Annual Vessel Calls	35	79
Annual Truck Trips (Round Trip)	53,067	133,120
Peak Hour Trips (Passenger Car Equivalents)[a]	56	108

Notes:
[a] – Trip generation adjusted to account for heavy trucks in the traffic stream by applying a PCE factor of 2.0. Each truckload of cement requires two truck trips (one inbound and one outbound).Trips based on a 6 day work week; see Table 3.6-4 in Section 3.6.

Under this assumption, vessels calling at the MCC facility could be unloaded more rapidly since the most efficient aspect of unloading (the pneumatic removal of easily accessible cement using one 882 short ton [800 metric ton] per hour and one 132 short ton [120 metric ton] per hour unloader) would be accomplished at the MCC terminal, and the least efficient aspects (payloader and manual unloading) would occur elsewhere for vessels that cannot use shore-to-ship power for the entire unloading operation. Therefore, the time involved in each vessel unloading at Berth F208 would be considerably shorter than during baseline operations.

Once the vessels leave the MCC terminal, it is not known where they would go to finish unloading. Some possible options could include completing unloading at another terminal in the Port, POLA, or another nearby port such as the Port of San Diego. This would involve de-berthing the vessel, moving it to another terminal, berthing at that terminal, and unloading the hold completely. Since other terminals are not subject to the same SCAQMD permit conditions, including the requirement to use shore-to-ship power, additional emissions would occur from the extra vessel movements and unloading operations. Also, truck trips associated with the cement that could not be unloaded at the MCC facility would still occur, but at different locations than POLB or the Los Angeles basin.

Under this alternative, it is assumed that the MCC facility would handle a maximum throughput capacity of approximately 2.5 million short tons (2.2 million metric tons) per year. (AECOM 2012) An estimated 67 vessel calls per year would occur under this alternative (Table 1.7-2) taking account of the assumed 20 percent of cargo, on average, that could not be unloaded at the MCC facility because of the shore-to-ship power requirement. Annual truck trips would be 89,856, and operations would result in an estimated 72 peak hour PCE trips.

1.7.3 Proposed Environmental Controls

The following environmental controls would be included in all of the action alternatives (i.e., the proposed Project and the Reduced Throughput Alternative). MCC would be required to acquire and comply with several regulatory permits and approvals if the Project is approved for implementation, including any specified mitigation measures. MCC would also be required to comply with all applicable Port- and agency-related plans, policies and best management practices (BMPs) for environmental protection. The environmental controls set forth below include all applicable control measures included in the Port's Green Port Policy and Clean Air Action Plan (CAAP).

Air Resources/Greenhouse Gases

The Project would implement the following environmental controls to minimize impacts to air resources and greenhouse gas emissions from project operations:

Table 1.7-2. No Project Alternative Operational Summary

	Baseline	No Project Alternative
Project Site Acreage	4.21	4.21
Total Throughput – Short Tons (Metric Tons) in millions	1.55 (1.40)	2.5 (2.2)
Annual Vessel Calls	35	67
Annual Truck Trips (Round Trip)	53,067	89,856
Peak Hour Trips (Passenger Car Equivalents)[a]	56	72

Notes:
[a] – Trip generation adjusted to account for heavy trucks in the traffic stream by applying a PCE factor of 2.0. Each truckload of cement requires two truck trips (one inbound and one outbound).Trips based on a 6 day work week; see Table 3.6-4 in Section 3.6.

AQ-1: Expanded Vessel Speed Reduction Program (VSRP) – All ocean-going vessels (OGVs) that call at the MCC terminal shall comply with the expanded VSRP of 12 knots from 40 nm, that is, from Point Fermin to the Precautionary Area (equal to CAAP measure OGV1).

AQ-2: Shore-to-Ship Power/Cold Ironing – OGVs that call at the MCC facility shall use shore-to-ship power (i.e., cold iron) no less than 66 percent of the time at berth based on an annual average. The DoCCS shall be used for the portion of time at berth that OGVs are not using shore-to-ship power. MCC shall submit annual reports to the Port's Environmental Planning Division on or before January 31 of each year, demonstrating compliance with this environmental control measure for the previous calendar year. If an emergency event [as defined in California Air Resources Board's (ARB's) At-Berth Regulation, Title 17, CCR Section 93118.3, subsection (c)(14)], prevents MCC from achieving the required annual average shore-to-ship power rate (equal to or greater than 66 percent), MCC may demonstrate compliance over a two-year period, so long as MCC submits documentation to the Port which describes the emergency event(s) and explains the basis for MCC's inability to demonstrate compliance using an annual average. The Port would review the documentation submitted by MCC and, if the Port determines that MCC made sufficient effort to comply with the environmental control, it would notify MCC in writing that use of the two-year average is acceptable.

AQ-3: Payloaders – Wheeled loaders used for final unloading shall attain EPA non-road Tier 4 emission standards.

Biological Resources

BIO-1: Expanded VSRP – To reduce the potential for accidental whale strikes, OGVs that call at the MCC terminal shall comply with the expanded VSRP of 12 knots.

Noise

NOI-1: Construction Equipment – All construction equipment powered by internal combustion engines shall be properly muffled and maintained.

NOI-2: Idling Prohibitions – The idling of internal combustion engines near any noise-sensitive areas shall be prohibited during Project construction.

NOI-3: Equipment Location – All stationary noise-generating construction equipment, such as air compressors and portable power generators, shall be located as far as practical from any existing noise-sensitive land uses.

1.8 INTENDED USES OF THE EIR

The primary intended use of this EIR by the Port is to support the permit application and other actions required to implement the proposed Project. In the event that the proposed Project or an alternative is approved, the Board of Harbor Commissioners would issue a Harbor Department Permit and a new lease. Per CEQA compliance requirements, the POLB would use this document to make decisions regarding discretionary actions associated with constructing and operating all or part of the proposed Project. Uses of this EIR by other jurisdictions and other departments of the Lead Agency are described in Table 1.8-1.

This Final EIR has been prepared in accordance with applicable state environmental regulations, policy, and law. The Final EIR includes responses to comments received on the Draft EIR from agencies, organizations, and individuals. The Final EIR is being distributed to provide the basis for decision-making by the lead and responsible agencies.

Table 1.8-1. Expected Use of this EIR

Jurisdiction	Responsibilities, Permits, and Approvals
State	
Los Angeles Regional Water Quality Control Board (RWQCB)	The RWQCB is the permitting authority for National Pollutant Discharge Elimination System (NPDES) permits regulating stormwater and wastewater discharges from the site.
South Coast Air Quality Management District (SCAQMD)	SCAQMD is the permitting authority for construction and operation of stationary emission sources at dry bulk terminal facilities; air pollution control equipment; and new or modified sources of air emissions (New Source Review).
Local	
Port of Long Beach (City of Long Beach Harbor Department)	The Port is the Harbor Department of the City and would issue a Harbor Development Permit and approve a new lease for the proposed Project.
City of Long Beach Development Services Department	This department is the City's permitting authority for building and grading permits.
City of Long Beach Public Works Department	This department is the City's permitting authority for storm drain connections and stormwater discharges.
City of Long Beach Fire Department	This City department provides Approval of Business Plan and Risk Management Program. Reviews and submits recommendations regarding design for building permit.
City of Long Beach Public Works Department, Bureau of Traffic & Transportation	This City bureau provides review and approves changes in City street design, construction, signalization, signage, and traffic counts.

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CHAPTER 2
RELATED PROJECTS AND RELATIONSHIP TO STATUTES AND PLANS

2.1 RELATED PROJECTS CONTRIBUTING TO CUMULATIVE EFFECTS

This section describes the projects considered in the cumulative impact analysis and presents a synopsis of the local and regional plans, programs, and requirements presented in subsequent sections of the EIR.

2.1.1 Requirements for Cumulative Impact Analysis

CEQA Guidelines require an analysis of the significant cumulative impacts of a proposed project (CEQA Guidelines Section 15130). A cumulative impact is referred to as “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.” (CEQA Guidelines Section 15355.)

Potential cumulative impacts are described in the CEQA Guidelines Section 15355 as follows:

(a) The individual effects may be changes resulting from a single project or a number of separate projects.

(b) The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

Furthermore, according to CEQA Guidelines Section 15130(a)(1):

> *As defined in Section 15355, a cumulative impact consists of an impact that is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. An EIR should not discuss impacts which do not result in part from the project evaluated in the EIR.*

In addition, as stated in the CEQA Guidelines Section 15064(h)(4), the following should be noted:

> *The mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project’s incremental effects are cumulatively considerable.*

For this EIR, analysis of cumulative impacts considered the existing or reasonably foreseeable projects that would be constructed in the Project region. Including the proposed Project, 56 approved or pending projects were identified within the Project vicinity that could contribute to cumulative impacts (Figure 2.1-1, Table 2.1-1).

2.1.2 Projects Considered in the Cumulative Impact Analysis

For the purposes of this EIR, the timeframe of current and/or reasonably foreseeable projects extends out to the year 2035, and the Project vicinity is defined as the area over which effects of the proposed Project could contribute to cumulative effects. The projects identified in the cumulative analysis occur within the cumulative region of influence, including projects associated with the San Pedro Bay ports and regional transportation corridors. The cumulative region of influence is a geographic area within which the proposed Project, in conjunction with cumulative projects, may exert some influence. The cumulative region of influence for individual resources is defined in each of the resource specific subsections in Chapter 3, Environmental Setting and Project Impacts. The proposed Project’s potential to contribute to a cumulative significant impact in conjunction with these other approved or proposed projects is assessed within each of the resource sections in Chapter 3.

Figure 2.1-1. Related Projects

Table 2.1-1. Related Projects

No. in Figure 2.1-1	Project Title	Project Description	Status (Project Timeframe)	Relevant Potential Cumulative Environmental Factors
Port of Long Beach				
1	Middle Harbor Terminal Redevelopment	Expansion of an existing marine container terminal. The Piers D, E, and F development project is located in the Middle Harbor area of the POLB. The project consolidates two existing container terminals into one 345-acre (140-hectare) terminal. Construction includes 54.6 acres (21.6 hectare) of landfill, dredging, and wharf construction; construction of an intermodal rail yard; and reconstruction of terminal operations buildings.	Approved project. Construction underway (2011–2021).	• Air Quality/ Greenhouse gas (GHG) • Transportation • Biological Resources • Water Quality & Hydrology • Noise
2	Piers G & J Terminal Redevelopment Project	Redevelopment of two existing marine container terminals into one terminal in the Southeast Harbor Planning District area. The project will develop a marine terminal of up to 315 acres by consolidating portions of two existing terminals on Piers G and J.	Approved project. Ongoing construction.	• Air Quality/GHG • Biological Resources
3	Pier S Marine Terminal and Back Channel Improvements Project	Navigational safety improvements to the Back Channel and Inner Harbor Turning Basin, dredging and widening of the Cerritos Channel, and dike realignment and shore cut on Pier S.	Final EIS/EIR certified 10/29/13. On Hold.	• Transportation • Air Quality/GHG • Noise • Biological Resources
4	Baker Cold Storage Facility	Construct an approximately 250,000 square feet (s.f.) cold storage facility on Pier B for the distribution, storage, and freezing of food products.	Approved project. Construction underway (2014–2016).	• Air Quality/GHG
5	Chemoil Marine Terminal, Tank Modification	Modification of an existing storage tank and installation of associated piping and vapor destruction system at the Pier F facility.	Application under review.	• Air Quality/GHG • Hazards
6	Gerald Desmond Bridge Replacement Project, POLB/ California Department of Transportation (Caltrans)/Federal Highway Administration (FHWA)	Replacement of the existing Gerald Desmond Bridge and adjacent roadway improvements.	Approved project. Addendum No. 2 approved 2012 Construction underway (2012–2017).	• Transportation • Air Quality/GHG • Biological Resources
7	Maintenance Facility Replacement Project	Replacement of the existing Maintenance Facility with a new facility on site on Pier G.	Approved project Construction completed in 2014.	• Transportation • Air Quality/GHG • Noise
8	Pier B On-Dock Rail Support Facility	Expansion of the existing Pier B Rail Yard in two phases, including realignment of the adjacent Pier B Street and utility relocation.	EIR being prepared.	• Transportation • Air Quality/GHG • Noise

Table 2.1-1. Related Projects

No. in Figure 2.1-1	Project Title	Project Description	Status (Project Timeframe)	Relevant Potential Cumulative Environmental Factors
Port of Long Beach (continued)				
9	Terminal Island Rail Projects	Construct rail improvements on Terminal Island, including a grade separation at Reeves Avenue and additional storage tracks.	Conceptual Project.	• Transportation • Noise
10	Total Terminals International Grain Export Terminal Installation Project	Grain transloading facility on Pier T that would enable the transfer of grain and dried distillers grains with solubles, a high quality feed for cattle (no human consumption), utilizing existing rail and shipping infrastructure.	Approved project. On hold.	• Transportation • Air Quality/GHG • Hazards
11	Eagle Rock Aggregate Terminal	Construction and operation of a sand, gravel, and granite aggregate receiving, storage, and distribution terminal on Pier D.	Approved project. Construction underway (2014–2016).	• Air Quality/GHG
City of Long Beach				
12	Golden Shore Master Plan	The project would provide new residential, office, retail, and potential hotel uses, along with associated parking and open space.	Notice of Preparation (NOP) issued November 2008. Final EIR was released on January 2010. In process for entitlement. City Planning Department has no estimated construction start and completion year.	• Air Quality/GHG • Transportation • Aesthetic/Visual • Noise • Water Quality • Growth Inducing • Cumulative Effects
13	Press-Telegram Mixed Use Development	Construction of two high-rise buildings on the 2.5-acre Press-Telegram site. The project would be a mixed-use development with 542 residential units, and 32,300 s.f. of office and institutional space.	EIR certified in April 2007. Addendum is currently being planned for potential historic impacts.	• Air Quality/GHG • Transportation • Noise • Minerals • Hazards • Water Quality • Growth Inducing • Cumulative Effects
14	1235 Long Beach Blvd. Mixed-Use Project	The project includes demolition of existing on-site uses and construction of a mixed-use (transit oriented) development that includes the construction of 3 buildings consisting of 170 residential condominium units, 186 senior (age-restricted) apartment units, and 42,000 s.f. of retail/restaurant floor area.	EIR Addendum was released in January 2008. Entitlements granted. City Planning Department has no estimated construction start and completion dates.	• Air Quality/GHG • Public Services and Utilities • Transportation

Table 2.1-1. Related Projects

No. in Figure 2.1-1	Project Title	Project Description	Status (Project Timeframe)	Relevant Potential Cumulative Environmental Factors
City of Long Beach (continued)				
15	Ocean Blvd. Project	The project would include the demolition of existing structures, development of 51 condominium units and the remodel of an existing building to maintain 11 motel units. The residential development would be four stories in height above street level and would have two levels of subterranean parking.	Notice of Intent (NOI) to Adopt the Negative Declaration was released in August 2009. Entitlements granted. City Planning Department has no estimated construction start and completion year.	• Air Quality/GHG • Public Services • Transportation
16	Pine – Pacific, bounded by Pine and Pacific Avenues, and 3rd and 4th Streets	Phase 1 consists of a 5-story residential project with 175 living units and 7,280 s.f. of retail space. Phase 2 is slated as a 12-story mid-rise residential development with 186 units and 18,670 s.f. of retail.	Approved project. Construction pending.	• Air Quality/GHG • Traffic • Noise
17	Broadway Block Development, Broadway, Long Beach Boulevard, 3rd Street, and Elm Avenue	Mixed-use project consisting of an art center, residential units and commercial space.	Conceptual project.	• Air Quality/GHG • Traffic • Noise
18	Hotel Esterel, Promenade at Broadway	Seven-story, 165-room hotel with 8,875 s.f. of retail space and 3,000 s.f. of meeting space.	Construction underway.	• Air Quality/GHG • Traffic • Noise
19	Shoreline Gateway Project	Mixed-use development of a 35 story, 221 unit condominium tower with retail, commercial, and office uses located north of Ocean Boulevard, between Atlantic Avenue and Alamitos Avenue.	EIR certified in 2006. City Planning Department has no estimated construction start and completion year.	• Transportation • Air Quality/GHG
Port of Los Angeles				
20	Berths 226-236 (Evergreen) Container Terminal Improvements Project and Canners Steam Demolition	Proposed redevelopment of existing container terminal, including improvements to wharves, adjacent backland, crane rails, lighting, utilities, new gate complex, grade crossings, and modification of adjacent roadways and railroad tracks. Project also includes demolition of two unused buildings and other small accessory structures at the former Canner's Steam Plant in the Fish Harbor area of the POLA.	Conceptual project; On hold.	• Transportation

Table 2.1-1. Related Projects

No. in Figure 2.1-1	Project Title	Project Description	Status (Project Timeframe)	Relevant Potential Cumulative Environmental Factors
Port of Los Angeles (continued)				
21	Berths 97-109, China Shipping Development Project	Development of the China Shipping Terminal Phases I, II, and III, including wharf construction, landfill and terminal construction, and backland development.	Board of Harbor Commissioners certified the EIR and approved the project on December 8, 2009. Construction started in 2009 and ongoing through 2013.	• Transportation • Air Quality/GHG
22	Channel Deepening Project	Dredging and sediment disposal. This project deepened the Port of Los Angeles Main Channel to a maximum depth of –53 feet. mean lower low water (MLLW; lesser depths are considered as project alternatives). The Additional Disposal Capacity Project would provide approximately 4 million cubic yards of disposal capacity needed to complete the Channel Deepening Project and maximize beneficial use of dredged material by constructing lands for eventual terminal development and provide environmental enhancements at various locations in the POLA.	Board of Harbor Commissioners certified the EIR and approved the project on April 29, 2009. Construction was completed in 2013.	• Biological Resources • Hydrology & Water Quality • Transportation • Air Quality/GHG
23	Berths 206-209 Ports America Container Terminal Project	Proposal involves building demolition/repairs, pavement improvements, striping, signage, fendering and bollard upgrades, new cranes, and related electrical service upgrades for new breakbulk and container terminal operations.	Conceptual planning stage.	• Hydrology & Water Quality
24	Ultramar Lease Renewal Project	Proposal to renew the lease between POLA and Ultramar Inc., for continued operation of the marine terminal facilities at Berths 163-164, as well as associated tank farms and pipelines. Project includes upgrades to existing facilities to increase the proposed minimum throughput to 10 million barrels per year, compared to the existing 7.5 million barrels per year minimum.	On hold.	• Air Quality/GHG
25	Southern California International Gateway Project (SCIG)	Construction and operation of a 157-acre dock rail yard intermodal container transfer facility (ICTF) and various associated components, including relocation of an existing rail operation.	Project EIR certified May 2013. Construction on hold.	• Air Quality/GHG

Table 2.1-1. Related Projects

No. in Figure 2.1-1	Project Title	Project Description	Status (Project Timeframe)	Relevant Potential Cumulative Environmental Factors
Port of Los Angeles (continued)				
26	Berth 302-306 (APL) Container Terminal Improvements Project	Container terminal and wharf improvements project including a terminal expansion area and new berth on the east side of Pier 300. Currently includes 40 acres of fill that was completed as part of the Channel Deepening project (Project number 28).	Project EIR/EIS certified on June 7, 2012. Construction expected from 2012 to 2014.	• Transportation • Air Quality/GHG • Biological Resources
27	South Wilmington Grade Separation	An elevated grade separation would be constructed along a portion of Fries Avenue or Marine Avenue, over the existing rail line tracks, to eliminate vehicular traffic delays that would otherwise be caused by trains using the existing rail line and the new ICTF rail yard. The elevated grade would include a connection onto Water Street. There would be a minimum 24.5-feet clearance for rail cars traveling under the grade separation.	Approved project. Construction expected from 2012 to 2014.	• Transportation • Air Quality/GHG
28	I-110/C Street Interchange Project	Realignment of Harry Bridges and John S. Gibson Blvd. and combining of C Street/Figueroa intersection and Gibson/Bridges/Figueroa intersections into one intersection with connection to I-110 freeway.	Mitigated Negative Declaration adopted June 2012. Construction expected 2014 to 2017.	• Transportation • Air Quality/GHG
29	John S. Gibson Boulevard/I-110 Access Ramps and SR-47/I-110 Connector Improvement Program	Improvement of NB I-110 ramps at John S. Gibson Blvd. and the NB I-110/SB SR-47/NB I-110 connector.	Mitigated Negative Declaration approved April 2012. Construction expected from 2013 to 2016.	• Air Quality/GHG • Noise
30	Berths 212-224 (YTI) Container Terminal Improvements Project	Wharf modifications at the YTI Marine Terminal Project involves wharf upgrades and backland reconfiguration, including new buildings.	Draft EIR released for public review May 2014. Preparing final EIR.	• Transportation • Air Quality/GHG • Biological Resources
31	Berths 121-131 (Yang Ming) Container Terminal Improvements Project	Reconfiguration of wharves and backlands. Expansion and redevelopment of the Yang Ming Terminal.	NOI/NOP released for public review April 2014.	• Transportation • Air Quality/GHG • Biological Resources

Table 2.1-1. Related Projects

No. in Figure 2.1-1	Project Title	Project Description	Status (Project Timeframe)	Relevant Potential Cumulative Environmental Factors
Port of Los Angeles (continued)				
32	San Pedro Waterfront Project	The "San Pedro Waterfront" Project is a 5- to 7-year plan to develop along the west side of the Main Channel, from the Vincent Thomas Bridge to the 22nd Street Landing Area Parcel up to and including Crescent Avenue. Key components of the project include construction of a North Harbor Promenade, construction of a Downtown Harbor Promenade, construction of a Downtown Water Feature, enhancements to the existing John S. Gibson Park, construction of a Town Square at the foot of 6th Street, a 7th Street Pier, and a Ports O' Call Promenade, development of California Coastal Trail along the waterfront, construction of additional cruise terminal facilities, construction of a historic fireboat. Display, relocation of the SS Lane Victory, extension of the Red Car line, and related parking improvements.	Board of Harbor Commissioners certified the EIR and approved the project on September 29, 2009. Construction expected from 2010 to 2020.	• Transportation • Air Quality/GHG
33	Westway Decommissioning	Decommissioning of the Westway Terminal along the Main Channel (Berths 70-71). Work includes decommissioning and removing 136 storage tanks with total capacity of 593,000 barrels.	Remediation is in the conceptual planning stage. Decommissioning completed 2012.	• Air Quality/GHG
34	Consolidated Slip Restoration Project	Remediation of contaminated sediment at Consolidated Slip at POLA. Remediation may include capping sediments or removal/disposal to an appropriate facility. Work includes capping and/or treatment of approximately 30,000 cubic yards of contaminated sediments.	Remedial actions are being evaluated in conjunction with Los Angeles RWQCB and EPA. Project is on hold.	• Air Quality/GHG
35	Wilmington Waterfront Master Plan (Avalon Blvd. Corridor Project)	Planned development intended to provide waterfront access and promoting development specifically along Avalon Boulevard.	Board of Harbor Commissioners certified the EIR and approved the project on June 18, 2009. Construction schedule TBD.	• Transportation • Air Quality/GHG
36	Southwest Marine Demolition Project	Demolition of buildings and other small accessory structures at the Southwest Marine Shipyard.	Draft EIR released September 2006; Final EIR on hold.	• Air Quality/GHG
37	Al Larson Redevelopment Project	Redevelopment and expansion of the Al Larson Marina.	EIR certified on July 19, 2012. Construction anticipated to extend into 2015.	• Biological Resources

Table 2.1-1. Related Projects				
No. in Figure 2.1-1	**Project Title**	**Project Description**	**Status (Project Timeframe)**	**Relevant Potential Cumulative Environmental Factors**
Port of Los Angeles (continued)				
38	City Dock No.1 Marine Research Institute	This project includes development of a marine research center within a 28-acre area located between Berths 57-72. This project would change the break bulk areas east of East Channel (Berths 57-72) to institutional uses.	Board of Harbor Commissioners certified the EIR and approved this project on October 18, 2012. Construction anticipated to extend into 2017.	• Biological Resources
39	POLA Master Plan Update	Redevelopment of Fish Harbor, redevelopment of Terminal Island and consideration of on-dock rail expansion, and consolidation of San Pedro and Wilmington Waterfront districts.	EIR certified August 2013. Coastal Commission certification pending.	
40	USS Iowa Battleship	Permanent mooring of USS Iowa Navy Battleship at Berth 87 and construction of landside museum and surface parking to support 371,000 annual visitors.	Board of Harbor Commissioners certified the EIR and approved the project on May 17, 2012. Construction ongoing; open for operation.	
41	Pan-Pacific Fisheries Cannery Buildings Demolition Project	Demolition of two unused buildings and other small accessory structures at the former Pan-Pacific Cannery in the Fish Harbor area of the POLA.	NOP released October 2005. Draft EIR released July 2006. Final EIR on hold.	
42	Berths 136-147 Marine Terminal, West Basin	Element of the West Basin Transportation Improvement Projects. Expansion and redevelopment of the TraPac Container Terminal to 243 acres, including improvement of Harry Bridges Boulevard and a 30-acre landscaped area, relocation of an existing rail yard and construction of a new on-dock rail yard, and reconfiguration of wharves and backlands (includes filling of the Northwest Slip, dredging, and construction of new wharves.)	Board of Harbor Commissioners certified the EIR and approved the project on December 6, 2007. Construction from 2009 to 2016.	• Biological Resources
Community of San Pedro				
43	Pacific Corridors Redevelopment Project, San Pedro	Development of commercial/, manufacturing, and residential components. Construction underway of four housing developments and Welcome Park.	Project underway. Expected completion in 2032 according to Community Redevelopment Agency of Los Angeles.	• Transportation • Air Quality/GHG

Table 2.1-1. Related Projects

No. in Figure 2.1-1	Project Title	Project Description	Status (Project Timeframe)	Relevant Potential Cumulative Environmental Factors
Alameda Corridor Transportation Authority and Caltrans				
44	I-710 (Long Beach Freeway) Major Corridor Study	Develop multi-modal, timely, cost-effective transportation solutions to traffic congestion and other mobility problems along approximately 18 miles of the I-710, between the San Pedro Bay ports and State Route 60. Early Action Projects include: 1) Port Terminus: Reconfiguration of SR-1 (Pacific Coast Highway) and Anaheim Interchange, and expansion of the open/green space at Cesar Chavez Park; 2) Mid Corridor Interchange: Reconfigurations Project for Firestone Boulevard Interchange and Atlantic/Interchange.	Draft EIR/EIS released June 2012. Recirculated DEIR/ Supplemental DEIS being prepared.	• Transportation • Air Quality/GHG
45	Badger Bridge Expansion	Redevelopment of the existing Badger Avenue Rail Bridge.	Project on hold.	
46	Schuyler Heim Bridge Replacement and SR 47 Terminal Island Expressway	ACTA/Caltrans project to replace the Schuyler Heim Bridge with a fixed structure and improve the SR-47/Ford Avenue/Street transportation corridor by constructing an elevated expressway from the Heim Bridge to SR-1 (Pacific Coast Highway).	Project approved. Heim Bridge construction underway. SR-47 Expressway on hold pending identification of funding sources.	• Air Quality/GHG • Traffic • Noise
ICTF Joint Powers Authority				
47	ICTF Modernization and Expansion	Modernize and expand the existing ICTF to increase capacity, modernize existing equipment, and rail yard operation methods.	Project EIR under preparation.	• Air Quality/GHG
Community of Wilmington				
48	Tesoro Reliability Improvement and Regulatory Compliance Project	Physical changes and additions to multiple process units and operations as well as operational and functional improvements within the confines of the existing refinery, including replacing an existing cogeneration system with a new cogeneration system and replacing multiple, existing steam boilers with new equipment.	EIR certified April 10, 2009. Construction activities scheduled 2010 through 2012.	• Air Quality/GHG • Transportation
49	Distribution Center and Warehouse	135,000-s.f. distribution center and warehouse on 240,000-s.f. lot with 47 parking spaces at 755 East L Street, (at McFarland Avenue) in Wilmington.	Construction has not started; lot is vacant and bare. Los Angeles Department of Transportation (LADOT) Planning Department has no estimated completion year.	

Table 2.1-1. Related Projects

No. in Figure 2.1-1	Project Title	Project Description	Status (Project Timeframe)	Relevant Potential Cumulative Environmental Factors
Community of Wilmington (continued)				
50	Chemoil Terminals Corporation	Constructing five 50,000-barrel tanks and two 20,000-barrel tanks for the storage of organic liquids such as ethanol, crude oil, gasoline, naphtha, cycle oils, marine and non-marine diesel oils, and residual fuel oils.	Currently under construction and will be ongoing for several years.	• Air Quality/GHG • Transportation
51	WesPac Smart Energy Transport System Project	Construct a jet fuel pipeline system to support airport operations at Los Angeles International Airport and other airports in the western U.S.	Phase 1 is proposed to begin upon resolution of court case.	• Air Quality/GHG
52	Warren Oil WTU Central Facility and New Equipment Project, 625 E. Anaheim St., Wilmington	Make modifications to an existing oil production facility to remove and replace an existing flare, add a heater-treater, and add microturbines to generate electricity onsite.	Negative Declaration released April 15, 2009. Final Negative Declaration under preparation. Construction from 2010 through 2013.	• Air Quality/GHG
City of Carson				
53	ConocoPhillips Refinery Tank Replacement Project	ConocoPhillips operators are in the process of removing seven existing petroleum storage tanks and replacing them with six new tanks, four at the Carson Plant, and two new tanks at the Wilmington Plant.	A Negative Declaration was prepared for this project.	• Air Quality/GHG
54	Kinder Morgan Terminal Expansion	Construction of 18 new, 80,000-barrel product storage tanks and one new, 30,000-barrel transmix storage tank with related piping, pumps, and control systems on the southwestern portion of the existing Carson Terminal Facility.	Construction completed in 2013.	• Air Quality/GHG • Transportation
55	BP Logistics Project	Construction and operation of two 260-foot-diameter covered external floating roof crude oil storage tanks. The two crude oil storage tanks have a capacity of 500,000 barrels each, and will require related piping and process control systems.	EIR certified by City of Carson. Project on hold.	• Air Quality/GHG
56	Shell Oil Products U.S. Carson Revitalization Project Specific Plan	Expansion of the Distribution Facility uses. Redevelopment of the site could result in up to 83,000 s.f. of retail and 1.74 million s.f. of mixed industrial/.	Draft EIR released for public review February 2014.	• Air Quality/GHG

2.2 RELATIONSHIP TO STATUTES, PLANS, AND OTHER REQUIREMENTS

CEQA requires the EIR to be integrated with the analysis requirements of other applicable federal and state environmental laws and regulations. The following existing statutes, plans, policies, and other regulatory requirements are applicable to the proposed Project and alternatives. The discussion of relevant statutes and any integrated analysis requirements are found under each topical subject within Chapter 3, Environmental Setting and Project Impacts.

2.2.1 Statutes

California Environmental Quality Act

The purposes of the CEQA are as follows:

- Inform agency decision makers and the public about the potential significant environmental effects of a proposed project;
- Identify the ways that environmental damage can be avoided or significantly reduced;
- Prevent significant, avoidable environmental damage by requiring changes in the project through the use of alternatives or mitigation measures when the agency finds the changes to be feasible; and
- Disclose the reasons for the governmental decision (14 CCR Section 15002[a]).

An EIR is prepared if a lead agency determines that the project may have a significant impact on the environment. The Port's implementation of CEQA is guided by the CEQA Guidelines and impact thresholds established by pertinent resource agencies. Because the Project may have a significant effect on the environment, the Port is preparing an EIR.

Clean Water Act

The Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into waters of the U.S. and regulating quality standards for surface waters. The basis for the CWA was enacted in 1948, and was called the Federal Water Pollution Control Act, but this was significantly reorganized and expanded in 1972. The CWA became the common name with amendments in 1977.

Clean Air Act

The federal Clean Air Act (CAA) of 1970 and its subsequent amendments form the basis for the nation's air pollution control effort. The EPA is responsible for implementing most aspects of the CAA. Basic elements of the CAA include the National Ambient Air Quality Standards (NAAQS) for major air pollutants, hazardous air pollutant standards, attainment plans, motor vehicle emission standards, stationary source emission standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

The CAA delegates enforcement of the federal standards to the states. In California, the ARB is responsible for enforcing air pollution regulations. In the South Coast Air Basin (SCAB), the SCAQMD has this responsibility. As the proposed Project is located within the SCAB, proposed construction and operations are subject to SCAQMD rules and regulations.

Coastal Zone Management Act

Section 307 of the Coastal Zone Management Act (CZMA) requires that all federal agencies with activities directly affecting the coastal zone, or with development projects within that zone, comply with the state coastal acts (i.e., the California Coastal Act (CCA) of 1976) to ensure that those activities or projects are consistent, to the maximum extent practicable. The California Coastal Commission (CCC) would use this EIR in its federal Coastal Zone Consistency Review to determine if the proposed Project is in compliance with the CZMA. The POLB and POLA operate under separate CCC-approved Port Master Plans (PMPs), and thus many categories of activities proposed within the Harbor Planning District have been previously determined by the CCC to be consistent with the CCA and thus the CZMA. As an additional safeguard, the Port is required to issue a finding of consistency with the PMP for each development project occurring with the Harbor Planning District.

California Coastal Act

The CCA of 1976 recognizes the Port, as well as other California ports, as a primary economic and coastal resource and as an essential element of the national maritime industry.

Under the CCA, existing ports are encouraged to modernize and construct as necessary to minimize or eliminate the need for the creation of new ports. Water areas may be diked, filled, or dredged when consistent with a certified PMP and only for specific purposes, which include the following:

- Construction, deepening, widening, lengthening, or maintenance of ship channel approaches, ship channels, turning basins, berthing areas, and facilities required for the safety and accommodation of commerce and vessels to be served by the port facilities; and
- New or expanded facilities or waterfront land for port-related facilities.

2.2.2 Plans, Policies, and Other Regulatory Requirements

Port of Long Beach Port Master Plan

The PMP addresses environmental, recreational, economic, and cargo-related issues in accordance with the CCA. Because of the dynamic nature of world commerce, many trade and transportation practices change quickly. Accordingly, the PMP was written to encompass broad Port goals and specific projects, while recognizing and planning for change in cargo transport and requirements, throughput demand, available technology and equipment, and available lands for primary Port terminal development. The Port goals, objectives, policies, and statement of permitted uses guide future development within each Harbor Planning District. A finding of consistency with the PMP is required prior to any development within the Harbor District.

City of Long Beach General Plan

In the City of Long Beach General Plan, the Long Beach Harbor area falls within Land Use District (LUD) Number 12. This district is composed of the existing freeways, Long Beach Harbor, and Long Beach Airport. The General Plan assumes the water and land use designations within the harbor area are separately formulated and adopted by due process as the Specific Plan of the Long Beach Harbor (also known as the PMP, as amended). The General Plan indicates that the responsibilities for planning within legal boundaries of the harbor lie with the Harbor Commission.

City of Long Beach Municipal Code

The City of Long Beach Municipal Code (LBMC), as amended, codifies and publishes in consolidated form those ordinances of the city governing the establishment of certain offices and boards; the conduct of city government; organization to cope with disasters; fire prevention; police and traffic regulation; public safety; public welfare; public works; buildings and signs; prohibition of certain defined acts and punishment for violation of code provisions; regulation, control, and licensing of businesses, trades, professions, and other occupations; health and sanitation regulations; oil production; use of land in the city; municipal gas service and rates; regulation of city streets; operation of public facilities; and other matters of general interest (Ordinance C-5831 Section 1, 1982).

Green Port Policy

Adopted on January 31, 2005, the Green Port Policy formalizes five guiding principles for the Port's environmental-protection efforts: 1) protect the local community and environment from harmful Port impacts; 2) employ the best available technology to minimize port impacts and explore and advance technology solutions; 3) promote sustainability in terminal design, development, and operations; 4) distinguish the Port as a leader in environmental stewardship and regulatory compliance; and 5) engage and educate the community about Port development and environmental programs.

San Pedro Bay Ports Clean Air Action Plan

The San Pedro Bay CAAP describes the measures that the POLB and the POLA will take toward reducing emissions related to Port operations. The CAAP consists of the following eight elements: 1) standards and goals; 2) implementation strategies; 3) control measures; 4) technology advancement program; 5) infrastructure and operational efficiency improvements initiative; 6) estimated emissions reductions; 7) estimated budget requirements; and 8) recommendations. The CAAP was approved by the two harbor commissions in November 2006, and updated in 2010.

The 2010 CAAP Update sets even more aggressive goals for reducing air pollution and health risks from port operations. New air quality-improvement measures in the 2010

CAAP Update include working with shipping lines on a "preferential deployment" system to always bring their newest ships — which emit less air pollution — to the San Pedro Bay Port Complex, and to determine what air quality technology retrofits can be made to engines on existing ships. Another measure sets goals and standards to prompt railroads to bring their newest and cleanest locomotives to local near-dock rail yards and to the ports.

Water Resources Action Plan

The Water Resources Action Plan (WRAP) was developed jointly by the Port and the Port of Los Angeles to address water and sediment quality issues of mutual concern. The WRAP (Port and Port of Los Angeles 2009) has two main driving forces: 1) the ports' need to achieve their broad mission to protect and improve water and sediment quality; and, 2) the promulgation of total maximum daily loads (TMDLs) for port waters and the associated CWA permits. The purpose of the WRAP is to provide the framework and mechanisms for the ports to achieve the goals and targets established in TMDLs affecting the harbor complex, and to comply with the Industrial Activities, Construction Activities, and Municipal permits issued to the ports and their respective cities and tenants through the National Pollutant Discharge Elimination System (NPDES) program. Four basic types of sources are addressed by the WRAP control measures: land use discharges; on-water discharges; sediments; and watershed discharges. The control measures address sources, rather than specific pollutants since a given measure is likely to be effective for more than one pollutant. Control measures developed in the WRAP do not identify numerical goals for pollution reduction, nor do they set compliance standards. Rather, the WRAP provides a roadmap for the Port and Port of Los Angeles to comply with existing regulations.

Southern California Association of Governments Regional Plans

The Southern California Association of Governments (SCAG) serves as the area-wide planning agency responsible for regional transportation planning, growth, and land use planning within southern California, as well as for developing the growth factors used in forecasting air emissions within the SCAB. The SCAG prepares and maintains a Growth Management Plan (GMP), a Regional Housing Needs Assessment, a Regional Comprehensive Plan and Guide (RCPG) (2008), the 2012-2035 RTP/Sustainable Communities Strategy (2012), a Regional Mobility Plan, and contributes to the Air Quality Management Plan (AQMP) in cooperation with the SCAQMD.

Air Quality Management Plan

The EPA, in enforcing the mandates of the federal CAA, requires each state that does not attain the NAAQS to prepare a plan detailing how these air quality standards will be attained. California requires each air quality district to prepare an AQMP specific for its region. The most recently approved AQMP was adopted by the SCAQMD Governing Board of Directors on December 7, 2012.

Los Angeles County Congestion Management Program

The Los Angeles County Congestion Management Program (CMP) for Los Angeles County was adopted by the Metropolitan Transportation Authority (MTA) in 1992 and is updated biannually. The program was developed in conformance with Proposition 111, the gas tax initiative approved by California voters in 1990. The 1993 program update includes a new element called the Countywide Deficiency Plan that establishes a partnership between the 88 cities in the county and the MTA. Every year, each jurisdiction is responsible for monitoring building permit activity and then deciding how to offset the potential impacts of that development by choosing from a series of transportation mitigation strategies. The CMP also includes a series of monitoring programs that measure the level of service (LOS) on critical transportation systems, including major intersections, freeways, and major transit routes. Since 1994, jurisdictions have been required to track new development activity and report it to the MTA. All development activity in the POLB must be included in the City of Long Beach development activity report.

The CMP defines a backbone highway system called the CMP system that includes all state highways and other major arterial routes as determined by the cities in conjunction with the MTA. A total of 160 intersections are included in the highway system for periodic monitoring of service levels.

Water Quality Control Plan – Los Angeles River Basin

The Water Quality Control Plan for the Los Angeles River Basin (Region 4) was adopted by the Regional Water Quality Control Board (RWQCB) in 1978 and updated in 1994. The plan designates beneficial uses of the water resources of the basin and describes water quality objectives, implementation plans, and surveillance programs to protect or restore designated beneficial uses.

Water Quality Control Policy – Enclosed Bays and Estuaries of California

In 1974, the California State Water Resources Control Board (SWRCB) adopted a water quality control policy that provides principles and guidelines to prevent degradation and to protect the beneficial uses of waters of enclosed bays and estuaries. Long Beach Harbor is considered to be an enclosed bay under this policy. Activities such as the discharge of effluent, thermal wastes, radiological waste, dredge materials, and other materials that adversely affect beneficial uses of the bay and estuarine waters are addressed. Waste discharge requirements developed by the RWQCB, among other requirements, must be consistent with this policy.

California Toxics Rule

The California Toxics Rule (CTR), as found in 40 Code of Federal Regulations (CFR) Part 131, establishes numeric criteria for priority toxic pollutants in inland waters and enclosed bays and estuaries.

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CHAPTER 3
ENVIRONMENTAL SETTING AND PROJECT IMPACTS

3.0 INTRODUCTION

This chapter describes the area of influence, setting (environmental and regulatory), methodology, potential impacts, and mitigation measures used to evaluate effects on environmental resources from the proposed Project and alternatives. The proposed Project and alternatives are assessed against the baseline and compared by resource area in Sections 3.1 through 3.10. The proposed Project is compared to the alternatives (Reduced Throughput Alternative and No Project Alternative) in Chapter 4, Alternatives Comparison.

3.0.1 Environmental Analysis Procedures

The content and format of this EIR are designed to meet the requirements of the CEQA Guidelines. A discussion of each resource is provided in Sections 3.1 through 3.10 and is organized as follows.

Environmental Setting subsections describe the existing conditions for each environmental resource. These subsections provide the context for assessing potential environmental impacts resulting from construction and operation of the proposed Project and its alternatives. For this project, the baseline uses 2006 activity levels which is a representative year of operations at the MCC facility.

Impacts and Mitigation Measures subsections describe the potential environmental impacts that would result from development of the Project and alternatives. The *Methodology* used for each resource area impact evaluation is discussed and *Significance Criteria* are described that define the level of impact qualifying as significant for each potential impact. The criteria used to establish thresholds of significance are based on CEQA Guidelines, *Appendix G* Environmental Checklist. The "threshold of significance" for a given environmental effect is the level at which the Port, as the lead agency, finds the effects of the proposed Project and its alternatives to be significant. "Threshold of significance" is defined as:

> *An identifiable, quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect normally will be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less significant (CEQA Guidelines Section 15064.7 [a]).*

The impact evaluation discussion describes potential consequences to each resource that would result from development of the proposed Project and alternatives. For each impact identified in this document, a statement of the level of significance of the impact is provided. The level of significance is determined by applying the threshold of significance applicable for each resource area. The following categories for impact significance are used in this analysis:

- A designation of no impact is given when no adverse changes in the environment are expected;
- A less than significant impact would be identified when there would be no substantial adverse change in the environment;
- A significant (but mitigable) impact would have a substantial adverse impact on the environment, but could be avoided or feasibly mitigated to a less than significant level; and
- A significant unavoidable impact would cause a substantial adverse effect on the environment that cannot be feasibly mitigated (reduced to a less than significant level) or avoided.

Mitigation Measures that would minimize, avoid, or reduce potentially significant impacts are identified for each significant impact. Impacts are then reassessed assuming the available mitigation measures are implemented to determine if the residual impact remains significant. Mitigation could include:

- Avoiding the impact altogether by not taking a certain action or parts of an action;

- Minimizing the impact by limiting the degree or magnitude of the action and its implementation;
- Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and/or
- Compensating for the impact by replacing or providing substitute resources or environments.

Mitigation measures become conditions of project approval that apply to future development of the Project site and would be monitored to ensure implementation and compliance.

Significance of Impacts after Mitigation refers to the level of impact after the implementation of mitigation measures. In the case where mitigation measure(s) would avoid or reduce a significant impact to a level that is less than significant, the residual impact is determined to be less than significant. In the case where a mitigation measure(s) would reduce a significant impact somewhat, but would not reduce it to a level that is less than significant, then the residual impact would remain significant and unavoidable, as defined by CEQA Guidelines Section 15126.2(b).

The *Cumulative Impacts* discussion in each environmental issue section describes potential impacts from Project buildout in combination with existing or reasonably foreseeable projects that would be constructed in the Project region, as described in Chapter 2, Related Projects and Relationship to Statutes, Plans and Other Requirements.

3.0.2 Baseline used in the Environmental Analysis

Baseline conditions are identified for the purpose of determining the significance of impacts for each resource area. The change from baseline conditions due to project development represents the level of impact associated with the Project. Generally, the CEQA baseline is the date when the Notice of Preparation (NOP) is released (August 2011 in this instance). However, as described in Section 1.2, Project History, the MCC facility was not in operation at that time. This was due to economic conditions and the fact that an order for abatement issued by the SCAQMD, which had allowed ships to unload without connecting to shoreside electric power, had expired. This combination of circumstances temporarily suspended operations, although the facility is fully permitted to operate using shore-to-ship power during unloading operations. In order to present a realistic operational baseline for analysis, the year 2006 was chosen as the most representative baseline year to use for all resources except air quality. The air quality analysis in this EIR uses a CEQA baseline that equates to activities generated by the project facility in calendar year 2006. To develop emissions for the CEQA baseline, the analysis applied emission factors to these activities that would equate to operating conditions in year 2015, as defined by currently adopted rules and regulations. The rationale for this approach, which is detailed in Section 3.2.1.4 (Air Quality), was to enable an equal comparison to impacts from the Project alternatives, whose emissions also are defined by year 2015 emission factors. Use of this approach therefore eliminates emission reductions that would be realized by a project alternative solely due to its definition with newer and lower emission factors compared to older and higher ones for the CEQA baseline. To evaluate cancer risks, the analysis developed baseline emissions based on the effects of vehicle fleet turnovers and adopted regulations for a future 70-year period, as discussed in Section 3.2.2.3.

Cement demand tends to fluctuate widely and is correlated with overall economic conditions. The demand for cement is tied to construction of public infrastructure projects such as roads and highways, private residential construction, and private non-residential construction (BST Associates 2010). Due to the severe recession experienced in the region and throughout the country, the demand for cement temporarily declined. The economic slowdown that began in 2007 and subsequent decline in the housing market severely impacted the demand for cement in the Los Angeles region. As a result, the MCC facility stopped receiving cement by ship in December 2008 and temporarily suspended delivering product to customers in October 2010.

While the MCC facility is not currently in operation, the facility's entitlements and permits are still in effect and the facility is able to reopen and resume operations at any time. The Project site has been operated as a cement import facility since the late 1980s and MCC has been the lessee and has occupied the facility since 2002. MCC currently has a long term lease, valid until June 2022, with the Port for the existing facility. Additionally, over the years MCC has made a significant capital investment in the existing facility and its equipment in order to increase cement handling capacity and improve operational efficiency. The proposed Project would further enable MCC to operate more efficiently and resume receiving and shipping cement to meet local market demands as economic conditions improve.

The existing MCC facility has SCAQMD permits that limit the amount of cement that can be unloaded from ships and loaded onto trucks for distribution. The current SCAQMD permits have a ship unloading limit of 9.66 million short tons per year (8.76 million metric tons per year) and a truck loading limit of 3.8 million short tons per year (3.45 million metric tons per year). In 2006, the facility throughput was approximately 1.51 million short tons (1.40 million metric tons) of cement from 35 ship visits, resulting in 53,067 truck trips.

Although MCC's existing SCAQMD permits allow for a higher facility throughput than what actually occurred in 2006, the SCAQMD ship unloading and truck loading permit limits are not used as the baseline. Instead, the baseline for this EIR analysis is the actual operating conditions in 2006, a representative year of operations prior to the economic recession. Because those conditions were less intense than what is permitted under the SCAQMD permits, using the 2006 conditions results in a more conservative analysis. Utilization of 2011 NOP levels is inappropriate because it would ignore the fact the Project site is developed with an existing cement facility that is currently leased to MCC and fully permitted to operate. The NOP described that the analysis would utilize 2006 as the baseline year. No comments were received relating to that aspect of the analysis. Based on these factors, 2006 is considered the baseline year for this EIR, and the CEQA impact analysis is based on a comparison of the changes caused by the proposed Project and alternatives as compared to MCC terminal operations in 2006.

3.0.3 Requirements to Evaluate Alternatives

CEQA Guidelines Section 15126.6 requires that an EIR evaluate a reasonable range of alternatives to the proposed Project, compare merits of the alternatives, and determine an environmentally superior alternative. Section 1.8.2.1, Reduced Throughput Alternative, and Section 1.8.2.2, No Project Alternative, describe the alternatives to the proposed Project, and Sections 3.1 through 3.10 evaluate the environmental impacts of the proposed Project and these alternatives. Chapter 4, Alternatives, compares the impacts of the alternatives and identifies the environmentally superior alternative.

3.0.4 Environmental Resources Not Affected by the Proposed Project

The scope of this EIR was established based on the NOP/IS and comments received on the NOP/IS. In accordance with CEQA, the NOP/IS and scoping process for the Project determined that impacts on several resource areas would not occur or would be less than significant. Public comments on the NOP/IS raised no concerns regarding the resource areas described below. They are, therefore, not evaluated in depth in this EIR. The following sections briefly address the issues associated with those resources not analyzed further.

3.0.4.1 Aesthetics/Visual Resources

The Project is located within an existing industrial area of the Port and far from public views. In addition, the Project site is hidden by intervening structures from the nearest publically accessible locations (e.g., Queen Mary, hotels, and parkways adjacent to Queensway Bay). Public views of the Project site from these locations are obscured by a large petroleum coke storage shed and other tall structures associated with Piers J and G. No facilities proposed for the Project would be readily visible to the public. Therefore, the public would not experience the visual effects of the Project. Consequently, aesthetics/visual resources will not be evaluated further in this EIR.

3.0.4.2 Agricultural and Forest Resources

No agricultural resources or natural forests occur in the Port or near the Project site. Therefore, no adverse impacts on agricultural and forest resources would result from the Project. Consequently, agricultural or forest resources will not be evaluated further in this EIR.

3.0.4.3 Cultural Resources

The Project area is located on artificial fill material. Soils located in the vicinity of Pier F are generally underlain by fill material to a depth of approximately 30 feet below ground surface (Parsons-HNTB 2005). The Project area does not represent landforms that existed during the time of Native American occupation of the area. Artificial fill material in the Project area does not have the potential to contain intact, potentially significant, prehistoric or historic archaeological or cultural resources. Thus, the Project would not reasonably be expected to impact significant archaeological resources.

Construction of the Project would not result in the loss of, or loss of access to, a paleontological resource because the artificial fill within the upland portion of the Project area has no potential to contain intact vertebrate fossils. Therefore, construction of the Project would not result in the loss of, or loss of access to, a paleontological resource. Accordingly, there would be no impacts on cultural resources from the Project and this resource will not be evaluated further in this EIR.

3.0.4.4 Land Use

The Project would not result in a change in land use designation at the Project site. The existing cement terminal would be modified to add up to four new storage silos and a second larger capacity unloader, but the proposed land use would be consistent with the Project site’s current land use designation. No changes to land use, or adverse effects to adjacent land uses, would occur. Therefore, land use will not be evaluated further in this EIR.

3.0.4.5 Mineral Resources

The Project site is located within the Wilmington Oil Field and several oil wells, including an oil drill site (A-1-A), are located in a fenced area, which is not owned or operated by MCC, immediately north of the Project site. These oil wells and the drill site are not associated with and would not be impacted by the Project. In particular, the proposed Project would not physically alter the driveways or access points to the A-1-A and Pier F drill sites that are operated by the California Resources Corporation, and no impediment to access to the drill sites would occur. No other known well sites exist on or adjacent to the Project site. Therefore, no impacts on mineral resources would occur and this resource will not be evaluated further in this EIR.

3.0.4.6 Population and Housing

The Project would involve the addition of two employees (a longshoreman and technician) to operate the additional truck loading lanes and DoCCS. The small number of additional workers would not appreciably affect population or increase demand for housing. Therefore, population and housing will not be evaluated further in this EIR.

3.0.4.7 Public Services

The Project operations and activities would remain essentially the same as baseline conditions. While the NOP/IS indicated that impacts associated with increased vehicle movements could affect emergency access, the transportation analysis (Section 3.6, Ground Transportation) concluded that Project traffic would not significantly impact traffic levels in the Project vicinity. Consequently, emergency access would not be adversely affected, and public services will not be evaluated further in this EIR.

Fire Protection

Anticipated changes in MCC facility operations and configuration would not substantially alter the potential for fire at the facility or change the ability of the Long Beach Fire Department (LBFD) to respond to emergencies within the Port. As such, impacts to fire protection would be less than significant, and will not be evaluated further in this EIR.

Police Protection

Anticipated changes in facility operations and configuration would not substantially increase demand for or affect the ability of the Long Beach Police Department (LBPD) to respond to emergencies within the Port. As such, impacts to police protection would be less than significant, and will not be evaluated further in this EIR.

Schools

The anticipated increase of two employees at the facility would not appreciably increase the demand for school facilities. Therefore, no impacts on the demand for schools would occur, and this issue will not be evaluated further in this EIR.

Parks

The anticipated increase of two employees at the facility would not appreciably increase the demand for parks or recreational facilities. Therefore, no impacts on parks would occur, and this issue will not be evaluated further in this EIR.

Other Public Services

Neither changes in MCC facility operations, nor the anticipated increase of two employees at the facility, would appreciably increase the demand for any other public services. Therefore, no impacts on other public services would occur, and this issue will not be evaluated further in this EIR.

3.0.4.8 Recreation

The MCC facility is located within the Southeast Harbor Planning District (District 8) of the Port and is adjacent to Basin Six. The entrance to Basin Six and Southeast Basin is between Pier J and Pier F and immediately adjacent to and east of the Long Beach Channel entrance to the Port. Recreational boating is discouraged within the channel and basins in the Port to prevent conflicts between recreational boaters and OGV and associated commercial vessels. Therefore, the potential for conflicts between recreational boaters and facility-related vessels is considered minimal.

In addition, there are no public recreational facilities in proximity to the Project site, nor are areas frequented by the public in proximity to activity at the MCC facility. Therefore, there is no opportunity for the facility to have an adverse effect on their recreational experience. The Project would involve the modification and operation of an existing industrial facility that neither adds nor eliminates recreational facilities or opportunities. The additional workforce is not expected to be large enough to generate substantial additional demand for recreational facilities. Therefore, no impacts on recreational boating or other recreational opportunities would occur, and this resource will not be evaluated further in this EIR.

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3.1 GEOLOGY, GROUNDWATER, AND SOILS

3.1.1 Environmental Setting

3.1.1.1 Area of Influence

Geologic impacts can generally be subdivided into geologic impacts on the Project site and impacts of the Project on the geologic environment. The proposed Project could potentially be affected by large earthquakes, which can occur anywhere in the greater Los Angeles Basin area, and/or tsunamis resulting from a large offshore earthquake or landslide. Other geologic impacts that could affect the Project site, such as differential settlement or slope instability, would be more site-specific and confined to the immediate vicinity of the Project site. The Project area is characterized by artificial fill. Since there are no natural geologic/topographic features, there is no area of influence with respect to project impacts on the geologic environment.

This section also addresses potential soil contamination in areas of proposed ground disturbance (i.e., excavation areas). Therefore, the area of influence includes the Project site, as well as immediately adjoining properties.

3.1.1.2 Setting

General Geology and Stratigraphy

The POLB is located in the southwestern portion of the Los Angeles Basin, within the seismically active Southern California area. The basin consists of a broad coastal plain of low relief that slopes gradually seaward (southwest and south) to the Pacific Ocean. Long Beach Harbor is located in the southern portion of San Pedro Bay, a natural embayment formed by a westerly protrusion of the coastline and the nearby dominant onshore topographic feature, the Palos Verdes Hills.

The floor of the Los Angeles Basin is characterized by unconsolidated Holocene-age sediments, except for local exposures of the underlying Pleistocene-age formations in the small hills and mesas throughout the basin (e.g., Signal Hill). Similar materials occur at the surface and subsurface within the POLB and the immediate offshore area. The Pleistocene materials consist of both non-marine and marine deposits, referred to as the Lakewood and San Pedro formations, which provide firm ground conditions at the POLB (Earth Mechanics, Inc. 2006).

The topography of the Project site is generally flat and slightly undulating, but slopes gently toward several onsite storm drain inlets that feed into the adjacent Basin Six of the harbor. The river mouth of the channelized Los Angeles River is located approximately 1 mile north-northeast of the Project site. This river represents the principal surface drainage in the vicinity of the harbor, which drains parts of the Los Angeles Basin and the San Fernando Valley into San Pedro Bay. Principal structural elements near the harbor include the northwest-trending, doubly plunging anticline (a folded, dome-like structure) that underlies the Palos Verdes Hills, the adjacent, steeply-dipping Palos Verdes Hills Fault Zone, and the northwest-trending Newport-Inglewood Structural Zone (Figure 3.1-1) (Yerkes et al. 1965).

The Los Angeles Basin is notable for its prolific oil production. Historically, subsidence due to oil extraction has been a major problem in the Long Beach and Los Angeles harbor areas. Between 1926 and 1967, approximately 29 feet of total subsidence was recorded near the eastern end of Terminal Island in Long Beach. A maximum annual rate of subsidence of 2.4 feet was recorded between 1951 and 1952 and coincided with the period of maximum oil production (Randell et al. 1983). During this period, extraction of hydrocarbon fluids from the Wilmington oil field reduced subsurface fluid pressure, resulting in compaction of oil-producing sediments and surface land subsidence. In 1958, secondary injection of water into oil-depleted zones was initiated, resulting in an eventual reduction of subsidence and partial rebound of much of the subsided area. If the present balance between fluid injection and hydrocarbon withdrawal is maintained, future subsidence of this type would not be a concern.

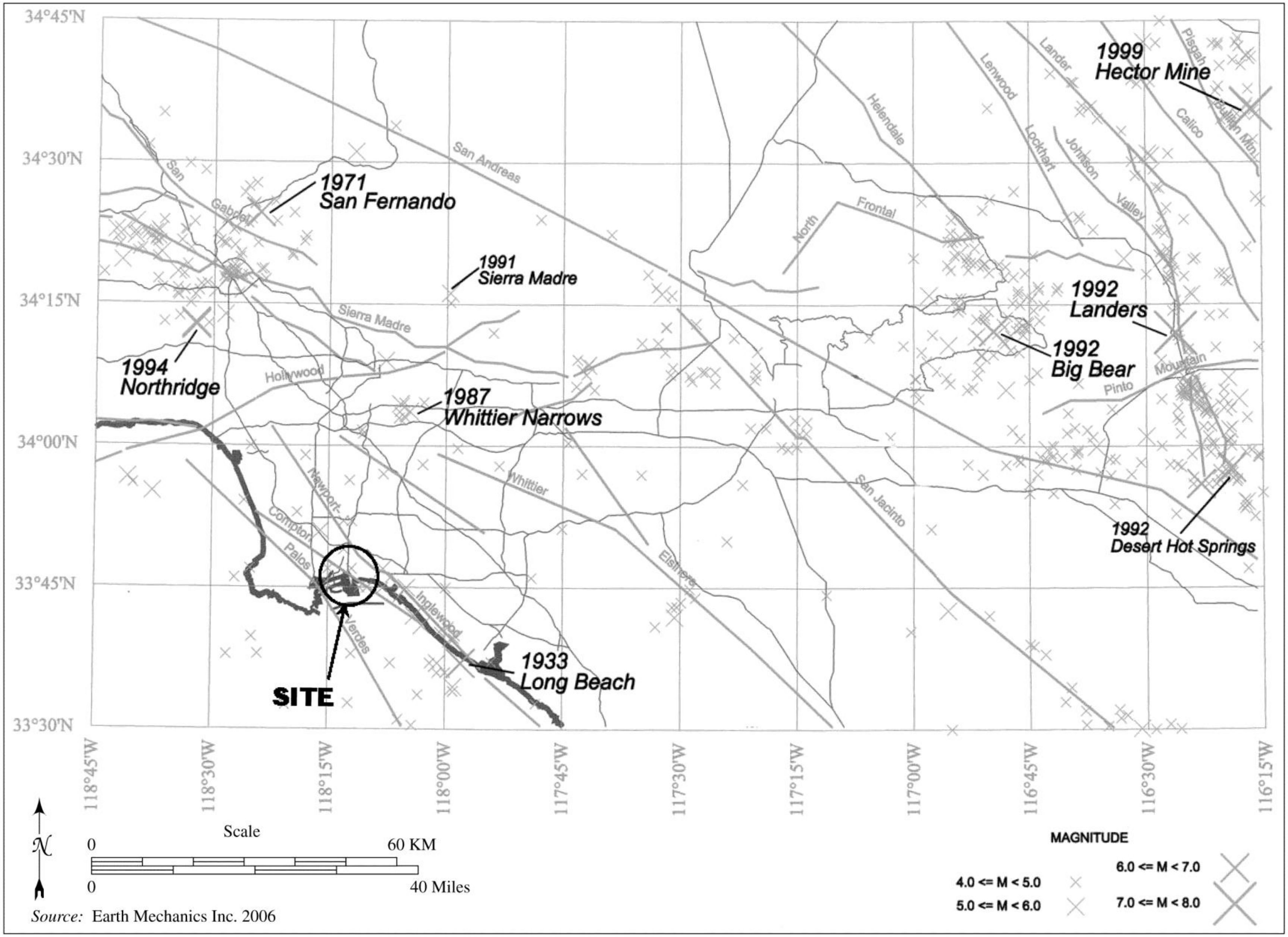


Figure 3.1-1. Seismicity Map

Soils/Sediments

The Project site is located on artificial fill material, including hydraulic fills (materials dredged from the harbor bottom). Specific soil descriptions are derived from geotechnical borings drilled onsite. Seven borings drilled to a maximum depth of 81 feet encountered artificial fill and hydraulic fill, consisting of interbedded, very loose to medium dense sands, silts, and clays, to a depth of 73 feet. The fill is underlain by hard clay and dense marine sands, to a depth of 81 feet (URS 2001 and 2008).

Groundwater

The Project site overlies the approximate seaward perimeter of aquifers of the Los Angeles Coastal Plain. Laterally continuous silt and clay layers that act as aquitards to restrict vertical groundwater flow separate aquifers beneath the Project site. Aquifers beneath the Project site, in ascending order, include the Silverado aquifer of the San Pedro Formation, the 400-foot aquifer, the Lower 200-foot aquifer, the Principal 200-foot aquifer, and the shallower Marginal and Gaspur aquifers, located in more recent stream channel and flood plain deposits (California Department of Water Resources 1961). The Gaspur aquifer occurs at a depth of approximately 70 feet below ground surface in the POLB area. This aquifer is tidally influenced and is brackish due to intrusion by harbor waters. In addition, shallow brackish groundwater is present at a depth of about 17 to 20 feet below ground surface (URS 2001 and 2008). This perched groundwater aquifer is also tidally influenced and not suitable as drinking water.

Seismicity of the Region

Regional Seismicity

Southern California is a seismically active area. On average, the greater Los Angeles area is experiencing compression at rates between five and nine millimeters per year as a result of north-northeasterly tectonic shortening. This compressional tectonic behavior results in a complex mixture of faulting and folding. The locations of some of the reverse and thrust faults are uncertain and poorly understood, but earthquakes such as the 1987 Whittier Narrows and 1994 Northridge earthquakes (Figure 3.1-1) provide evidence for the occurrence of subsurface "blind" reverse faults that are not visible on the surface. The bulk of tectonic activity in the Long Beach region during Quaternary time (last 1.6 million years) appears to have occurred along the nearby Palos Verdes Fault and Newport-Inglewood Fault Zone, both of which are primarily strike-slip faults and represent the most significant seismic potential for the POLB. Other nearby, but less active, seismic sources include the Compton Thrust, THUMS-Huntington Beach Fault, Cabrillo Fault, and Los Alamitos Fault (Figure 3.1-2) (Earth Mechanics, Inc. 2006).

The Southern California region has been subjected to at least 52 major earthquakes of Richter magnitude (M) 6.0 or greater since 1796. The Richter scale is a logarithmic scale used to express the magnitude of a seismic disturbance (i.e., earthquake) as a range of numerical values that indicate the amount of energy dissipated during the event. Richter magnitude has generally been used to describe historical earthquakes, with values ranging from 0 to 10. Each whole number increase in Richter M represents a tenfold increase in the wave amplitude generated by the earthquake, which is a representation of the size of an earthquake. For each full point increase in M, the corresponding amount of energy released increases 31.6 times. Thus, an M 6.3 earthquake is ten times larger in wave amplitude than an M 5.3 earthquake and releases 31.6 times more energy. Earthquakes of M 6.0 to 6.9 are classified as "moderate;" earthquakes between M 7.0 and 7.9 are classified as "major;" and M 8.0 and greater are classified as "great." Damage begins at M 4.5.

Ground motion in the region is generally the result of sudden movements of large blocks of the earth's crust along fault lines. Great earthquakes, like the 1857 San Andreas Fault earthquake (Figure 3.1-1 and Table 3.1-1), are quite rare in Southern California. Earthquakes of M 7.8 or greater occur at the rate of about two or three per 1,000 years, corresponding to a six to nine percent probability of occurrence in a 30-year period. However, the probability of an M 7.0 or greater earthquake occurring in Southern California before the year 2024 is estimated at 85 percent (WGCEP 1995).

Seismic Design Basis

Since the 1980s, earthquakes have increasingly been characterized by moment magnitude, as the Richter magnitude scale has limitations for

Table 3.1-1. Known Earthquakes with Richter Magnitude Greater than 5.5 in the Los Angeles Basin Area

Fault Name	Date	Richter Magnitude
Palos Verdes Fault	*	*
San Pedro Basin Fault	*	*
Santa Monica-Raymond Fault	1855	6.0
San Andreas Fault	1952 & 1957	7.7 & 8.2
Newport-Inglewood Fault	1933	6.3
San Jacinto Fault	1968	6.4
San Fernando/Sierra Madre-Cucamonga Fault	1971 & 1991	6.4 & 6.0
Whittier-Elsinore Fault Zone	1987	5.9
Camp Rock/Emerson Fault	1992	7.4
Blind thrust fault beneath Northridge	1994	6.6

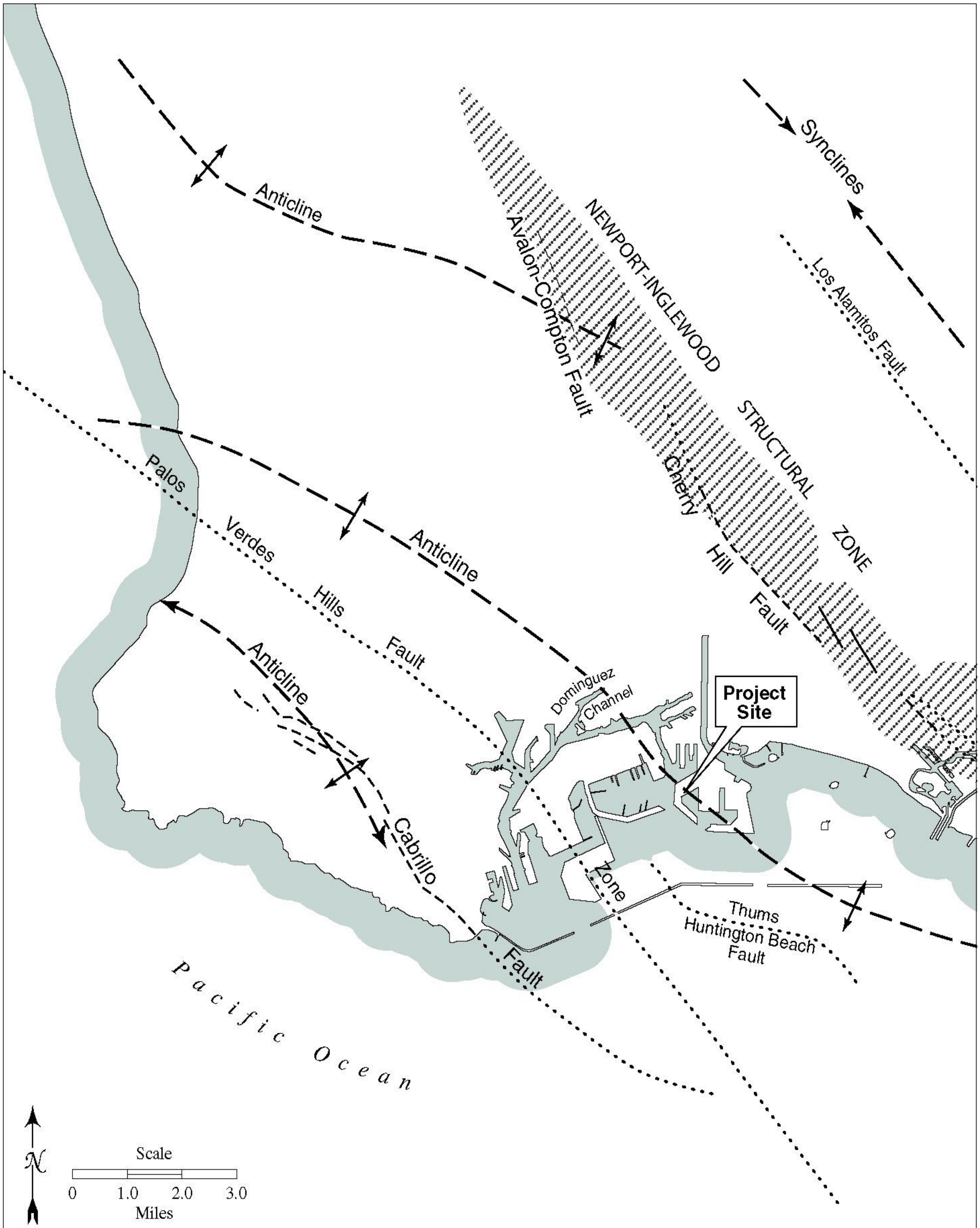
Note: * No known earthquakes within the last 200 years.
Source: Ninyo & Moore 1992; USGS and Caltech 1992 and 1994

earthquake magnitudes greater than 5.0. The moment magnitude is a measure of earthquake magnitude whereby the total energy released by an earthquake is calculated based on the amount of slip on the fault times the area of the fault surface that slips. The calculated energy released is converted into a number similar to Richter earthquake magnitudes by a standard formula. The result is the moment magnitude, which is now the most common measure for medium to large earthquake magnitudes and is used in seismic design of new structures. Projected maximum magnitude for a given seismic source is typically described as probable moment magnitude or probable maximum magnitude.

In addition, structural design is based on the design basis earthquake ground motion, which is expressed as the peak ground acceleration (PGA), relative to gravitational acceleration (g) on the earth. Unlike the Richter and moment magnitude scales, the PGA is not a measure of the total energy of an earthquake, but rather the intensity of earth shaking in a given geographic area.

The Palos Verdes Hills Fault is an active, northwest-southeast trending fault zone, located about 2.5 miles southwest of the Project site (Figure 3.1-1). This fault has a probable moment magnitude of 6.0 to 7.0. The Newport-Inglewood Fault Zone is an active fault located about 4.0 miles east-northeast of the Project site. This fault has a probable moment magnitude of 6.0 to 7.4 (Southern California Earthquake Data Center 2013). Two levels of strong ground motion are used in design (URS 2001; Earth Mechanics, Inc. 2006). An Operating Level Event (OLE) is a design event with 50 percent exceedance probability in 50 years (a return period of 72 years). The Contingency Level Event (CLE) is the design event with a 10 percent exceedance probability in 50 years (return period of 475 years). The typical design philosophy for permanent facilities and structures is to provide sufficient protection such that an OLE would not significantly disrupt normal operations. Under the CLE, significant but repairable damage can occur, but the facility should not experience catastrophic failure or collapse (URS 2001).

A probabilistic seismic hazard analysis was completed in 2006 for the POLB (Earth Mechanics, Inc. 2006), using the latest version of ground attenuation models commonly used in California. This includes the latest version of an attenuation model that is currently under development as part of the Pacific Earthquake Engineering Research/Lifelines Next Generation Attenuation Project. Dredged fill materials are not considered representative of firm ground conditions assumed in the probabilistic hazard studies. Therefore, an assessment of ground conditions was conducted in order to establish appropriate depths to firm ground conditions and to assess appropriate seismic design. The depth to firm ground was established to be approximately 100 feet.



Source: Ninyo & Moore 1992; McNeilan et al. 1996; Earth Mechanics, Inc. 2006

Figure 3.1-2. Local Faults and Geologic Structures – West Los Angeles Basin

Results of the 2006 probabilistic seismic hazard analysis indicated that the seismic risk at the POLB primarily would be associated with an event on the Palos Verdes Fault for return periods longer than 200 years. This return period is equivalent to an approximate annual probability of exceedance of 1/200, or 0.5 percent. Because the variations in expected shaking levels due to differing distances among POLB locations to the Palos Verdes Fault are small, one set of Port-wide design spectra is applied for all future Port projects. Therefore, the Port-wide design PGA is 0.50 g for the CLE, and the Port-wide design PGA is 0.21 g for the OLE.

Earthquake-Related Effects

Earthquake-related effects include liquefaction, seismically-induced settlement, tsunamis, and seiches. Liquefaction occurs when pore-water pressure in loose, saturated, granular soils exceeds confining pressure due to earthquake-induced ground shaking. When these conditions occur, soil strength dramatically decreases resulting in a near liquid state. Liquefaction can cause damage to foundations or other structures. Liquefaction occurs most commonly where loose, cohesionless, granular, sand and silty sand deposits coincide with shallow groundwater conditions. Gravelly sand deposits and deposits with greater than 15 percent clay are less likely to liquefy. The Project site is underlain by shallow groundwater and hydraulic fill and may be susceptible to liquefaction.

Seismically-induced settlement consists of the compaction or consolidation of soils as a result of seismically-induced ground shaking. Loose, sandy and/or silty soils are typically most susceptible to seismic settlement. Differential compaction may occur during settlement and result in serious damage to structures.

Tsunamis

Tsunamis are gravity waves of long wavelength generated by sudden disturbance in a body of water. Typically, oceanic tsunamis are the result of sudden vertical movement along a fault rupture in the ocean floor, submarine landslides or subsidence, or volcanic eruption, where the sudden displacement of water sets off transoceanic waves with wavelengths of up to 125 miles and with periods generally from five to 60 minutes. The trough of the tsunami wave arrives first, leading to the classic retreat of water from the shore as the ocean level drops. This is followed by the arrival of the crest of the wave which can run up on the shore in the form of bores or surges in shallow water or simple rising and lowering of the water level in relatively deeper water such as in harbor areas.

Tsunamis are a relatively common natural hazard, although most of the events are small in amplitude and not particularly damaging. However, in the event of a large submarine earthquake or landslide, coastal flooding may be caused by either run-up in the form of bores and surges or by relatively dynamic flood waves. In a bore/surge-type run-up, the onshore flow (up to tens of feet per second) can cause tremendous dynamic loads to onshore structures, in addition to hydrostatic loading. The subsequent drawdown of the water after run-up exerts the opposite drag on the structures and washes loose/broken properties and debris to sea. The floating debris brought back with the next onshore flow can cause extensive damage to onshore structures. As has been shown historically, the potential loss of human life in the process can be great if such events occur in populated areas.

Abrupt sea level changes associated with tsunamis historically have caused damage to moored vessels within the outer portions of Long Beach and Los Angeles harbors. The Chilean Earthquake of May 1960, for example, caused local damages of over $1 million and harbor closure. One person drowned at Cabrillo Beach and one was injured. Small craft moorings in the Los Angeles Harbor area, especially in the Cerritos Channel, where a seiche (discussed on the next page) occurred, were seriously damaged. Hundreds of small boats broke loose from their moorings, 40 sank, and about 200 were damaged. Gasoline from damaged boats caused a major spill in harbor waters and created a fire hazard. Currents of up to eight knots and a six-foot rise of water in a few minutes were observed in the West Basin of the Los Angeles Harbor. The maximum water level fluctuations recorded by gauges were 5.8 feet in Long Beach Harbor and 5 feet at Berth 60 (near Pilot Station) in Los Angeles Harbor (National Geophysical Data Center 1993).

In the past, projected tsunami run-ups along the western U.S. were based on farfield events, such as submarine earthquakes or landslides occurring at great distances from the U.S., like the Chilean Earthquake of May 1960. Based on such distant sources, tsunami-generated wave heights of between 6.5 feet and 8 feet above lowest tide levels at 100-year intervals and between 10 feet and 11 feet at 500-year intervals were projected, including the effects of astronomical tides (Houston 1980).

However, more recent studies (Synolakis et al. 1997; Borrero et al. 2001) have projected larger tsunami run-ups based on near-field events, such as earthquakes or submarine landslides occurring in proximity to the California coastline. Offshore faults present a larger local tsunami hazard than previously thought, posing a direct threat to nearshore facilities. For example, one of the largest such features, the Santa Catalina Fault, lies directly under Catalina Island, located 22 miles from the Port. Simulations of tsunamis generated by uplift on this fault suggest waves in the Port in excess of 12 feet, with an arrival time within 20 minutes (Legg et al. 2003; Borrero et al. 2005). These simulations were based on rare events, representative of worst-case scenarios.

In a study modeling potential tsunami generation by local offshore earthquakes, Legg et al. (2003, 2004) considered the relative risk of tsunamis from a large catastrophic submarine landslide (likely generated by a seismic event) in offshore Southern California versus fault-generated tsunamis. The occurrence of a large submarine landslide appears quite rare by comparison with the tectonic faulting events. Although many submarine landslides have been mapped off the Southern California coast, few appear to be of the scale necessary to generate a catastrophic tsunami. Of two large landslides that appear to be of this magnitude, Legg et al. indicate that one landslide is over 100,000 years old and the other approximately 7,500 years old. In contrast, the recurrence of 3- to 20-foot fault movements on offshore faults would be several hundred to several thousand years. Consequently, the study concludes that the most likely direct cause of local tsunamis in Southern California is tectonic movement during large offshore earthquakes.

Based on these recent studies (Synolakis et al. 1997; Borrero et al. 2001), the CSLC developed tsunami run-up projections for the POLB and POLA of 8 feet and 15 feet above mean sea level (MSL), at 100- and 500-year intervals, respectively, as a part of their Marine Oil Terminal Engineering and Maintenance Standards (CSLC 2004).

A tsunami response model was developed for the Long Beach/Los Angeles Port Complex (Port Complex model; Moffatt & Nichol 2007) that uses a methodology similar to the above studies to model a tsunami wave from an M 7.0 earthquake on the Santa Catalina Fault, which is a reasonable maximum for future events. The Port Complex model also incorporates bathymetric and topographic features, such as the landfill configurations, and interaction of the diffraction, reflection, and refraction of the tsunami wave within the Port Complex to predict tsunami water levels. The model predicts tsunami wave heights of up to 8 feet in the Project area.

The U.S. Geological Survey (USGS) developed a model scenario for a hypothetical M 9.1 earthquake offshore of the Alaska Peninsula, and evaluated the potential impacts to coastal California, including the Ports of Long Beach and Los Angeles (Plumlee et al. 2013). For the modeled tsunami conditions, peak tsunami heights in nearshore areas of Southern California would reach 5 to 10 feet, and maximum current velocities of 6 to 8 knots could occur at a few locations within the Ports of Long Beach and Los Angeles, particularly where water movement is restricted, such as Angels Gate and Queens Gate in the outer breakwater. However, results from the evaluation indicated that no substantial damage from the hypothetical tsunami would be expected at Pier F, Berth F208, which is the proposed Project site (Porter et al. 2013).

Seiches

Seiches are seismically-induced water waves that surge back and forth in an enclosed basin and may be expected in the harbor as a result of earthquakes. Any significant wave front could cause damage to seawalls and docks, and could breach sea walls at the Project site as described on the previous page. Modern shoreline protection techniques are designed to resist seiche damage. The Port Complex model referred to above considered impacts from tsunamis and seiches. In each case, impacts from a tsunami were equal to or more severe than those from a seiche. As a result, the impact discussion below refers primarily to tsunamis since this is considered the worst case for potential impacts.

Flooding

Refer to Section 3.4, Hydrology and Water Quality, for flooding information not related to tsunamis or seiches.

Soil and Groundwater Contamination

The Project site is located on Pier F, which was constructed in 1952. Historically, the Project area has been intensively used for various Port activities. As a result, soil and groundwater in the Project vicinity may have been contaminated by hazardous substances and petroleum products related to various historical uses. For example, the onsite maintenance area includes a chemical storage facility, which could have been a source for past leaks into underlying soils. In addition, near surface soils in rail yards, such as the one immediately to the north of the Project site, are typically contaminated with petroleum hydrocarbons, metals, and various other substances. Such contamination could have spread onto the Project site.

Oil Production Facilities

The Project site is located within the Wilmington Oil Field, the third largest oil field in the U.S. Several oil wells are located in a fenced area, immediately north of the Project site, which is not owned or operated by MCC, (Figure 1.5-1). Associated buried pipelines (oil, gas, and water) connect the wells to oil separation facilities, including storage tanks, immediately east of the Project site, along Pier F Avenue.

Substances that are commonly found in oil fields include various types of petroleum hydrocarbons, such as volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs). Petroleum hydrocarbons associated with crude oil production, storage, processing, and transport are the primary substances potentially present in onsite soils and groundwater. The most frequently occurring VOCs found in soils and groundwater at oil fields are xylenes and ethylbenzene, followed by toluene and benzene (benzene, toluene, ethylbenzene, and xylenes together are referred to as “BTEX”), all of which are components of crude oil. Common SVOCs found in crude oil are phenanthrene, 2-methylnaphthalene, and naphthalene. Other SVOCs that could occur include acenaphthene, acenaphthylene, benzo(a)anthracene, benzo(b)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, benzyl alcohol, chrysene, fluoranthene, indeno(1,2,3-c,d)pyrene, and pyrene. In addition, metals may be associated with oil production, most notably in waste sumps located on or near drilling sites and production facilities.

Organic vapors may also be detected in an oil field. It is possible that petroleum hydrocarbon-impacted soils and groundwater associated with oil fields and abandoned wells are capable of generating methane gas through biodegradation. Other vapors, such as benzene and hydrogen sulfide, may also be present.

3.1.1.3 Regulatory Setting

Geology/Seismicity

The criteria used to estimate fault activity in California are described in the Alquist-Priolo Special Studies Zones Act of 1972, which addresses only surface fault-rupture hazards. The legislative guidelines to determine fault activity status are based on the age of the youngest geologic unit offset by the fault. An active fault is described by the California Geological Survey as a fault that has “had surface displacement within Holocene time (about the last 11,000 years).” A potentially active fault is defined as “any fault that showed evidence of surface displacement during Quaternary time (last 1.6 million years).” An inactive fault is any fault that is proven by direct evidence not to have moved within Quaternary time.

The Seismic Hazards Mapping Act of 1990 (PRC Section 2690 and following as Division 2, Chapter 7.8), as supported by the Seismic Hazards Mapping Regulations (CCR, Title 14, Division 2, Chapter 8, Article 10), were promulgated for the purpose of protecting the public from the effects of strong ground shaking, liquefaction, landslides, other ground failures, or other hazards caused by earthquakes. Special Publication 117, Guidelines for Evaluating and Mitigating Seismic Hazards in California (California Geological Survey 2008), establishes the guidelines for evaluating seismic hazards other than surface fault-rupture and recommends mitigation measures as required by PRC Section 2695(a).

The California Building Code corresponds to the body of regulations known as CCR, Title 24, Part 2, which is a portion of the California Building Standards Code. Title 24 is assigned to the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under state law, all building standards must be centralized in Title 24 to be enforceable.

The Uniform Building Code (UBC), published by the International Conference of Building Officials, is a widely adopted model building code in the U.S. The California Building Code incorporates the UBC by reference, along with necessary California amendments, including California earthquake conditions.

Soil and Groundwater Contamination

Applicable federal, state, and local laws each contain lists of hazardous materials or hazardous substances that may require special handling if encountered during Project construction. These include "hazardous substances" under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the state Hazardous Substances Account Act (Health and Safety Code Section 25300, et seq.); "hazardous materials" under Health and Safety Code Section 25501, California Labor Code Section 6380 and CCR Title 8, Section 339; "hazardous substances" under 40 CFR Part 116; and, priority toxic pollutants under CFR Part 122. In addition, "hazardous materials" are frequently defined under local hazardous materials ordinances, such as the Uniform Fire Code.

Generally speaking, a "hazardous material" means any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. Hazardous materials that are commonly found in soil and groundwater include petroleum products, fuel additives, heavy metals, and VOCs.

Hazardous substances are defined by federal and state regulations as substances that must be regulated in order to protect the public health and the environment. Hazardous materials are characterized by certain chemical, physical, or infectious properties. CCR Title 22, Chapter 11, Article 2, Section 66261 defines a hazardous material as a substance or combination of substances which, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may either: 1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible or incapacitating reversible illness; or 2) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

According to Title 22 (Chapter 11, Article 3, CCR), substances having a characteristic of toxicity, ignitability, corrosivity, or reactivity are considered hazardous. Hazardous wastes are hazardous substances that no longer have a practical use, such as materials that have been abandoned, discarded, spilled, or contaminated, or which are being stored prior to disposal.

Depending on the type and degree of contamination that is present in soil, several governmental agencies may have jurisdiction over the Project site. Generally, the agency with the most direct statutory authority over the affected media would be designated as the lead agency for purposes of overseeing any necessary investigation or remediation. Typically, sites that are nominally contaminated with hazardous materials remain within the jurisdiction of local hazardous materials agencies, such as the LBFD. Sites that have more heavily contaminated soils are more likely to fall under the jurisdiction of the Department of Toxic Substances Control (DTSC), which is authorized to administer the federal hazardous waste program under the Resource Conservation and Recovery Act (RCRA) and is also responsible for administering the State Superfund Program, under the Hazardous Substance Account Act.

Sites that have contaminated soil and groundwater fall within the jurisdiction of the RWQCB and may be subject to the requirements of the Porter-Cologne Water Quality Control Act. Contaminated groundwater that is proposed to be discharged to surface waters or to a publicly owned treatment system would be subject to the applicable provisions of the CWA, including permitting and possibly pretreatment requirements. An NPDES permit is required to discharge pumped groundwater to surface waters, including local storm drains, in accordance with California Water Code Section 13260. Additional restrictions may be imposed on discharges to water bodies, including San

Pedro Bay, that are listed as "impaired" under Section 303(d) of the CWA.

In July 2002, the EPA amended the Oil Pollution Prevention regulation at Title 40 of the CFR, Part 112 (40 CFR 112), incorporating revisions proposed in 1991, 1993, and 1997. Subparts A through C of the Oil Pollution Prevention regulation are often referred to as the "SPCC Rule" because they describe the requirements for certain facilities to prepare, amend, and implement Spill Prevention, Control, and Countermeasure (SPCC) Plans. These plans ensure that facilities implement containment and other countermeasures to prevent oil spills that could reach navigable waters. In addition, oil spill contingency plans are required as part of this legislation to address spill cleanup measures after a spill has occurred.

3.1.2 Impacts and Mitigation Measures

3.1.2.1 Significance Criteria

Criteria for determining the significance of impacts related to geology, groundwater, and soils are based on the CEQA Guidelines Appendix G Environmental Checklist and are identified below.

Construction Impacts

A significant impact would occur during construction if the Project would:

GEO-1: Substantially alter the topography beyond that resulting from natural erosion and depositional processes;

GEO-2: Disturb or alter unique geologic features (such as paleontological resources) or geologic features of unusual scientific value;

GEO-3: Trigger or accelerate geologic processes such as erosion;

GEO-4: Render inaccessible known mineral (petroleum or natural gas) resources; or

GEO-5: Contaminate soil or groundwater that creates a significant hazard to the public or the environment.

Operational Impacts

A significant impact would occur during operations if:

GEO-6: Ground rupture due to an earthquake at the site and attendant damage to structures could occur, limiting their use due to safety considerations or physical condition;

GEO-7: Earthquake-induced ground motion (shaking) causing liquefaction, settlement, or surface cracks at the site and attendant damage to proposed structures could occur, resulting in a substantial loss of use for more than 60 days or exposing the public to substantial risk of injury; or

GEO-8: Exposure of people or property to a greater than average risk of tsunamis or seiches could occur.

As indicated in the NOP/IS, there is no potential for the proposed Project to induce or be affected by landslides or mudflows; therefore, this issue is not addressed in this EIR.

Flooding (not associated with tsunamis or seiches) is addressed in Section 3.4, Hydrology and Water Quality.

3.1.2.2 Methodology

Geologic/Seismic

Geological impacts were evaluated in two ways: 1) impacts of the Project on the local geologic environment; and 2) impacts of geohazards on Project components that may result in substantial damage to structures or infrastructure or expose people to substantial risk of injury.

In addition, the assessment of impacts is based on compliance with the following regulatory controls that would govern various Project components and would be the basis for any federal and state permits required prior to construction:

- An individual NPDES permit would be prepared for stormwater discharges or coverage under the General Construction Activity Stormwater Permit, in order to contain construction-induced stormwater runoff. A Stormwater Pollution Prevention Plan (SWPPP) would be completed in association with the NPDES permit;
- Backland improvements would be designed and constructed in accordance with City of

Long Beach Planning & Building Department and Building Code Requirements, to minimize impacts associated with seismically-induced geohazards; and

- Wharf improvements would be designed and constructed in accordance with the City of Long Beach Building Code requirements and POLB wharf design criteria standards to minimize impacts associated with seismically-induced geohazards. Such construction would include, but not be limited to, completion of site-specific geotechnical investigations regarding construction and foundation engineering. Measures pertaining to temporary construction conditions would be incorporated into the design. A licensed geologist or engineer would monitor construction to verify that construction occurs in accordance with Project design.

Soil and Groundwater Contamination

Soil and groundwater contamination impacts are evaluated with respect to the significance criteria listed above. The assessment of impacts assumes that the Project would comply with all regulatory controls, including the conditions of federal and state permits that would be required prior to construction. Any contaminated soil encountered during construction would be remediated and/or disposed of in accordance with all federal, state, and local regulations. Similarly, the tenant would be required to remediate all contaminated soil and groundwater occurring as a result of Project related oil spills in accordance with all federal, state, and local regulations.

Consistent with standard POLB lease conditions, the tenant would implement a source control program, which provides for the inspection, control, and cleanup of leaks from aboveground tank and pipeline sources, as well as requirements related to groundwater and soil remediation.

Potential impacts on surface water and marine water quality are addressed in Section 3.4, Hydrology and Water Quality.

3.1.2.3 Alternative 1 – Proposed Project

Construction Impacts

Impact GEO-1: Project construction activities would not substantially alter the topography beyond that resulting from natural erosion and depositional processes.

The Project area consists of a relatively flat, paved, hydraulically filled peninsula. No new fill would be created as part of the Project. Minor excavations would be completed during demolition of existing utilities and construction of new facilities, including ground improvements for structural stability. In addition, piles would be driven to support the new silo construction. However, the grade would be restored such that the final elevation is essentially flat and similar to baseline conditions.

<u>Impact Determination</u>

As a result, less than significant impacts would occur with respect to alteration of the topography, beyond that resulting from natural erosion and depositional processes. Since impacts on geologic and topographic features would be less than significant, no mitigation is required.

Impact GEO-2: Project construction activities would not disturb or alter unique geologic features (such as paleontological resources) or geologic features of unusual scientific value.

The Project site is located on Pier F, which consists of hydraulic fill materials. No intact paleontological resources are present in these fill materials. In addition, because the Project area is relatively flat and paved, and there are no prominent geologic or topographic features, the Project would not result in any distinct and prominent geologic or topographic features being destroyed, permanently covered, or materially and adversely modified.

<u>Impact Determination</u>

No impacts would occur with respect to unique geologic features. Thus, no mitigation measures are required.

Impact GEO-3: Project construction activities would not trigger or accelerate geologic processes such as erosion.

Project construction would require grading, soil excavation, temporary stockpiling of soil, and paving. These activities would result in a temporary increase in the potential for wind and water erosion and associated siltation of adjacent marine waters. Runoff of soil would be controlled by use of BMPs, as required by either the General Construction Activity Stormwater Permit or a site-specific SWPPP for the Project. Erosion control BMPs typically include installation of straw wattles, silt fences, and erosion control fabric, as well as construction of desilting basins.

Impact Determination

The measures described above are typically applied during and immediately following construction, until paving is completed. This would minimize the potential for erosion and the amount of soil runoff and deposition in the harbor, thus resulting in less than significant erosional impacts. Since impacts on geologic processes would be less than significant, no mitigation is required.

Impact GEO-4: Project construction activities would not render inaccessible known mineral (petroleum or natural gas) resources.

The Project site is underlain by the Wilmington Oil Field. Several oil wells are located in a fenced area immediately north of the site (Figure 1.5-1). Associated buried pipelines (oil, gas, and water) connect the wells to oil separation facilities, including storage tanks, immediately east of the Project site, along Pier F Avenue. Project construction activities would not affect production from these adjacent oil wells.

Impact Determination

The Project would preclude oil and gas drilling from within Project boundaries. However, petroleum reserves, if any, beneath the Project site could be accessed from offsite locations, using directional (or slant) drilling techniques. Additionally, the proposed Project would not impede or alter access to the A-1-A and Pier F drill sites adjacent to the Project site. Therefore, impacts from the Project on accessibility to mineral resources would be less than significant. Since impacts on mineral resources would be less than significant, no mitigation is required.

Impact GEO-5: Project construction activities would not contaminate soil or groundwater and create a significant hazard to the public or the environment.

As discussed under **Impact GEO-4**, an oil production area is located immediately north of the Project site. Substances that are commonly found in oil production area soils include various types of petroleum hydrocarbons, such as VOCs and SVOCs. An intermodal rail facility is also located immediately north of the Project site. Railroad easements and rail yards are commonly underlain by contaminated soil and/or groundwater, due to spillage of chemicals. Such contamination on adjacent properties could potentially extend onto the Project site. Soil and/or shallow groundwater contamination could also be present onsite as a result of spills of petroleum products or hazardous substances during prior site use. This type of contamination may also be encountered during grading, utility relocation, and construction activities. The presence of such contaminants in the soils could pose a health risk to grading/construction personnel if not removed/remediated in accordance with standards of applicable regulatory agencies.

In addition, it is possible that undocumented oil field equipment, such as buried sumps and pipelines, could be encountered during grading of the Project site. If any abandoned or unrecorded wells are discovered or damaged during grading, significant adverse health and safety impacts could occur to on-site workers. Grading and construction is allowed in proximity to oil facilities provided the design is in accordance with standards and procedures of the California Division of Oil and Gas and Geothermal Resources (DOGGR). The construction contractor would notify DOGGR and remediate and/or dispose of any such undocumented oil field equipment and/or contaminated soil and groundwater, if encountered, in accordance with all federal, state, and local regulations,

Impact Determination

Undocumented oil field equipment could be encountered during grading and residual concentrations of various types of hazardous substances may be present in onsite soils and/or groundwater. However, because the contractor would remediate and/or dispose of any such undocumented oil field equipment and/or contaminated soil and groundwater in accordance with all federal, state, and local regulations, impacts would be less than significant. Since impacts on soil and groundwater contamination would be less than significant, no mitigation is required.

Operational Impacts

Impact GEO-6: Project operations would not be affected by ground rupture due to an earthquake at the site and attendant damage to structures, limiting their use due to safety considerations or physical condition.

Earthquakes can potentially cause the greatest operational impacts. The principal damaging effects of earthquakes consist of surface rupture, ground shaking, and liquefaction. The closest active fault, the Palos Verdes Hills Fault, is located 2.5 miles from the Project site.

Impact Determination

There are no known active or potentially active faults crossing the Project area that might result in ground rupture and attendant damage to structures, limiting their use due to safety considerations or physical condition. Therefore, impacts associated with seismically-induced ground surface rupture would not occur. As such, no mitigation measures are required.

Impact GEO-7: Project operations would not be affected by earthquake-induced ground motion (shaking) causing liquefaction, settlement, or surface cracks at the site and attendant damage to proposed structures, resulting in a substantial loss of use for more than 60 days or exposing the public to substantial risk of injury.

Two additional MCC personnel would be required to support Project operations, resulting in a minor increase in exposure of people and property to seismic hazards, compared to baseline conditions. Strong-to-intense ground shaking and liquefaction could occur at the Project site due to numerous regionally active faults and water-saturated hydraulic fill at the site. Earthquake-related hazards, such as liquefaction, ground acceleration, lateral spreading, and differential settlement, cannot be avoided in the Long Beach region, particularly in the harbor area where hydraulic and alluvial fill is pervasive.

However, the proposed Project includes ground improvements and pile installations to improve the seismic stability of the bulkhead and crane rails. These improvements may include installing stone columns and/or deep soil matrix panels, reinforced with vertical I-beams to compact onsite soils and ensure adequate structural support for the bulkhead. The stone columns would be installed using a vibro-probe and compressed air equipment.

The City of Long Beach Planning & Building Department, Building Code Requirements, regulates construction in backland areas of the Port. These building codes and criteria specify requirements for construction, grading, excavations, use of fill, and foundation work, including type of materials, design, and procedures. These codes are intended to limit the probability of occurrence and the severity of consequences from geological hazards, such as earthquakes. Necessary permits, plan checks, and inspections are also specified. The City's Building Code Requirements also incorporate structural seismic requirements of the California UBC. The Project engineers would ensure the proposed plans comply with the appropriate standards in the building codes. In addition, seismic design would be completed in accordance with other Port guidance related to seismic standards, such as Port-wide recommendations established by Earth Mechanics, Inc. (2006).

Impact Determination

A minor increase in exposure of people and property during operations to seismic hazards from a major or great earthquake cannot be avoided. However, construction in accordance with the City's Building Code Requirements would limit the severity of consequences from severe seismically-induced ground movement during operations. Therefore, impacts associated with seismically-induced ground failure would be less than significant. Since impacts from seismically-induced ground failure would be less than significant, no mitigation is required.

Impact GEO-8: Project operations would not expose people and structures to a greater than average risk of tsunamis or seiches.

Due to the historic occurrence of earthquakes and tsunamis along the Pacific Rim, placement of any development on or near the shore in Southern California, including the Project site, would always involve some measure of risk of impacts from a tsunami or seiche. Although relatively rare, should a large tsunami or seiche occur, it would be expected to cause some amount of damage and possible harm to humans at most on- or near-shore locations, although evaluations of a hypothetical tsunami scenario indicated no damage would be expected at the Pier F, Berth F 208 project site (Porter et al. 2013). Regardless, the potential risk of some tsunami-related damages is considered by the POLB as the average, or normal condition at these locations in Southern California. Therefore, a tsunami or seiche related impact in the Project area would be one that would exceed this normal condition and cause substantial damage and/or substantial injuries.

Since tsunamis and seiches are derived from wave action, the risk of damage or injuries from these events at any particular location is lessened if the location is high enough above sea level, far enough inland, or protected by manmade structures such as dikes or concrete walls. The height of a given site above sea level is either the result of an artificial structure (e.g., a dock or wall), topography (e.g., a hill or slope), or both, and a key variable related to the height of a site location relative to sea level is the state of the tides. During high tide, for instance, the vertical distance between the site and sea level is less than during low tide. How high a site must be located above sea level to avoid substantial wave action during a tsunami or seiche depends upon the height of the tide at the time of the event and the height of the potential tsunami or seiche wave.

The model predicts tsunami wave heights from a Catalina Fault rupture of up to 8 feet above MSL, or approximately 11 feet above mean lower low water (MLLW) in the Project area. MLLW is the benchmark from which infrastructure (e.g., wharf and berth heights) is measured in the Port. The MSL in the Port is +2.8 feet above MLLW. Because the wharf height at the Project site is 16 to 18 feet above MLLW, tsunami-induced flooding would not likely occur under a maximum likely seismic scenario.

As previously stated, a reasonable maximum tsunami scenario was based on an M 7.6 earthquake on the offshore Santa Catalina Fault. As noted in the discussion of earthquake-related effects in Section 3.1.1.2, Setting, the recurrence interval for an M 7.5 earthquake along an offshore fault in the Southern California Continental Borderland is about 10,000 years. Similarly, the recurrence interval of an M 7.0 earthquake is about 5,000 years and the recurrence interval of an M 6.0 earthquake is about 500 years. However, there is no certainty that any of these earthquake events would result in a tsunami, since only about 10 percent of earthquakes worldwide result in a tsunami. In addition, available evidence indicates that tsunamigenic landslides would be extremely infrequent and occur less often than large earthquakes. This suggests recurrence intervals for such landslide events would be longer than the 10,000-year recurrence interval estimated for an M 7.5 earthquake (Moffatt & Nichol 2007).

Impact Determination

Due to the historic occurrence of earthquakes and tsunamis along the Pacific Rim, placement of any development on or near the shore in Southern California would involve some measure of risk of impacts from a tsunami or seiche. However, because proposed structures would be located a minimum of 16 to 18 feet above MLLW, which is 5 to 7 feet above maximum likely wave action, tsunami-induced flooding would be unlikely at the Project site. This is consistent with the results of evaluations conducted by the USGS (Porter et al. 2013). Therefore, impacts would be less than significant. Since impacts of tsunamis and seiches would be less than significant, no mitigation is required.

3.1.2.4 Alternative 2 – Reduced Throughput Alternative

The Reduced Throughput Alternative would be the same as the proposed Project except that only two cement silos and one additional truck lane would be constructed to permit loading beneath the two new silos. This alternative would involve similar, but less construction. Operations would require the same number of personnel as the proposed Project. Impacts related to geology, groundwater, and soils would be similar to, but somewhat less than those described under **Impacts GEO-1 through GEO-8** for the Project, because the extent of construction activity causing short-term impacts and extent of new structures and infrastructure subject to geologic hazards would be reduced. As with the proposed Project, implementation of this alternative would result in less than significant impacts. Since impacts to geology, groundwater, and soils would be less than significant, no mitigation is required.

3.1.2.5 Alternative 3 – No Project Alternative

No new construction would occur under this alternative, Thus, **Impacts GEO-1 through GEO-5** would not occur. Effects from **Impact GEO-6** would not occur because no active faults traverse the Project site. However, the Project site would be subject to seismically-induced ground failure. The beneficial effects associated with reinforcement of the wharf and backland soils would not occur. Therefore, seismic impacts would be greater than those described for **Impact GEO-7**. Tsunami-related impacts would be similar to those described **Impact GEO-8** because the existing wharf is 5 to 7 feet above the maximum likely wave action. As with the proposed Project, implementation of the No Project Alternative would result in less than significant impacts. Since impacts on geology, groundwater, and soils would be less than significant, no mitigation is required.

3.1.3 Cumulative Impacts

All projects located in the POLB and POLA are subject to severe seismically-induced ground shaking due to an earthquake on a local or regional fault. Structural damage and risk of injury are possible for most of the cumulative projects listed in Table 2.1-1, with the exception of the Channel Deepening Project, Westway Decommissioning Project, Consolidated Slip Restoration Project, Southwest Marine Demolition Project, and the Pan-Pacific Fisheries Cannery Buildings Demolition Project. These latter projects would not be subject to risk because they do not involve existing or proposed structural engineering that would be subject to seismic impacts. Seismic-related impacts at the Project site, in combination with probable future projects, would remain less than significant because all projects would incorporate modern construction engineering and safety standards that account for seismic conditions. With incorporation of modern construction engineering and safety standards, the proposed Project would not contribute to a considerable increase in cumulative risk of damage or risk of injury as a result of seismically-induced ground movement.

Likewise, all projects located in the POLB and POLA are subject to coastal inundation as a result of a large tsunami. Structural damage and risk of injury as a result of such a tsunami are possible for most structures, improvements, and onsite personnel that would be associated with most of the cumulative projects listed in Table 2.1-1. The exceptions are the Channel Deepening Project, Westway Decommissioning Project, Consolidated Slip Restoration Project, Southwest Marine Demolition Project, and the Pan-Pacific Fisheries Cannery Buildings Demolition Project which would not be subject to risks from tsunami inundation because they do not involve existing or proposed structural engineering or onsite operations personnel. However, tsunami- related impacts at the Project site, in combination with probable future projects, would result in less than significant cumulative impacts, due to the low probability of such a tsunami. Similarly, the Project's contribution to a cumulative impact would be less than significant, due to the low probability of such a tsunami.

All cumulative projects in the POLB and POLA involving grading, excavations, and construction/ demolition would be considered within the region of influence for impacts associated with erosion-induced sedimentation of harbor waters and potential encounters with contaminated soil. Such projects would include all those listed in Table 2.1-1, with the exception of the Channel Deepening Project, because that project does not involve ground disturbance associated with new construction, demolition, or remediation. Construction and grading at probable future project sites, in combination with construction of the Project, would result in less than significant cumulative erosional impacts on harbor water quality, due to implementation of SWPPPs and construction BMPs. Similarly, the Project's contribution to cumulative, erosion-induced sedimentation of harbor waters would be less than significant due to implementation of SWPPPs and construction BMPs that would be required for all future projects.

3.1.4 Mitigation Monitoring Program

Since no mitigation measures are required to address impacts on geology, groundwater, and soils resources, no mitigation monitoring program is required.

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3.2 AIR QUALITY AND HEALTH RISK

This section addresses the potential impacts on air quality and human health that could result from the implementation of the proposed Project and alternatives. For the purposes of this EIR, the evaluation of significance is based on a comparison of air quality impacts from the Project and alternatives to the CEQA baseline conditions. As discussed further in Section 3.2.1.4, the CEQA baseline is defined as the operational activity levels that occurred at the MCC terminal during year 2006 and sources emitting at rates based on year 2015 regulatory levels.

3.2.1 Environmental Setting

3.2.1.1 Area of Influence

The proposed Project is located in the southwest coastal area of the South Coast Air Basin (SCAB). The air quality area of influence for the Project consists of the SCAB, which comprises the urbanized areas of Los Angeles, Riverside, San Bernardino, and Orange Counties (an area of approximately 6,000 square miles), and the waters offshore of the SCAB (Figure 3.2-1). For health risk assessments (HRAs), the area of influence also includes the Project zone of impact (ZOI), which is defined as the area that extends out from the location of Project construction and operation activities to the 1 per million cancer risk isopleth.

3.2.1.2 Setting

The following section describes the climate and meteorology of the Project area, existing air quality conditions, and air regulations that apply to the Project.

Regional Climate and Meteorology

The climate of the Project region is classified as Mediterranean, which is characterized by cool, dry summers and mild winters. The major influences on the regional climate are the Eastern Pacific High, a strong, persistent high-pressure system, and the moderating effects of the Pacific Ocean. Seasonal variations in the position and strength of the Eastern Pacific High are key factors in the weather changes in the area.

The Eastern Pacific High attains its greatest strength and most northerly position during the summer, when it is centered west of northern California. In this location, this high effectively shelters Southern California from the effects of polar storm systems. Large-scale atmospheric subsidence associated with the high produces an elevated temperature inversion along the West Coast. The base of this subsidence inversion is generally 1,000 to 2,500 feet above mean sea level during the summer. Vertical mixing is often limited to the base of the inversion and air pollutants are trapped in the lower atmosphere. The mountain ranges that surround the SCAB constrain the horizontal movement of air and also inhibit the dispersion of air pollutants out of the region. These two factors, combined with the air pollution sources from more than 16.8 million people and businesses are responsible for the high pollutant conditions that can occur in the SCAB. In addition, high solar radiation during the warmer months promotes the formation of ozone (O_3), which has its highest concentration levels during the summer season.

Marine air trapped below the base of the subsidence inversion is often condensed into fog and stratus clouds by the cool Pacific Ocean. This is a typical weather condition in the San Pedro Bay region during the warmer months of the year. Stratus clouds usually form offshore and move into the coastal plains and valleys during the evening hours. Clouds burn off to the immediate coastline when the land temperature increases the following morning, but often reform again the following evening.

The proximity of the Eastern Pacific High and a thermal low-pressure system in the desert interior to the east produces a sea breeze regime that prevails within the Project region for most of the year, particularly during the spring and summer months. Sea breezes at the Port typically increase during the morning hours from the southerly direction, reach a peak in the afternoon as they shift to the southwest, and then generally subside after sundown. During the warmest months of the year, sea breezes often persist well into the nighttime hours. Conversely, during the colder months of the year, northerly land breezes increase by sunset and often extend into the late morning hours. Sea breezes transport air pollutants away from the coast and toward the interior regions in the afternoon hours for most of the year.

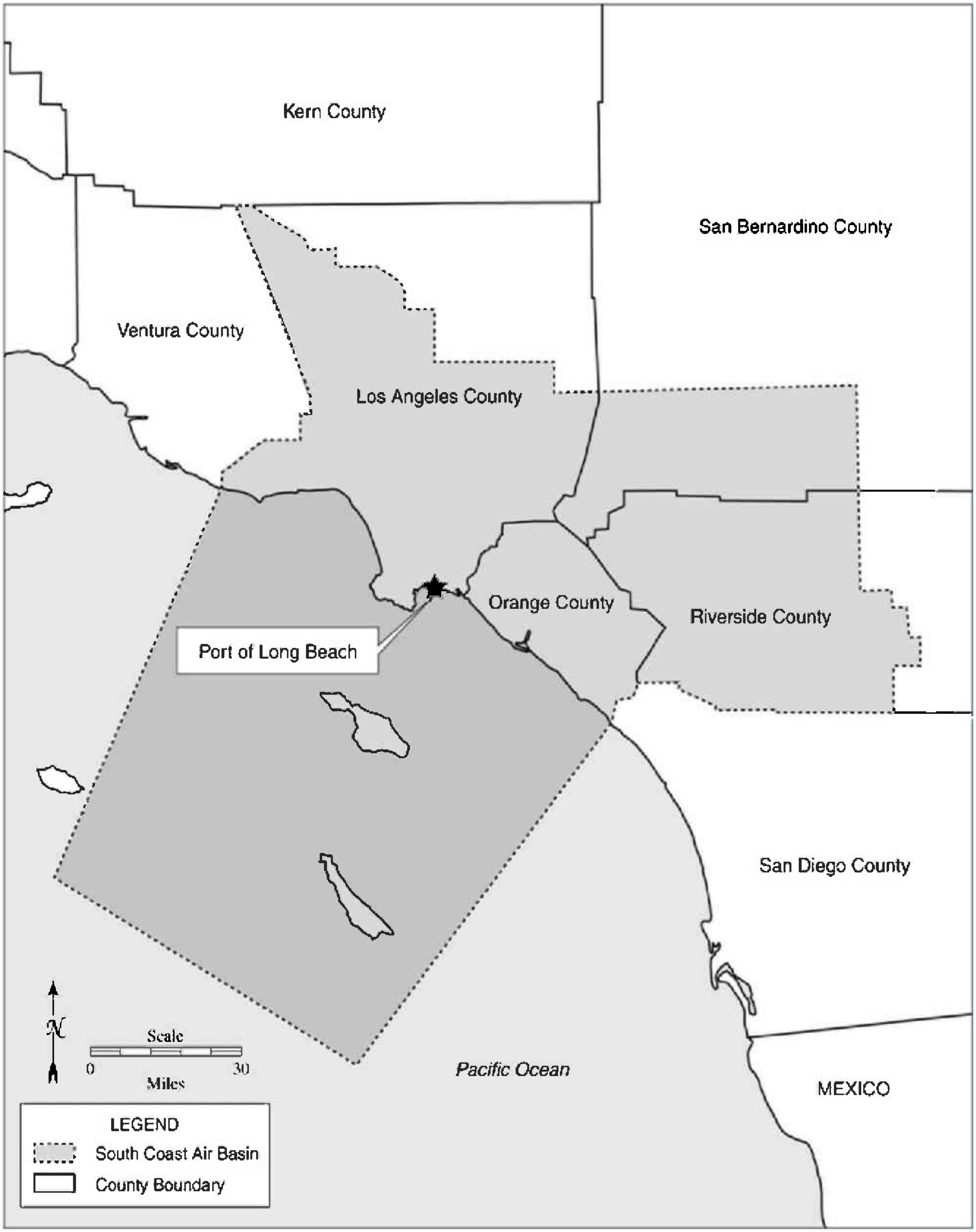

Figure 3.2-1. MCC Air Quality Region of Influence

During the fall and winter months, the Eastern Pacific High can combine with high pressure over the continent to produce light winds and extended inversion conditions in the region. These stagnant atmospheric conditions often result in elevated pollutant concentrations in the SCAB. Excessive buildup of high pressure in the desert interior can produce a “Santa Ana” condition, characterized by warm, dry, northeast winds in the basin and offshore regions. Santa Ana winds often clear the SCAB of air pollutants.

The Palos Verdes Hills have a major influence on wind flow in the San Pedro Bay (SCAQMD 1977). For example, during afternoon southwest sea breeze conditions, the Palos Verdes Hills often block this flow and create a zone of lighter winds in the inner harbor area of the Port. During strong sea breezes, this flow can bend around the north side of the Palos Verdes Hills and end up as a northwest breeze in the inner harbor area. This topographic feature also deflects northeasterly land breezes that flow from the coastal plains to a more northerly direction through the Port.

As winter approaches, the Eastern Pacific High begins to weaken and shift to the south, allowing storm systems to pass through the region. The number of days with precipitation varies substantially from year to year, which produces a wide range of variability in annual precipitation totals. The annual precipitation for Long Beach Airport, approximately 6 miles northeast of the Project site, ranged from 2.6 to 27.7 inches from 1958 through 2012, with an average of 12.0 inches (Western Regional Climate Center 2013). About 94 percent of the annual rainfall occurs from November through April, with a monthly average maximum of 2.9 inches in February. This wet-dry seasonal pattern is characteristic of most of California. Infrequent precipitation during the summer months usually occurs from tropical air masses that originate from continental Mexico or tropical storms off the west coast of Mexico.

Meteorological data, including temperatures and surface winds, are measured at meteorological stations operated by the National Weather Service. The average high and low air temperatures at Long Beach Airport (the closest National Weather Service station to the Project site that has a long-term record) in August are 84 degrees Fahrenheit (°F) and 65°F, respectively. December average high and low temperatures are 67°F and 45°F, respectively. Extreme high and low temperatures recorded from 1958 through 2012 were 111°F and 25°F, respectively (Western Regional Climate Center 2013). Temperatures in the San Pedro Bay area are generally less extreme than inland regions due to the moderating effect of the ocean.

Air Pollutants and Monitoring Data

Air pollutants are defined as two general types: 1) criteria pollutants, representing pollutants for which the EPA has set national ambient air quality standards (NAAQS) for health protection and welfare considerations; and 2) toxic air contaminants (TACs), which the state of California defines as pollutants that are known or suspected to cause adverse long-term (cancer and chronic) and/or short-term (acute) health effects. Units of concentration for both of these types of air pollutants generally are expressed in terms of parts per million (ppm) or micrograms per cubic meter ($\mu g/m^3$).

Criteria Pollutants

The EPA has set NAAQS for the following criteria pollutants: ozone (O_3); carbon monoxide (CO); nitrogen dioxide (NO_2); sulfur dioxide (SO_2); particulate matter less than 10 microns in diameter (PM_{10}); particulate matter less than 2.5 microns in diameter ($PM_{2.5}$); and lead. Specifications are that maximum pollutant concentrations generally shall not exceed a short-term (1-, 8-, and 24-hour averaging times) NAAQS more than once per year and they shall not exceed the annual standards. The California Air Resources Board (ARB) also has set California Ambient Air Quality Standards (CAAQS) for criteria pollutants, and they have promulgated CAAQS for additional pollutants. California standards for O_3, CO, NO_2, PM_{10}, and $PM_{2.5}$ are values not to be exceeded. All other standards are not to be equaled or exceeded. Table 3.2-1 summarizes the NAAQS and CAAQS (ARB 2013).

The criteria pollutants of primary concern that are assessed in this EIR include O_3, CO, NO_2, SO_2, PM_{10}, and $PM_{2.5}$. Of the criteria pollutants of concern, O_3 is unique because it is not directly emitted from Port-related sources. Rather, ozone is a secondary pollutant, formed from precursor pollutants that include volatile organic compounds (VOC) and nitrogen oxides (NO_x) (mainly NO_2 and nitric oxide [NO]). VOC and NO_x react to form O_3 in the presence of sunlight

Table 3.2-1. California and National Ambient Air Quality Standards				
Pollutant	Averaging Time	California Standards	----NATIONAL STANDARDS----	
			Primary[a]	Secondary[b]
Ozone (O_3)	1-hour	0.09 ppm	---	Same as primary
	8-hour	0.07 ppm	0.075 ppm	
Carbon monoxide (CO)	8-hour	9.0 ppm	9 ppm	---
	1-hour	20 ppm	35 ppm	---
Nitrogen dioxide (NO_2)	Annual	0.030 ppm	0.053 ppm	Same as primary
	1-hour	0.18 ppm	100 ppb	---
Sulfur dioxide (SO_2)	24-hour	0.07 ppm	---	---
	3-hour	---	---	0.5 ppm
	1-hour	0.25 ppm	75 ppb	---
Respirable Particulate Matter (PM_{10})	Annual	20 μg/m^3	---	---
	24-hour	50 μg/m^3	150 μg/m^3	Same as primary
Fine Particulate Matter ($PM_{2.5}$)	Annual	12 μg/m^3	12 μg/m^3	15 μg/m^3
	24-hour	---	35 μg/m^3	Same as primary
Lead	Rolling 3-month average	---	0.15 μg/m^3	Same as primary
	Quarterly Average	---	---	---
	30-day average	1.5 μg/m^3	---	---
Hydrogen sulfide	1-hour	0.03 ppm	---	---
Sulfates	24-hour	25 μg/m^3	---	---
Vinyl Chloride	24-hour	0.01 ppm	---	---

Notes:

a. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

b. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

ppm = parts per million, ppb = parts per billion, and μg/m^3 = micrograms per cubic meter.

Source: ARB 2013

through a complex series of photochemical reactions. As a result, O_3 levels usually peak several hours after the precursors are emitted and many miles downwind of the source. Due to the complexity and uncertainty in predicting photochemical pollutant concentrations, O_3 impacts are indirectly addressed by comparing Project-generated emissions of VOC and NO_x to daily emission thresholds set by the SCAQMD (as presented in Section 3.2.2.1).

Many Project-related emission sources would be diesel-powered and therefore diesel particulate matter (DPM) is a key pollutant evaluated in this analysis. DPM is one of the components of ambient PM_{10} and $PM_{2.5}$. DPM is classified as a TAC by the ARB. As a result, DPM is evaluated in this study both as a criteria pollutant (as a component of PM_{10} and $PM_{2.5}$) and TAC (for cancer and non-cancer health effects).

Local Air Monitoring Levels

EPA designates all areas of the U.S. as having air quality better than (attainment) or worse than (nonattainment) the NAAQS. A nonattainment designation generally means that a primary NAAQS has been exceeded more than once per year in a given area. The requirements and compliance dates to attain a NAAQS are based on how much a region violates a standard. Depending on the pollutant, the severity rating of nonattainment increases from moderate to serious to extreme.

With respect to the NAAQS, the SCAB is presently in “extreme” nonattainment for 8-hour O_3, nonattainment for $PM_{2.5}$ and lead, attainment/ maintenance for PM_{10}, CO, and annual NO_2, and attainment for SO_2 and 1-hour NO_2.

The ARB also designates areas of the state as being in attainment or nonattainment of the CAAQS. An area is designated as nonattainment if a CAAQS has been exceeded more than once in 3 years. With respect to the CAAQS, the SCAB is presently in “extreme” nonattainment for O_3 and nonattainment for PM_{10} and $PM_{2.5}$. The SCAB is in attainment of the CAAQS for CO, NO_2, SO_2, sulfates, and lead, and is unclassified for hydrogen sulfide, vinyl chloride, and visibility-reducing particles.

Generally, concentrations of photochemical smog, or O_3, are highest during the summer months and coincide with the season of maximum solar intensity. Inert pollutant concentrations tend to be greatest during winter months and are a product of light wind conditions and surface-based temperature inversions that are frequent during that time of year. These conditions limit atmospheric dispersion. However, in the case of PM_{10}, maximum dust impacts may occur during high wind events and/or in proximity to unnatural ground-disturbing activities, such as vehicles operating on roads or earth-moving activities during construction.

The SCAQMD maintains a network of air quality monitoring stations throughout the SCAB, which measure ambient concentrations of criteria air pollutants. The nearest SCAQMD air monitoring station to the Project site is the North Long Beach Monitoring Station (Station No. 072), which is located at 3648 Long Beach Boulevard, approximately 4 miles north of the Project site. Data from this station are used to describe the historical air quality of the Project region, as it is the closest station to the Port with the longest period of record of measured air quality.

The POLB initiated operation of two air monitoring sites in September 2006 to collect ambient air pollutant and meteorological conditions data within the Port region (POLB 2014a). The Port’s stations are not part of SCAQMD’s regional air quality monitoring stations, but rather reflect “localized” concentration measurements in the Port region. The POLB air monitoring stations are located in the Inner Harbor area, near West Long Beach, and in the Outer Harbor area, in Gull Park located at the end of Navy Mole Road. The two monitoring stations were developed to expand on and complement other regional air monitoring efforts. Data from the POLB stations are considered in context with the North Long Beach monitoring station for comparison purposes, and to ensure the use of representative ambient data. Table 3.2-2 presents the maximum pollutant levels measured within the POLB monitoring network and the North Long Beach station from 2009 through 2013.

Ultrafine Particles

Traditionally, health concerns and air quality standards for particulates have been focused on respirable and fine particulate matter (PM) (i.e., PM_{10} and $PM_{2.5}$). Recently, there has been increased interest in the smallest size fraction of particulate matter, referred to as ultrafine particles (UFP). Ultrafine particles are generally defined as ambient air particles less than or equal to 0.1 μm in diameter (100 nanometers).

Due to their small size and cumulative mass, UFP generally contribute a small fraction of the ambient concentrations of either PM_{10} or $PM_{2.5}$ (it takes approximately 15,000 UFP to equal the mass of a single $PM_{2.5}$ particle, and 1,000,000 UFP to equal the mass of a single PM_{10} particle). However, UFP are very numerous, especially in urban environments. For example, typical urban air contains 10,000 to 40,000 UFP per cubic centimeter, while near highways there can be between 40,000 and 1,000,000 UFP per cubic centimeter. UFP are not routinely measured in the U.S. and no regulatory standards address this category. The 2007 Air Quality Management Plan for the SCAB recommended that UFP issues be considered in PM and air toxics control strategies (SCAQMD et al 2007).

In an urban environment, motor vehicles are a major source of UFP, and, for that reason, concentrations of UFP tend to be higher near highways. Measurements show that a sharp drop in UFP occur within 100 to 300 meters downwind of freeways due to particle growth and accumulation processes in the atmosphere after the particles are emitted from vehicles. Consequently, high particle concentrations are very localized and tend to exhibit large geographical and temporal variations.

Current research is underway to better characterize emissions and ambient levels of UFP in the environment. Other categories of internal combustion engines used in Port operations, such as trains and ships, also may be significant sources of UFP.

The high numbers of UFP found in the environment, especially adjacent to highways, have recently raised concerns about their health effects. There are two primary reasons for these concerns: 1) studies have shown that smaller particles, which tend to absorb higher fractions of trace metals and organic compounds because of their relatively high surface area, can be inhaled and deposited deeper into the lungs than larger particles; and 2) UFP can be more easily transported from lungs into the body, potentially increasing exposure to these particles and attached contaminants. Information on UFP is limited at this time and is an area of active research.

Table 3.2-2. Ambient Air Quality Data Monitored within the POLB Region

Pollutant	Averaging Period	Monitoring Station	Highest Monitored Concentration*				
			2009	2010	2011	2012	2013
O_3 (ppm)	1-hour	Superblock Inner Harbor	0.069	0.089	0.065	0.069	0.081
		Gull Park Outer Harbor	0.072	**0.094**	0.081	0.076	0.079
		North Long Beach	0.089	**0.101**	0.073	0.084	**0.092**
	8-hour	Superblock Inner Harbor	0.055	**0.070**	0.055	0.058	0.061
		Gull Park Outer Harbor	0.064	**0.073**	0.062	0.058	0.065
		North Long Beach	0.068	**0.084**	0.061	0.067	**0.070**
PM_{10} (µg/m^3)	24-hour	Superblock Inner Harbor	**130**	**90**	**193**	**171**	**285**
		Gull Park Outer Harbor	**92**	**56**	**57**	48	**69**
		North Long Beach	**62**	44	43	45	—
	Annual	Superblock Inner Harbor	**44.7**	**40.6**	**49.5**	**50.7**	**53.1**
		Gull Park Outer Harbor	**29.8**	**23.6**	**26.3**	**24.0**	**26.7**
		North Long Beach	**30.2**	**21.9**	**24.2**	**23.2**	**—**
$PM_{2.5}$ (µg/m^3)	24-hour	Superblock Inner Harbor	**38.6**	31.5	28.1	33.3	25.9
		Gull Park Outer Harbor	29.3	—	**42.6**	**53.5**	**39.8**
		North Long Beach	34.2	35.0	**39.7**	**49.8**	**47.2**
	Annual	Superblock Inner Harbor	11.7	9.4	10.4	9.0	9.7
		Gull Park Outer Harbor	**14.1**	10.7	**13.5**	**14.4**	**12.8**
		North Long Beach	**13**	10.5	11.0	10.3	11.3
CO (ppm)	1-hour	Superblock Inner Harbor	4.7	4.4	4.1	3.8	3.1
		Gull Park Outer Harbor	3.3	2.7	3.2	2.7	2.4
		North Long Beach	3.1	4.0	3.2	3.7	—
	8-hour	Superblock Inner Harbor	3.3	2.6	3.4	2.8	2.4
		Gull Park Outer Harbor	2.4	2.1	2.7	2.2	1.8
		North Long Beach	2.2	2.1	2.3	2.2	—
NO_2 (ppm)	1-hour	Superblock Inner Harbor	0.095	0.101	0.116	0.107	0.136
		Gull Park Outer Harbor	0.097	0.082	0.096	0.086	0.093
		North Long Beach	0.110	0.093	0.110	0.077	—
	Annual	Superblock Inner Harbor	0.025	0.025	0.025	0.023	0.027
		Gull Park Outer Harbor	0.02	0.018	0.020	0.019	0.020
		North Long Beach	0.021	0.02	0.020	0.018	—
SO_2 (ppm)	1-hour	Superblock Inner Harbor	0.163	0.089	0.051	0.020	0.036
		Gull Park Outer Harbor	0.107	0.175	0.025	0.018	0.052
		North Long Beach	0.02	0.04	0.015	0.022	—
	24-hour	Superblock Inner Harbor	0.013	0.009	0.007	0.005	0.006
		Gull Park Outer Harbor	0.012	0.012	0.005	0.006	0.009
		North Long Beach	0.005	0.006	0.004	0.003	—
		Gull Park Outer Harbor	0.003	0.002	0.001	0.002	0.003
		North Long Beach	0.001	0.001	0.001	0.001	—

Notes: * Concentrations exceeding the most restrictive relevant AAQS are **bolded**.
ppm = parts per million; µg/m3 = micrograms per cubic meter; "—" = no data.
Sources: POLB 2014a.

Secondary $PM_{2.5}$ Formation

Primary particles are emitted directly into the atmosphere by fossil fuel combustion sources, wind-blown soil and dust, and sea spray. Secondary $PM_{2.5}$ forms in the atmosphere by complex reactions of precursor emissions of gaseous pollutants such as NO_x, sulfurous oxides (SO_x), VOCs, and ammonia (SCAQMD et al. 2007). Secondary $PM_{2.5}$ includes sulfates, nitrates, and complex carbon compounds.

Since it is difficult to predict how an individual project would contribute to secondary $PM_{2.5}$ formation, this air quality analysis focuses on the effects of direct $PM_{2.5}$ emissions. This approach is consistent with the recommendations of the SCAQMD (SCAQMD 2006).

Atmospheric Deposition

The fallout of air pollutants to the surface of the Earth is known as atmospheric deposition. Atmospheric deposition occurs in both wet and dry forms. Wet deposition occurs in the form of precipitation or cloud water and is associated with the conversion in the atmosphere of directly emitted pollutants into secondary pollutants such as acids. Dry deposition occurs in the form of directly emitted pollutants or the conversion of gaseous pollutants into secondary PM. Atmospheric deposition can produce watershed acidification, aquatic toxic pollutant loading, deforestation, damage to building materials, and respiratory problems.

Toxic Air Contaminants

Assembly Bill (AB) 1807 in 1983 established the California Air Toxics Program and it directed the State to identify and control TACs. Toxic air contaminants are compounds that are known or suspected to cause adverse long-term (cancer and chronic) and/or short-term (acute) health effects. The ARB regulates a list of TACs in California, as determined from their exposure assessments and health effects assessments performed by the California Environmental Protection Agency's Office of Environmental Health Hazard Assessment (OEHHA). The Air Toxics "Hot Spots" Information and Assessment Act (AB 2588) supplements the AB 1807 program by requiring a statewide air toxics inventory, notifications to people exposed to a significant health risk, and facility plans to reduce these risks. The OEHHA develops HRA guidelines to evaluate cancer and non-cancer effects from TAC exposure for the Air Toxics "Hot Spots" Program.

TACs are emitted from mobile sources, including DPM; industrial processes and stationary sources, such as dry cleaners, gasoline stations, paint and solvent operations; and stationary fossil fuel-burning combustion. The SCAQMD estimates in the Multiple Air Toxics Exposure Study IV (MATES-IV) that about 68 percent of the background airborne air toxics risk in the SCAB is due to diesel exhaust (SCAQMD 2015). Due to the prevalence of diesel-powered sources associated with operations at the San Pedro Bay Port Complex, MATES-IV identified that the Port Complex area had the highest air toxics risks within the SCAB. Since the proposed Project includes sources of DPM, a focus of the air quality analysis is an evaluation of proposed impacts of DPM.

Sensitive Receptors

The impact of air emissions on sensitive members of the population is a special concern. Sensitive receptor groups include children and infants, pregnant women, older adults, and the acutely and chronically ill. According to SCAQMD guidance, sensitive receptor locations include schools, hospitals, convalescent homes, day care centers, and other locations where children, chronically ill individuals, or other sensitive persons could be exposed. This EIR analysis also includes residents as sensitive receptors.

The nearest sensitive receptors to the Project site are residents in southwest Long Beach, approximately 1.2 miles to the northeast. Cesar Chavez Elementary, the nearest elementary school, is 1.6 miles from the Project site. The nearest convalescent home, the Breakers of Long Beach, is approximately 1.9 miles northeast of the Project site, and the nearest hospital is the Saint Mary Medical Center, located approximately 2.5 miles northeast of the Project site. Appendix A-3 (Table A-3-2) provides a complete list of non-residential sensitive receptors that occur in proximity to the Project site and were evaluated in the Project air quality analyses.

3.2.1.3 Regulatory Setting

Sources of air emissions in the SCAB are regulated by the EPA, ARB, and SCAQMD. In addition, regional and local jurisdictions play a role in air quality management. The role of each regulatory agency is discussed below.

Federal Regulations

The federal CAA forms the basis for the nation's air pollution control effort. The EPA is responsible for implementing most aspects of the CAA. Basic elements of the act include the NAAQS for criteria air pollutants, hazardous air pollutant standards, attainment plans, motor vehicle emission standards, stationary source emission standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

The CAA delegates enforcement of the federal standards to the states. In California, the ARB is responsible for enforcing air pollution regulations. ARB, in turn, delegates to local air agencies the responsibility of regulating stationary emission sources. In the SCAB, the SCAQMD has this responsibility.

State Implementation Plan

For areas that do not attain a NAAQS, the CAA requires preparation of a State Implementation Plan (SIP), detailing how the state will attain the NAAQS within mandated timeframes. In response to this requirement, the SCAQMD and SCAG have periodically developed AQMPs for the SCAB. The SCAQMD, in cooperation with SCAG and CARB, most recently developed the 2012 AQMP for purposes of demonstrating compliance with the national standards for $PM_{2.5}$, PM_{10}, 8-hour O_3, and the 1-hour O_3 national standard revoked by the EPA. The SCAQMD Governing Board adopted the 2012 AQMP as final on December 7, 2012 (SCAQMD 2013).

The 2012 AQMP includes all feasible emission control strategies needed to bring the SCAB into attainment with the national $PM_{2.5}$ standard by 2014 and the 1-hour ozone standard by 2022. The 2012 AQMP also updates the federally-approved 8-hour O_3 SIP outlined in the 2007 AQMP with new measures to demonstrate attainment of this standard by 2023. These additional emissions reductions also are needed to demonstrate attainment with the revoked 1-hour ozone standard. The 2012 AQMP includes control measure IND-01, the Port Backstop Measure. This measure requires development of a regulation that would take effect if the Ports fail to meet emission reduction targets needed to achieve the national $PM_{2.5}$ standard by 2014. In this situation, the regulation would require the Ports to develop additional emission control measures to address this shortfall.

On June 11, 2007, EPA redesignated the SCAB from nonattainment to attainment for the CO 1-hour and 8-hour NAAQS. EPA also approved a SIP revision for the SCAB nonattainment area in California as meeting the CAA requirements for maintenance plans for CO. EPA made an adequacy finding and approved motor vehicle emission budgets, which are included in the maintenance plan. EPA also approved the California motor vehicle inspection and maintenance (I/M) program as meeting the low enhanced I/M requirements for CO in the SCAB (EPA 2007).

International Maritime Organization Marine Pollution Annex VI

The International Maritime Organization (IMO) adopted NO_x limits in MARPOL (Marine Pollution) Annex VI to the International Convention for the Prevention of Pollution from Ships in 1997. These NO_x limits apply to Category 3 marine engines (greater than 30 liters per cylinder displacement) installed on vessels built on or after 2000. The NO_x standards range from 17.0 grams per kilowatt hour (g/kW-hr) for vessels built beginning in 2000 (Tier I) to 14.4 g/kW-hr for vessels built beginning in 2011 (Tier II) for engines that generate less than 130 revolutions per minute. The required number of countries (15 countries with not less than 50 percent of the world's shipping tonnage) ratified the Annex in May 2004, and it went into force for those countries in May 2005. The Annex was ratified by the U.S.

In October 2008, the Marine Environment Protection Committee (MEPC) of the IMO unanimously adopted amendments to the MARPOL Annex VI regulations that would reduce fuel sulfur content and further reduce NO_x emissions (Tier III) from OGVs. These requirements include 1) global standards and 2) tighter standards for ships that operate in areas with air quality problems, designated as Emission Control Areas (ECAs). The global fuel sulfur cap was set at 3.5 percent (down from the previous 4.5 percent), effective on January 1, 2012, and then it will progressively decrease to 0.5 percent by January 1, 2020, subject to a feasibility review to be completed no later than 2018. The sulfur limits applicable in ECAs will be reduced from the current level of 1 percent to 0.1 percent, effective January 1, 2015. On March 26, 2010, the IMO officially designated waters off the North American coast as ECAs.

Control of Emissions from New Marine Compression-Ignition Engines at or above 30 Liters per Cylinder

In December 2009, EPA adopted revisions to the CAA engine program to include two additional tiers of NO_x standards for new Category 3 marine diesel engines installed on vessels flagged or registered in the U.S. The final near-term Tier 2 standards for newly built engines took effect in 2011 and require more efficient use of current engine technologies, including engine timing, engine cooling, and advanced computer controls. The Tier 2 standards will result in a 15 to 25 percent NO_X reduction below the current Tier 1 levels. The final long-term Tier 3 standards for newly built engines take effect in 2016 and will require the use of high-efficiency emission control technology such as selective catalytic reduction to achieve NO_X reductions of 80 percent below the current levels.

In addition to the NO_x emission limits, EPA has adopted standards for emissions of hydrocarbons (HC) and CO from new Category 3 engines. EPA did not adopt a standard for PM emissions for Category 3 engines. However, significant PM emissions benefits indirectly will occur through implementation of the ECA fuel sulfur requirements for OGV that operate adjacent to U.S. shores. EPA is also requiring engine manufacturers to measure and report PM emissions.

The EPA also finalized a change to the diesel fuel program, consistent with the IMO MARPOL Annex VI, which will allow for the production and sale of 1,000 ppm sulfur fuel for use in Category 3 marine vessels. In addition, these new fuel requirements, approved in 2010, forbid the production and sale of marine fuel oil above 1,000 ppm sulfur for use in most U.S. waters, unless the vessel employs alternative devices, procedures, or compliance methods that achieve equivalent emission reductions.

Emission Standards for Marine Diesel Engines

In March 2008, EPA adopted more stringent emission standards for marine diesel and locomotives engines. To reduce emissions from Category 1 (at least 50 horsepower [hp] but less than 7 liters per cylinder displacement) and Category 2 (7 to 30 liters per cylinder displacement) marine diesel engines, EPA established emission standards for new engines, referred to as Tier 2 standards. The Tier 2 standards were phased in from 2004 to 2007 (year of manufacture), depending on the engine size (EPA 1999).

The 2008 rule includes the first-ever national emission standards for existing and re-manufactured marine diesel engines larger than 600 kW. The rule also sets Tier 3 emission standards for new engines starting in 2009. Finally, the rule establishes Tier 4 standards for new commercial marine diesel engines larger than 600 kW (800 hp) starting in 2014, based on the application of high-efficiency catalytic after-treatment technology. The new Tier 4 standards will reduce emissions of DPM by 90 percent and NO_x by 80 percent from marine diesel engines, compared to engines meeting the current Tier 2 standards (EPA 2008).

The Project air quality analysis assumes that this rule would affect the Port harbor craft, but not OGV auxiliary engines, since the latter are generally manufactured overseas and would be exempt from the rule.

Emission Standards for Nonroad Diesel Engines

The EPA established a series of emission standards for new nonroad diesel engines, culminating in the Tier 4 Final Rule of June 2004. The Tier 1, Tier 2, Tier 3, and Tier 4 standards require compliance with progressively more stringent emission standards. Tier 1 standards were phased in from 1996 to 2000 (year of manufacture), depending on the engine horsepower category. Tier 2 standards were phased in from 2001 to 2006 and the Tier 3 standards were phased in from 2006 to 2008.

The Tier 4 standards complement the latest 2007 and later on-road heavy-duty engine standards by requiring 90 percent reductions in DPM and NO_x when compared to current emission standards. To meet the Tier 4 standards, engine manufacturers will produce new engines with advanced emissions control technologies similar to those implemented on on-road heavy-duty diesel vehicles. The Tier 4 standards became effective to smaller engines in 2008 and they will apply to all but the very largest diesel engines by 2015. These standards apply to construction and terminal equipment, but not to marine vessels.

Nonroad Diesel Fuel Rule

In May 2004, EPA set sulfur limits for nonroad diesel fuel (EPA 2004). Under this rule, starting January 1, 2012, diesel fuel used by all nonroad equipment (excluding residual fuel used by OGV and aircraft fuel) is limited to 15 ppm sulfur, which is equivalent to the sulfur content restrictions of the California Diesel Fuel Regulations (described below). All Project off-road equipment is assumed to comply with the requirements of this rule.

Emission Standards for On-Road Trucks

To reduce emissions from on-road, heavy-duty diesel trucks, EPA established a series of cleaner emission standards for new engines, starting in 1988. The current 2007 Heavy-Duty Highway Rule standards apply to engines manufactured in 2007 (EPA 2000). Phase-in of the 2007 standards for new engines was required by 2010.

State Regulations and Agreements

California Clean Air Act

The ARB, which became part of the California Environmental Protection Agency (CalEPA) in 1991, is responsible for implementing the requirements of the federal CAA, regulating emissions from motor vehicles and consumer products, and implementing the California Clean Air Act of 1988 and its amendments (CCAA). The CCAA outlines a program to attain the CAAQS for O_3, NO_2, SO_2, and CO by the earliest practical date. Since the CAAQS are more stringent than the NAAQS, attainment of the CAAQS will require more emission reductions than what will be required to show attainment of the NAAQS. Similar to the federal system, the state requirements and compliance dates are based on the severity of the ambient air quality standard violation within a region.

Assembly Bill 2588 – Air Toxics “Hot Spots” Information and Assessment Act

The AB 2588 program provides information to state and local agencies and the public on the extent of TACs emitted from stationary sources and the potential public health impact of those emissions. The “Hot Spots” Act requires OEHHA to develop risk assessment guidelines for the “Hot Spots” Program that includes a “likelihood of risks” approach. The “Hot Spots” Act requires stationary sources of TACs to prepare facility-wide HRAs in accordance with OEHHA guidelines and to notify the public in the event of a potential health risk. The “Hot Spots” Act also establishes criteria for high-risk facilities to implement risk reduction measures.

Assembly Bill 2650

Under AB 2650, shipping terminal operators are required to limit truck-waiting times to no more than 30 minutes at the POLB, POLA, and Port of Oakland, or face fines of $250 per violation. Collected fines are used to provide grants for truck drivers to replace and retrofit their vehicles with cleaner engines and air pollution control devices. A companion piece of legislation (AB 1971) dictates that the intent of AB 2650 is not circumvented by allowing trucks with appointments to wait inside terminal gates.

Heavy Duty Diesel Truck Idling Regulation

This ARB rule became effective February 1, 2005 and it prohibits heavy-duty diesel trucks from idling for longer than 5 minutes at a time, unless they are queuing, provided the queue is located beyond 100 feet from any home or school (ARB 2008a).

California Diesel Fuel Regulations

In 2004, ARB set limits on the sulfur content of diesel fuel sold in California for use in on-road and off-road motor vehicles (ARB 2004 and 2005). Under this rule, diesel fuel used in motor vehicles except harbor craft and intrastate locomotives had been limited to 500 ppm sulfur since 1993. The sulfur limit was reduced to 15 ppm beginning September 1, 2006. Diesel fuel used in harbor craft in the SCAB also was limited to 500 ppm sulfur starting January 1, 2006, and it was lowered to 15 ppm sulfur in September 1, 2006.

Measures to Reduce Emissions from Goods Movement Activities

In April 2006, the ARB approved the Emission Reduction Plan for Ports and Goods Movement in California (ARB 2006a). The Goods Movement Plan proposes measures that will reduce emissions from the main sources associated with port cargo handling activities, including ships, harbor craft, terminal equipment, trucks, and locomotives. The following measures would apply to the proposed project activities.

Regulation for Mobile Cargo Handling Equipment at Ports and Intermodal Rail Yards

This regulation, adopted by the ARB in December of 2005, requires the use of best available control technology (BACT) to reduce DPM and NO_x emissions from mobile CHE at ports and intermodal rail yards (ARB 2012a). Beginning January 1, 2007, the regulation requires that newly purchased, leased, or rented CHE be equipped with either a 2007 or newer on-road engine, a Tier 4 off-road engine, or the cleanest verified emissions control system which reduces DPM by 90 percent and NO_x by at least 70 percent for yard tractors. For non-yard tractor cargo handling equipment, the requirements include currently verified technologies that reduce DPM by 85 percent.

In-Use On-Road Diesel-Fueled Heavy-Duty Drayage Truck Regulation

On December 17, 2010, the ARB approved amendments to the original 2007 regulation to reduce emissions from heavy-duty drayage trucks (trucks committed to container cargo transport) at ports and intermodal rail yards. This regulation includes an accelerated phase-out of existing vehicles to trucks that meet 2007 emission standards by 2014. The 2010 amendments expanded the regulation's applicability to include Class-7 trucks (GVWR 26,001 to 33,000 lbs) and drayage trucks operating off of port or intermodal rail yard properties that are transporting marine or rail cargos (ARB 2011a).

Fuel Sulfur Regulation for Ocean-Going Vessels

The ARB approved an updated version of the 2009 "Fuel Sulfur and Other Operational Requirements for Ocean-Going Vessels within California Waters and 24 Nautical Miles of the California Baseline" in 2011. This fuel sulfur regulation for OGV is designed such that it does not require EPA authorization. The fuel requirements in the regulation apply to OGV main (propulsion) diesel engines, auxiliary diesel engines, and auxiliary boilers when OGV are traveling and operating within 24 nm of the California coastline. Vessel owners/operators are required to use the marine distillate fuels based on a phased approach. The Phase I fuel requirements of July 1, 2009 allow the use of marine gas oil (DMA) up to 1.5 percent sulfur or marine diesel oil (DMB) up to 0.5 percent sulfur. On August 1, 2012, the sulfur limit for DMA was reduced to 1.0 percent. Under Phase II, which became effective on January 1, 2014, vessels are limited to the use of diesel fuels that do not exceed 0.1 percent sulfur. All OGV calling at the Port would be required to comply with these fuel sulfur limits.

Proposition 1B: Goods Movement Emission Reduction Program Guidelines for Implementation

In March, 2010, the ARB published Proposition 1B: Goods Movement Emission Reduction Program Guidelines for Implementation, which is designed to fund qualifying projects that reduce emissions and health risks. In February and March, 2011, the ARB published Guidelines for Heavy Duty Diesel Trucks and Equipment Project Specifications and Supplemental Procedures for Ships at Berth and Cargo Handling Equipment Projects.

Statewide Portable Equipment Registration Program (PERP)

The statewide Portable Equipment Registration Program (PERP) establishes a uniform program to regulate portable engines and portable engine–driven equipment units. Once registered in the PERP, engines and equipment units may operate throughout California without the need to obtain individual permits from local air districts, as long as the equipment is located at a single location for no more than 12 months. Some construction equipment may be required to be PERP registered, but no operating emissions sources would be subject to this regulation.

Local Regulations and Agreements

The SCAQMD is primarily responsible for planning, implementing, and enforcing the national and state ambient standards within the SCAB. They are also responsible for permitting and controlling stationary sources of criteria pollutants and air toxics, as delegated by the EPA. Through these directives, the SCAQMD develops the SCAQMD Rules and Regulations to regulate sources of air pollution in the SCAB (SCAQMD 2014). The SCAQMD rules most pertinent to the Project are listed below.

SCAQMD Rule 402 – Nuisance

This rule prohibits discharges of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or that endanger the comfort, repose, health, or safety of any such persons or the public; or that cause, or have a natural tendency to cause, injury or damage to business or property.

SCAQMD Rule 403 – Fugitive Dust

This rule prohibits emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area, such that the dust remains visible beyond the emission source property line. A person conducting active operations shall utilize one or more of the applicable best available control measures to minimize fugitive dust emissions from each fugitive dust source type, such as earth-moving activities during construction.

Regulation XIII - New Source Review

This rule requires new stationary sources of a nonattainment air contaminant, ozone depleting compound, or ammonia to employ BACT. This regulation further requires that any new source of a nonattainment air contaminant 1) demonstrate with modeling that the new facility will not cause a violation of a state or national ambient air quality standard or make substantially worse an existing violation and 2) offset emissions greater than four tons per year of VOC, NO_x, SO_x, and PM_{10} by a ratio of 1.2 to 1.0. Subsequent to New Source Review, proposed sources would obtain permits to construct and operate. The cement storage and truck loading equipment, OGV hoteling activities, and dockside catalytic control system (DoCCS) proposed for the Project would have to comply with this regulation.

Rule 1401 - New Source Review of Toxic Air Contaminants

This rule specifies limits for maximum individual cancer risk (MICR), cancer burden, and non-cancer acute and chronic hazard index (HI) from new permit units that emit TACs. The rule establishes allowable risks for permit units requiring new permits pursuant to Rules 201 and 203. The proposed DoCCS would have to comply with this rule.

In addition to SCAQMD rules, the following identifies emission control measures developed by the POLB that would apply to proposed emission sources.

Port of Los Angeles/Port of Long Beach Vessel Speed Reduction Program

In May 2001, the POLB, POLA, EPA Region 9, ARB, SCAQMD, the Pacific Merchant Shipping Association (PMSA), and the Marine Exchange of Southern California signed an MOU to voluntarily reduce the speed of OGV to 12 knots or less within 20 nm of Point Fermin. Reduction in OGV speed results in less power demand on the main engine, which in turn reduces fuel usage and emissions. The Clean Air Action Plan (CAAP) adopted the VSRP as control measure OGV-1 and expands the program out to 40 nm from Point Fermin.

Port of Long Beach Green Port Policy

In November 2004, the Board of Harbor Commissioners directed POLB staff to develop a policy that would build on the existing Healthy Harbor Program to encompass wide-ranging environmental goals. In January 2005, the Board of Harbor Commissioners adopted the Green Port Policy, which serves as a guide for decision making and establishes a framework for environmentally friendly Port operations. The goal of the air quality program element of the POLB Green Port Policy is to reduce harmful air emissions from Port activities (POLB 2005).

The Green Port Policy also directs the Port to integrate sustainable practices into Port development and operations through the design and construction, operations, and administrative practices throughout the Port. The sustainability goals will be met by actively promoting an organizational culture of environmental enhancement, fiscal responsibility, and community integrity. This culture is meant to extend beyond Port staff to the Port's customers and other stakeholders.

San Pedro Bay Ports Clean Air Action Plans

As a means to implement the Green Port Policy, the POLB, in conjunction with the POLA and with guidance from the SCAQMD, ARB, and EPA, adopted the first CAAP on November 20, 2006 (Ports of Los Angeles and Long Beach 2006). This 2006 CAAP had two main goals: 1) reduce operational emissions at the Ports in the interest of public health; and 2) accommodate growth in trade. The 2006 CAAP proposed to implement emission control measures largely through new lease agreements and the CEQA approval process for new projects. To encourage implementation of these measures for terminals that do not undergo lease negotiations, POLA and POLB proposed strategies such as incentive funding and tariff changes. This plan identified source-specific emission controls measures for OGV, trains, trucks, terminal equipment, and harbor craft. The 2006 CAAP also included a Project Specific Standard, where new projects must meet a 10 in a 1,000,000 cancer risk threshold. The Ports measured progress towards achieving its initiatives with the use of air monitoring and annual Port-wide emission inventories. The Ports also intend to periodically update the CAAP to further the goals of the plan.

On November 22, 2010, the Port and POLA adopted the CAAP 2010 Update (CAAP Update) (Ports of Los Angeles and Long Beach 2010). The CAAP Update includes three main enhancements to the 2006 CAAP:

1) Revises several existing emission control measures and proposals for new measures;
2) Completes the definition of the San Pedro Bay Standards (SPBS); and
3) Proposes that progress with the CAAP goals will be measured by comparing performance to the SPBS.

The most significant addition in the CAAP Update is the adoption of the SPBS. The SPBS has two parts and both are compared to baseline air quality conditions at the Ports in 2005: 1) a health risk reduction standard; and 2) an emissions reduction standard.

The health risk reduction standard proposes a goal to reduce the population-weighted cancer risk due to emissions of DPM from Port sources by 85 percent within communities adjacent to the Ports and throughout residential areas in the Ports region by 2023. The emissions reduction standard proposes to reduce emissions of NO_x, SO_x, and DPM from Ports sources by 22, 93, and 72 percent by 2014 and 59, 93, and 77 percent, respectively, by 2023.

This EIR analysis assumes that each project scenario would comply with all applicable CAAP measures. Section 3.2.2.2, Methodology, includes a discussion of these measures.

<u>POLB Clean Trucks Program</u>

On February 19, 2008, the POLB approved the POLB version of the Clean Trucks Program (CTP) developed with the POLA and created as part of the CAAP. The POLB CTP requires that all drayage trucks serving the Port meet 2007 EPA emission standards by January 2012 through progressive bans on older-model trucks. The heavy-duty trucks used during project operations would comply with this program.

3.2.1.4 CEQA Baseline Emissions at the MCC Terminal

The analysis of proposed air quality impacts is based on a comparison of effects from each project alternative to baseline existing conditions (CEQA baseline). The CEQA Guidelines state that the baseline for environmental analysis typically equates to the physical conditions of the project site and area at the time of the publication of a Notice of Preparation for an EIR, which was in 2011 for the MCC project. Due to the economic slowdown that began in 2007, the terminal has not operated since October 2010. Year 2006 was the last representative year of operations at the MCC terminal prior to the economic recession.

Accordingly, the air quality analysis in this EIR uses a CEQA baseline that equates to operational activities generated by the project terminal in year 2006. However, to develop emissions for the CEQA baseline, the analysis applied emission factors to these activities that would equate to operating conditions in year 2015, as defined by currently adopted rules and regulations. This approach enables a more equitable comparison to impacts from the project alternatives, whose emissions also are defined by year 2015 emission factors. Use of this approach therefore eliminates emission reductions that would be realized by a project alternative solely due to its definition with newer and lower emission factors compared to older and higher ones for the CEQA baseline. The emissions for the CEQA baseline are fixed at 2015 levels for all future analysis years. However, to evaluate cancer risks, the analysis developed CEQA baseline emissions based on the effects of vehicle fleet turnovers and adopted regulations for a future 70-year period, as discussed further under Impact AQ-6 in Section 3.2.2.3.

Sources associated with operations at the MCC Terminal during the CEQA baseline scenario included the following diesel-powered mobile sources:

1) OGVs that cruise/maneuver in South Coast waters/the Port and hotel at berth;
2) Tugboats that assist OGV maneuvering;
3) Wheeled loaders used to clean up residual cement in OGV holds (payloaders); and
4) Delivery of cement by on-road trucks.

CEQA baseline operations also included the following area/stationary sources of cement dust:

1) Ship unloading;
2) Bag houses and fabric filters on the cement storage warehouse and truck loaders;
3) Truck loading; and
4) Onsite road dust.

In 2006, the facility received 1,509,929 short tons of cement from vessels and exported 1,481,824 short tons by truck. This cargo transport was performed by 35 ship visits and 53,067 truck trips.

Activity data used to estimate emissions from CEQA baseline operational sources were obtained from MCC (MCC 2011), the Project traffic study conducted as part of this EIR (refer to Section 3.6, Ground Transportation and Appendix B), the POLB air emissions inventories (AEIs) for 2006 and 2012 (Starcrest Consulting Group, LLC 2008 and 2013), and air quality analyses associated with recent CEQA documents for proposed terminal development projects in the Port (POLB 2014b). Emission factors used to estimate CEQA baseline operational emissions were obtained from:

- The POLB AEIs for vessel sources. The analysis evaluated OGVs with main engines that comply with the MARPOL Annex VI Tier 1 NOx standard (17.0 g/kW-hr). OGVs at the terminal used on-shore electric power to replace power produced by onboard diesel-powered auxiliary generators (cold-ironing) for 66 percent of the total annual vessel berthing durations. In addition, OGVs that called at the MCC terminal during 2006 achieved a 62 percent compliance rate with the original VSRP that extends out 20 nm from Point Fermin;
- ARB Harbor Craft Regulation, as estimated for the tugboat fleet at the San Pedro Bay Ports (Starcrest LLC 2007)
- Wheeled loaders would attain full EPA nonroad Tier 4 emission standards;
- The ARB EMFAC2011 emissions model for on-road trucks (ARB 2011b) based on the average SCAB truck fleet for year 2015 (T7 tractor vehicle class);
- Source tests for point sources of cement dust (MCC 2010); and
- AP-42 Section 13.2.1 for dust generated by trucks on paved roads (EPA 2011). Operations in 2006 used a vacuum sweeper to control road dust onsite. To estimate dust generated by on-terminal travel, the analysis assumed that this measure reduced PM emissions from road dust by 25 percent from uncontrolled levels. AP-42 Section 13.2.1 documents four tests of vacuum sweeping that resulted in an average PM emission control rate of about 33 percent. The SCAQMD identifies a PM emission reduction rate for street sweeping of 16 to 26 percent (SCAQMD 2007). Vacuum sweeping used by the MCC terminal has a higher PM collection and control rate compared to mechanical sweeping. Therefore, as a conservative approach the analysis used a PM control rate near the upper value estimated for mechanical sweeping, but less than the value for vacuum sweeping.

Appendix A-1 includes data and assumptions used to estimate emissions for the MCC terminal during CEQA baseline operations.

Table 3.2-3 summarizes the annual average daily emissions that occurred from operations at the MCC terminal under the CEQA baseline scenario. Total annual emissions were divided by 365 days to estimate annual average daily emissions. Annual average daily emissions generated by the proposed Project and alternatives are compared to the data in Table 3.2-3 to determine their significance. Evaluation of average daily emissions provides a metric of annual emissions, versus evaluation of peak daily emissions based on a scenario of more intense and acute operations.

The data in Table 3.2-3 show that the main contributors to emissions were on-road trucks, followed by OGV transiting the SCAB outer waters, and OGV in hoteling mode at berth. Truck emissions occurred while driving on-terminal and an average round trip distance of 60 miles between the terminal and facility locations within the SCAB.

Table 3.2-4 summarizes estimates of the peak daily emissions that occurred from operations at the MCC terminal under the CEQA baseline scenario. The peak day emissions scenario assumes the inbound transit of an OGV within the project region (five hours), and then hoteling and unloading for the remainder of the day, estimated to be 19 hours. In addition, the terminal and associated truck loading and truck transporting operated 24 hours per day. Peak daily emissions generated by the proposed Project and alternatives also are compared to the data in Table 3.2-4 to determine their significance.

Table 3.2-3. Average Daily Emissions Associated with CEQA Baseline Operations at the MCC Terminal

Activity	Emissions (Pounds per day)					
	VOC	CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$
Ships – Outer Waters Transit	5.1	12.0	136.4	3.7	2.2	1.8
Ships - Precautionary Area Transit	0.7	1.5	17.6	0.5	0.3	0.2
Ships - Harbor Transit	0.3	0.6	4.4	0.1	0.1	0.1
Ships – Docking	0.3	0.3	2.4	0.1	0.1	0.0
Ships - Hoteling Aux. Sources	2.0	5.0	54.5	5.9	1.7	1.4
Ships - Turning at Berth	0.1	0.1	0.8	0.0	0.0	0.0
Tugboats - Cargo Vessel Assist	0.2	2.2	4.6	0.0	0.1	0.1
Vessel Unloading - Dust	-	-	-	-	11.8	7.9
Payloaders	0.1	0.3	0.1	0.0	0.0	0.0
Truck Loading - Dust	-	-	-	-	5.1	3.4
On-road Trucks	8.5	33.0	191.2	0.3	31.6	21.4
Total Average Daily Emissions	**17.2**	**55.1**	**412.0**	**10.5**	**53.1**	**36.4**

Table 3.2-4. Peak Daily Emissions Associated with CEQA Baseline Operations at the MCC Terminals

Activity	Emissions (Pounds per day)					
	VOC	CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$
Ships - Outer Waters Transit	28.6	67.0	764.4	20.4	12.3	9.9
Ships - Precautionary Area Transit	3.4	8.1	91.7	2.5	1.5	1.2
Ships - Harbor Transit	2.1	3.5	23.1	0.6	0.5	0.4
Ships – Docking	1.4	1.8	12.7	0.3	0.3	0.2
Ships - Hoteling Aux. Sources	4.0	10.7	117.1	7.9	3.0	2.4
Ships - Turning at Berth	4.3	5.5	39.1	1.0	0.9	0.7
Tugboats - Cargo Vessel Assist	1.4	15.1	31.4	0.0	0.8	0.7
Vessel Unloading – Dust	-	-	-	-	14.6	9.8
Payloaders	-	-	-	-	-	-
Truck Loading – Dust	-	-	-	-	5.7	3.8
On-road Trucks	15.4	59.9	347.2	0.5	57.4	38.9
Total Peak Daily Emissions	**60.5**	**171.6**	**1,426.7**	**33.3**	**97.1**	**68.1**

3.2.2 Impacts and Mitigation Measures

The following analysis considers the air quality and health risk impacts that would occur from the Project and alternatives. Section 3.2.3, Cumulative Impacts, also evaluates the cumulative air quality impacts that would occur from proposed Project construction and operational activities in combination with existing or reasonably foreseeable future projects.

For purposes of this EIR, the evaluation of significance is determined by comparing impacts from the proposed Project or its alternatives to the CEQA baseline conditions. Project emissions that would occur within the SCAB were compared to this baseline.

3.2.2.1 Significance Criteria

Criteria for determining the significance of impacts related to air quality and health risk are based on the CEQA Guidelines Appendix G Environmental Checklist and standards and thresholds recommended by the SCAQMD (SCAQMD 2011a) and ARB.

Construction Impacts

A significant impact during construction would occur if the Project would:

AQ-1: Produce construction emissions or a combination of overlapping construction and operational emissions that exceed any of the SCAQMD daily construction thresholds of significance presented in Table 3.2-5; or

AQ-2: Result in offsite ambient air pollutant concentrations that exceed any of the SCAQMD thresholds of significance shown in Table 3.2-6.

Operational Impacts

A significant impact during operations would occur if the Project would:

AQ-3: Generate operational emissions that exceed any of the SCAQMD daily thresholds of significance presented in Table 3.2-5;

AQ-4: Result in offsite ambient air pollutant concentrations that exceed any of the SCAQMD thresholds of significance shown in Table 3.2-6. However, to evaluate Project operational impacts on ambient 1-hour NO_2 levels, the analysis replaced the use of the current SCAQMD NO_2 threshold of 0.18 ppm with the more stringent 1-hour NAAQS of 0.10 ppm, per SCAQMD guidance (SCAQMD 2012);

AQ-5: Create an objectionable odor pursuant to SCAQMD Rule 402 at the nearest sensitive receptor;

AQ-6: Expose the public to significant levels of TACs. The determination of significance is based on the following:

- Maximum Increment Cancer Risk greater or equal to 10 in 1 million (10×10^{-6});
- Non-cancer (chronic or acute) Health Hazard Index (HHI) greater or equal to 1.0 (Project increment);
- Cancer burden greater than 0.5; or

AQ-7: Conflict with or obstruct implementation of an applicable AQMP.

3.2.2.2 Methodology

Air pollutant emissions from the proposed Project construction and operational activities were calculated using the most comprehensive emission factors and methods, then compared to the thresholds identified in Section 3.2.2.1, Significance Criteria, to determine their significance. For impacts that exceed a significance criterion, mitigation measures were applied to proposed Project activities to determine their ability to reduce impacts to insignificance.

Construction Emissions

Proposed Project construction activities would require the use of diesel-powered off-road construction equipment and on-road trucks and worker commuter vehicles that would produce combustive emissions in the form of VOC, CO, NO_x, SO_x, and PM_{10} and $PM_{2.5}$. Equipment and vehicles traveling over unpaved surfaces and performing grading and earthmoving activities also would generate fugitive dust emissions in the form of PM_{10} and $PM_{2.5}$.

Table 3.2-5. SCAQMD Mass Daily Emission Thresholds		
Air Pollutant	Emission Threshold (Pounds/Day)	
	Construction	Operational
VOC	75	55
CO	550	550
NO_x	100	55
SO_x	150	150
PM_{10}	150	150
$PM_{2.5}$	55	55
Source: SCAQMD 2011a		

Table 3.2-6. SCAQMD Thresholds for Ambient Air Quality Concentrations Associated with Proposed Construction and Operation		
Air Pollutant	Ambient Concentration Threshold	
	Construction	Operational
NO_2[a]		
1-hour average	0.18 ppm (339 µg/m^3)	0.10 ppm (188 µg/m^3)
Annual average (state)	0.030 (57 µg/m^3)	0.030 (57 µg/m^3)
Annual average (national)	0.0534 (100 µg/m^3)	0.0534 (100 µg/m^3)
PM_{10} or $PM_{2.5}$[b]		
24-hour average	10.4 µg/m^3	2.5 µg/m^3
Annual average (PM10 only)	1.0 µg/m^3	1.0 µg/m^3
CO[c]		
1-hour average	20 ppm (23,000 µg/m^3)	20 ppm (23,000 µg/m^3)
8-hour average	9.0 ppm (10,000 µg/m^3)	9.0 ppm (10,000 µg/m^3)
SO_2[d]		
1-hour average (state)	0.25 ppm	0.25 ppm
1-hour average (national)	0.075 ppm	0.075 ppm
24-hour average (national)	0.04 ppm	0.04 ppm

Notes:

a. To evaluate Project impacts on ambient 1-hour NO_2 levels, the analysis used the current SCAQMD 1-hour NO_2 threshold (0.18 ppm) for construction impacts. To evaluate Project operational impacts, the analysis used the 1-hour NAAQS (0.10 ppm), per SCAQMD guidance (SCAQMD 2012). To attain the national standard, the 3-year average of the 98th percentile of the daily maximum 1-hour averages at a receptor must not exceed 0.10 ppm.

b. The PM_{10} and $PM_{2.5}$ thresholds are incremental thresholds; the maximum predicted impact from proposed activities (without adding background concentrations) is compared to these thresholds.

c. The CO thresholds are absolute thresholds; the maximum predicted impact from construction activities is added to the background concentration for the proposed Project vicinity and compared to the threshold.

d. To attain the SO_2 national 1-hour standard, the 3-year average of the 99th percentile of the daily maximum 1-hour averages at a receptor must not exceed 0.075 ppm.

Source: (SCAQMD 2011a)

Equipment usage and scheduling data needed to calculate emissions for proposed construction activities were obtained from the Applicant (MCC 2009). To be consistent with the current CAAP Construction Best Management Practices, the analysis assumes that all proposed off-road construction equipment would meet the equivalent of EPA Tier 3 nonroad standards. Emission factors used to estimate other sources of construction emissions were obtained from the ARB EMFAC2011 model for worker commuter vehicles and on-road haul trucks (ARB 2011b), as well as special studies conducted by the EPA for fugitive dust (EPA 1995). Appendix A-1 includes data and assumptions used to estimate emissions for proposed construction activities.

In order to estimate peak daily construction emissions, daily emissions were calculated for each type of construction activity over the duration of each activity. Peak daily emissions then were determined by identifying the maximum daily emissions that would occur from overlapping construction activities during the entire construction calendar schedule. The analysis also identified a scenario of peak daily emissions associated with combined construction and operational activities. This situation would occur after the completion of dock upgrades and the initiation of silo construction in month 5 of Phase 1 construction.

Operational Emissions

Future operation of the MCC terminal would include the same types of emission sources as those in operation during the CEQA baseline scenario (Tables 3.2-3 and 3.2-4), with the following improvements:

- Upgrades to the cement unloaders would increase their unloading rate and thereby would reduce the berthing time of OGV and their associated hoteling emissions compared to CEQA baseline levels;
- Installation of an emission control system, DoCCS, would reduce NO_x emissions from ships at berth not in cold-ironing mode by approximately 88.9 percent from uncontrolled levels. The air quality analysis assumed that vessels would cold-iron at the same rate as the CEQA baseline scenario, or 66 percent of the total annual vessel berthing durations.
- Upgrades to air filter dust collection systems for the unloaders, cement storage warehouse, and truck loaders would reduce PM emissions from these sources; and
- Use of wheeled loaders for payloading and cleanup of residual cement in OGV holds that would attain full EPA nonroad Tier 4 emission standards.

Operational emissions are based on year 2015 conditions and the assumption that all project future scenarios would achieve full build-out and maximum throughput capacity at this time and that throughput levels would remain constant from this point forward. Under the proposed Project, the facility would receive 4,576,000 short tons of cement per year from vessels and would export the same amount by truck. This cargo transport would be performed by 99 ship visits and 166,400 truck trips, respectively.

Information on future operational emission sources was obtained from MCC, the Project traffic study conducted as part of this EIR (refer to Section 3.6, Ground Transportation and Appendix B), the POLB 2012 AEI (Starcrest Consulting Group, LLC 2013), and air quality analyses associated with recent CEQA documents for proposed terminal development projects at the Port (POLB 2014b). Emission factors used to estimate future operational emissions were obtained from:

- The POLB 2012 AEI for vessel sources;
- ARB Harbor Craft Regulation, as estimated for the tugboat fleet at the San Pedro Bay Ports (equal to CAAP measure HC1) (Starcrest LLC 2007)
- The ARB EMFAC2011 emissions model for on-road trucks (ARB 2011b), with inputs to simulate the Port clean truck fleet in year 2015 and beyond (equivalent to CAAP measure HDV1) (Starcrest Consulting Group, LLC 2011);
- Source tests for point sources of cement dust (MCC 2010); and
- AP-42 Section 13.2.1 for dust generated by trucks on paved roads (EPA 2011). As discussed in Section 3.2.1.4, this analysis assumes that vacuum sweepers would reduce PM emissions from onsite road dust by 25 percent from uncontrolled levels.

Appendix A-1 includes data and assumptions used to estimate emissions for the proposed MCC terminal operations.

Operational emissions were estimated for year 2015 for each of the project alternatives. Then, for each project alternative, the emissions for year 2015 minus CEQA baseline emissions were compared to the SCAQMD thresholds to determine CEQA significance.

Proposed Environmental Controls

This analysis assumes that each Project scenario would operate in compliance with approved and applicable regulations identified in Section 3.2.1.3, Regulatory Setting. The following are additional environmental controls that are considered as part of the unmitigated Project and alternatives.

The unmitigated Project scenarios include CAAP measures that are Port-wide and would occur regardless of terminal lease agreements. In addition, as part of the Port's commitment to promote the POLB Green Port Policy and implement the CAAP, the unmitigated operational activities associated with the proposed Project and Reduced Throughput Alternative include all applicable CAAP control measures and additional clean air technologies. Due to this high level of emission control, few feasible mitigation measures are available to further reduce proposed Project emissions and air quality impacts. Summaries of the EC measures that the analysis considered as part of the Project unmitigated operational scenarios include the following:

- ***EC AQ-1: Expanded VSRP –*** All OGVs that call at the MCC terminal shall comply with the expanded VSRP of 12 knots within 40 nm of Point Fermin and the Precautionary Area (equal to CAAP measure OGV1).
- ***EC AQ-2: Shore-to-Ship Power/Cold Ironing –*** OGVs that call at the MCC facility shall use shore-to-ship power (i.e., cold iron) no less than 66 percent of the time at berth based on an annual average. The DoCCs shall be used for the portion of time at berth that OGVs are not using ship-to-shore power. MCC shall submit annual reports to the Port's Environmental Planning Division on or before January 31 of each year, demonstrating compliance with this environmental control measure for the previous calendar year. If an emergency event [as defined in CARB's At-Berth Regulation, Title 17, CCR Section 93118.3, subsection (c)(14)], prevents MCC from achieving the required annual average shore-to-ship power rate (equal to or greater than 66 percent), MCC may demonstrate compliance over a two-year period, so long as MCC submits documentation to the Port which describes the emergency event(s) and explains the basis for MCC's inability to demonstrate compliance using an annual average. The Port will review the documentation submitted by MCC, and if the Port determines that MCC made sufficient effort to comply with the environmental control, it will notify MCC in writing that use of the two-year average is acceptable.
- ***EC AQ-3: Payloaders –*** Wheeled loaders used for final unloading shall attain EPA nonroad Tier 4 emission standards for cargo-handling equipment (equal to CAAP measure CHE1).

Health Risks

The Project HRA was conducted in accordance with the California Office of Environmental Health Hazard Assessment (OEHHA) "Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments" (OEHHA 2003); the SCAQMD's "Supplemental Guidelines for Preparing Risk Assessments for Toxics "Hot Spots" Information and Assessment Act (AB 2588)" (SCAQMD 2011b); and "Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Emissions" (SCAQMD 2003). The HRA evaluated individual lifetime cancer risks, cancer burden, and chronic and acute non-cancer hazard indices associated with the proposed Project. Additional details of the HRA methodology and inputs are described under **Impact AQ-6** in Section 3.2.2.3, Alternative 1 – Proposed Project, and in Appendix A-3.

3.2.2.3 Alternative 1 – Proposed Project

Construction Impacts

Impact AQ-1: Project construction activities would produce emissions that would not exceed SCAQMD emission significance thresholds.

Table 3.2-7 presents an estimate of the unmitigated daily air emissions that would occur during each phase/stage of proposed Project construction. To determine the significance of proposed Project emissions based on criterion AQ-1, the analysis included a review of the proposed construction schedule to determine a peak daily period of activity and resulting emissions for comparison to the SCAQMD daily emission thresholds. Table 3.2-8 presents peak daily emissions associated with combined construction and operational activities from the proposed Project.

Impact Determination

As shown in Table 3.2-7, during a peak day of activity, proposed Project construction activities would produce emissions that would remain below all SCAQMD emission significance thresholds. The main source of combustive emissions would occur from onsite construction equipment. With regard to PM_{10} and $PM_{2.5}$ emissions, the majority of the emissions would occur in the form of fugitive dust. The data in Table 3.2-8 also show that peak daily emissions associated with combined construction and operational activities from the Proposed Project would remain below all SCAQMD emission significance thresholds.

Table 3.2-7. Peak Daily Construction Emissions and Impacts for Proposed Project

Analysis Type/Construction Scenario	Emissions (Pounds per Day)					
	VOC	CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$
Daily Emissions						
Stage 1/Phase 0	2.6	13.6	34.8	0.2	64.2	14.7
Stage 1/Phase 1	6.4	28.4	84.2	0.2	84.3	19.3
Stage 1/Phase 2	5.6	27.7	72.4	0.2	4.7	4.0
Peak Daily Emissions[a]	**6.4**	**28.4**	**84.2**	**0.2**	**84.3**	**19.3**
SCAQMD Daily Emission Thresholds	**75**	**550**	**100**	**150**	**150**	**55**
Exceed Daily Emission Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
LST Analysis						
Peak Daily On-site Emissions[b]	**5.5**	**21.8**	**72.5**	**0.1**	**84.1**	**19.1**
SCAQMD Localized Significance Thresholds[c]	**NA**	**1,611**	**87**	**NA**	**37**	**13**
Exceed LST?	**No**	**No**	**No**	**No**	**Yes**	**Yes**
Mitigated Peak Daily On-site Emissions[d]	**5.5**	**21.8**	**72.5**	**0.1**	**23.0**	**10.7**
Exceed LST?	**NA**	**No**	**No**	**NA**	**No**	**No**

Notes:

a. Peak daily construction emissions of all pollutants would occur during Stage 1/Phase 1.
b. Excludes emissions generated offsite by haul trucks and commuter vehicles.
c. Based upon a construction area of two acres and a downwind distance of 100 meters.
d. Implementation of additional fugitive dust control measures that would achieve a 90 percent reduction in PM_{10}/$PM_{2.5}$ emissions from uncontrolled levels.

Table 3.2-8. Peak Daily Emissions from Combined Proposed Project Construction and Operations

Scenario	Emissions (Pounds per Day)					
	VOC	CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$
Peak Day Construction [a]	6.4	28.4	84.2	0.2	5.3	4.5
Peak Day Operations	81.4	281.0	1,407.7	30.1	169.9	116.3
Total Peak Daily Project Emissions	**87.8**	**309.3**	**1,491.9**	**30.3**	**175.2**	**120.8**
CEQA Baseline Peak Daily Emissions	**60.5**	**171.6**	**1,426.7**	**33.3**	**97.1**	**68.1**
Net Change - Project minus CEQA Baseline	**27.2**	**137.7**	**65.2**	**(3.0)**	**78.1**	**52.7**
SCAQMD Daily Emission Thresholds	**75**	**550**	**100**	**150**	**150**	**55**
Exceed Daily Emission Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Notes: a. In association with project operations, peak daily construction emissions of all pollutants would occur during month 5 of Phase 1 construction.

Since air quality impacts from Project construction or combined construction and operational activities would be less than significant, as measured by SCAQMD's emission significance thresholds, no mitigation is required.

Impact AQ-2: Project construction activities would result in offsite ambient air pollutant concentrations that would not exceed a SCAQMD threshold of significance.

The SCAQMD Localized Significance Threshold (LST) methodology was used to evaluate ambient air quality impacts from proposed Project construction (SCAQMD 2008b). The LST methodology allows a user to determine, in lieu of conducting a dispersion modeling analysis, if a project would cause or contribute to an exceedance of the most stringent applicable national or state ambient air quality standard for each source receptor area (SRA). This methodology is based on maximum daily allowable emissions, the total area of the emissions source (less than or equal to five acres), the ambient air quality in each SRA in which the emission source is located, and the distance to the nearest exposed individual.

The LSTs are only for emissions of NO_x, CO, PM_{10}, and $PM_{2.5}$. If proposed Project construction emissions are below the LST emission levels, and no potentially significant impacts are found to be associated with other environmental issues, then the proposed activity is not significant for air quality.

Air emissions from proposed Project construction activities would occur from mobile equipment and fugitive dust within a 2-acre Project site that includes the MCC terminal and the adjacent former Pacific Banana terminal. The following summarizes the LST criteria used to evaluate ambient pollutant impacts from onsite construction activities.

- The SRA for the Project site is the South Coastal Los Angeles County (#4).
- The distance to the nearest exposed individual would be 100 meters.
- The allowable daily emissions within a 2-acre construction site and a receptor distance of 100 meters are 1) 1,611 pounds of CO; 2) 87 pounds of NO_x; 3) 37 pounds of PM_{10}; and 4) 13 pounds of $PM_{2.5}$ (Table 3.2-7).

Impact Determination

Table 3.2-7 shows that the peak daily emissions generated by proposed Project construction would not exceed the LSTs for CO or NO_x but they would exceed the LSTs for PM_{10} and $PM_{2.5}$. As a result, unmitigated emissions from Project construction would produce significant impacts on ambient 24-hour PM_{10} and $PM_{2.5}$ levels. All other pollutant impacts would remain below significance levels.

Mitigation Measures

The majority of PM_{10} and $PM_{2.5}$ emissions from construction would occur in the form of fugitive dust and therefore this source is the focus for mitigation. The calculation of unmitigated fugitive dust emissions from proposed Project earth-moving activities is based on the proposed Project compliance with SCAQMD Rule 403, which is assumed to produce a 61 percent reduction in fugitive dust emissions from uncontrolled levels (SCAQMD 2007).

Mitigation Measure AQ-1: Additional Fugitive Dust Controls. The proposed Project construction contractor shall implement additional dust control measures that would increase PM_{10}/$PM_{2.5}$ emission reductions from 61 to 90 percent compared to uncontrolled levels. The contractor shall document these measures in a dust control plan that is approved by the SCAQMD under the requirements of Rule 403. The contractor shall designate personnel to monitor the dust control program and shall order increased watering, as necessary, to ensure a 90 percent control level. Their duties shall include holiday and weekend periods when work may not be in progress.

Additional measures to reduce fugitive dust shall include, but are not limited to, the following:

- Apply water three times daily or as needed to areas where soil is disturbed;
- Apply approved non-toxic chemical soil stabilizers according to manufacturer specifications to all inactive construction areas or replace groundcover in disturbed areas;
- Provide temporary wind fencing around sites being graded or cleared;
- Cover truck loads that haul dirt, sand, or gravel or maintain at least two feet of freeboard in accordance with Section 23114 of the California Vehicle Code;
- Install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash off tires of vehicles and any equipment leaving the construction site;
- Suspend all soil disturbance activities when winds exceed 25 mph as instantaneous gusts or when visible dust plumes emanate from the site and stabilize all disturbed areas;
- Appoint a construction relations officer to act as a community liaison concerning onsite construction activity including resolution of issues related to PM_{10} generation;
- Sweep all streets at least once per day using SCAQMD Rule 1186.1 certified street sweepers or roadway washing trucks if visible soil materials are carried to adjacent streets (recommend water sweepers with reclaimed water); and
- Apply water three times daily, or non-toxic soil stabilizers according to manufacturers' specifications, to all unpaved parking or staging areas or unpaved road surfaces.

Significance of Impacts after Mitigation

The data in Table 3.2-7 show that the mitigated peak daily emissions generated by Project construction would not exceed the LSTs for PM_{10} and $PM_{2.5}$. As a result, mitigated emissions from proposed Project construction would produce less than significant impacts on ambient pollutant levels.

Operational Impacts

Impact AQ-3: The Project would generate operational emissions that exceed a SCAQMD threshold of significance.

Table 3.2-9 presents an estimate of the unmitigated annual average daily emissions that would occur from the proposed Project operations for year 2015. Total 2015 annual emissions were divided by 365 days to estimate annual average daily emissions. The data in Table 3.2-9 show that the main contributors to emissions are on-road trucks and OGV transiting the SCAB outer waters. The main source of PM_{10}/$PM_{2.5}$ emissions would occur in the form of road dust generated by cement delivery trucks that drive on-terminal and an average round trip distance of 60 miles between the terminal and ready-mix cement/batch plant facility locations within the SCAB (MCC 2011).

Table 3.2-10 presents an estimate of the peak daily emissions that would occur from the proposed Project operations for year 2015. The peak day emissions scenario assumes the arrival of an OGV, and then hoteling and unloading for the remainder of the day, estimated to be 19 hours. In addition, the MCC terminal and associated truck loading and truck transporting would operate 24 hours per day. The data in Table 3.2-10 show that the main contributors to most pollutant emissions are on-road trucks, although OGV transiting the SCAB outer waters would be the largest source of NO_x emissions.

Impact Determination

Impacts from the Project annual average daily emissions were calculated by subtracting the CEQA baseline average daily emissions (Table 3.2-3) from the unmitigated proposed Project operational average daily emissions (Table 3.2-9). Table 3.2-9 shows that the net change in unmitigated proposed Project would produce higher operational emissions compared to the CEQA baseline levels for all pollutants. These emission increases are due to the substantial increase in proposed annual throughput and resulting operations compared to CEQA baseline levels. The main contributors to these emission increases would be OGVs and cement delivery trucks.

The data in Table 3.2-9 show that the net change in unmitigated proposed Project average daily emissions would remain below all SCAQMD daily emission thresholds except for NO_x. As a result, unmitigated proposed Project operations would produce significant levels of annual average daily NO_x emissions. All other average daily pollutant emissions would remain below significance levels.

Impacts from Project peak daily emissions were calculated by subtracting the CEQA baseline peak day emissions (Table 3.2-4) from the unmitigated proposed Project operational peak day emissions (Table 3.2-10). Table 3.2-10 shows that during a peak day of activities, the

Table 3.2-9. Average Daily Unmitigated Operational Emissions from Proposed Project – Year 2015

Activity	Emissions (Pounds per day)					
	VOC	CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$
Ships – Outer Waters Transit	13.2	30.9	352.7	9.5	5.7	4.6
Ships - Precautionary Area Transit	1.8	4.3	48.4	1.3	0.8	0.6
Ships - Harbor Transit	0.9	1.7	12.4	0.4	0.3	0.2
Ships – Docking	0.8	1.0	6.9	0.2	0.2	0.1
Ships - Hoteling Aux. Sources	1.6	4.0	14.6	4.6	1.4	1.1
Tugboats - Cargo Vessel Assist	0.5	5.9	12.2	0.0	0.3	0.3
Vessel Unloading - Dust					10.8	7.3
Payloaders	0.1	0.6	0.2	0.0	0.0	0.0
SCR Duct Burner	0.3	4.2	1.6	0.0	0.4	0.4
Truck Loading - Dust					5.2	3.5
On-road Trucks	31.7	129.2	403.4	0.8	97.5	65.4
Total Average Daily Emissions	**50.9**	**181.9**	**852.5**	**16.8**	**122.6**	**83.5**
CEQA Baseline Average Daily Emissions	**17.2**	**55.1**	**412.0**	**10.5**	**53.1**	**36.4**
Net Change - Proposed Project minus CEQA Baseline	**33.7**	**126.8**	**440.6**	**6.3**	**69.5**	**47.1**
SCAQMD Daily Emission Thresholds	**55**	**550**	**55**	**150**	**150**	**55**
Exceed Daily Emission Threshold?	**No**	**No**	**Yes**	**No**	**No**	**No**

Table 3.2-10. Peak Daily Unmitigated Operational Emissions from Proposed Project – Year 2015

Activity	Emissions (Pounds per day)					
	VOC	CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$
Ships - Outer Waters Transit	24.3	57.0	649.9	17.5	10.5	8.4
Ships - Precautionary Area Transit	3.3	7.8	89.1	2.5	1.5	1.2
Ships - Harbor Transit	2.1	3.5	23.1	0.6	0.5	0.4
Ships – Docking	1.4	1.8	12.7	0.3	0.3	0.2
Ships - Hoteling Aux. Sources	3.9	10.4	26.9	7.7	2.9	2.3
Tugboats - Cargo Vessel Assist	1.6	14.0	35.3	0.4	0.8	0.7
Vessel Unloading - Dust					9.2	6.2
SCR Duct Burner	0.3	4.2	1.6	0.0	0.4	0.4
Truck Loading - Dust					6.2	4.2
On-road Trucks	44.7	182.3	569.0	1.1	137.5	92.2
Total Peak Daily Emissions	**81.4**	**281.0**	**1,407.7**	**30.1**	**169.9**	**116.3**
CEQA Baseline Peak Daily Emissions	**60.5**	**171.6**	**1,426.7**	**33.3**	**97.1**	**68.1**
Net Change - Proposed Project minus CEQA Baseline	**20.9**	**109.3**	**(19.0)**	**(3.2)**	**72.8**	**48.2**
SCAQMD Daily Emission Thresholds	**55**	**550**	**55**	**150**	**150**	**55**
Exceed Daily Emission Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

unmitigated proposed Project would produce higher operational emissions compared to the CEQA baseline levels for all pollutants except NO_x and SO_2. These net changes in unmitigated proposed Project operations would not exceed any SCAQMD emission significance threshold and would produce less than significant peak daily emissions.

Mitigation Measures

Since the overwhelming majority of daily unmitigated NO_x emissions from proposed Project operations would occur from on-road cement delivery trucks and OGVs transiting the SCAB outer waters, mitigation of Project NO_x emissions focuses on these two source types.

Regarding OGVs, the Project air quality analysis assumes that unmitigated OGVs that call at the Project terminal in the future would have main engines that comply with the MARPOL Annex VI Tier 1 NO_x standard. Conversion of main engines in OGVs that meet either MARPOL Annex VI Tier 2 or Tier 3 NO_x emission limits would reduce NO_x emissions from the engines of Project OGVs by about 15 or 80 percent, respectively (Ports of Los Angeles and Long Beach 2010). The implementation years for these Tier 2/3 NO_x standards are 2011/2016. The CAAP proposes measures that would reduce NO_x emissions from OGV main engines by 1) encouraging the introduction of new OGVs with cleaner Tier 2 and 3 engines at a rate that is faster than what would occur from natural fleet turnover (measure OGV5) or 2) retrofitting main engines of OGVs in the existing fleet (measure OGV6).

MCC does not own the OGVs that would call at the project terminal and they have no active charter party agreements or dedicated fleet. Due to this lack of control over the project OGV fleet, it would be difficult to facilitate implementation of CAAP measure OGV5 or OGV6 on these vessels. Retrofitting or replacing an existing OGV main engine to reduce NO_x emissions also would not be feasible, as successful demonstration of these techniques are still in a process of development and evolution (Ports of Los Angeles and Long Beach 2012, 2013, and 2014). Due to the high cost of engine retrofits, the cost to implement (in dollars spent per mass of NO_x reductions) of such a measure would not be effective. Therefore, implementation of measures to reduce NO_x emissions from proposed OGV main engines is deemed infeasible.

It is expected that soon after initiation of Project operations, newer OGVs that comply with the MARPOL Annex VI Tier 2/3 NO_x standards would enter the project OGV fleet. As a result, they would generate correspondingly lower NO_x emissions and impacts compared to those presented in the Project air quality analysis. In addition, the proposed Project includes use of an innovative at-berth emission control technology (DoCCS) that potentially would reduce NO_x emissions from ships at berth that are not in cold-ironing mode by approximately 88.9 percent from uncontrolled levels. The DoCCS would help to reduce OGV NO_x emissions.

Regarding cement delivery trucks, the air quality analysis uses average NO_x emission rates that would occur from the POLB CTP truck fleet as a whole beginning in year 2015 to define NO_x emissions for the unmitigated Project truck fleet. This future POLB CTP truck fleet would include older vehicles whose NO_x emissions have increased with time due to usage and performance deterioration compared to newer vehicles. Replacing these older vehicles with newer and lower emitting ones would help to mitigate NO_x emissions from the truck fleet as a whole. Therefore, the following mitigation measure is proposed for modernizing the Project truck fleet.

Mitigation Measure AQ-2: Modernization of Delivery Truck Fleet. No less than 90 percent of the trucks loading cement or cementitious material at the MCC facility shall be equipped with an engine that meets one of the following requirements: 1) is no more than five years old, based on engine model year ("5-Year Engine"); 2) has been designed or retrofitted to comply with federal and state on-road heavy-duty engine emissions standards (e.g. EPA 2010 engine emission standards or successor rules or regulations for on-road heavy duty diesel engines) for a 5-Year Engine ("Emission Equivalent Engine"); or 3) uses alternative engine technology or fuels demonstrated to produce emissions no greater than a 5-Year Engine ("Alternative Equivalent Engine"). The remaining 10 percent of the trucks shall comply with all applicable federal and state heavy-duty on-road truck regulations. In addition, all trucks loading cement or cementitious materials at the MCC facility shall be registered in the Port of Long Beach and Los Angeles Clean Truck Program Drayage Truck Registry and the CARB Drayage Truck Registry. Compliance with this 90 percent requirement shall be determined on a calendar year basis. Documentation of compliance, showing the following information, shall be submitted to the Port's Environmental Planning Division on an annual basis by January 31 following each year of operation: 1) truck vehicle identification number (VIN), 2) engine model year, 3) annual truck trips, and 4) if non-diesel technology, manufacturer engine standards.

The following measures are proposed to further mitigate NOx (and PM) emissions from proposed sources. Due to the uncertainties associated with exactly when and at what levels these measures would be incorporated into proposed operations, a specific level of emissions control is not provided at this time. No other measures are feasible to reduce daily NO_x emissions from proposed operations.

Mitigation Measure AQ-5: Participation in AMECS Emission Testing. After construction of the proposed project has been completed and operations have resumed at the MCC facility, MCC shall use its best effort to participate in the SCAQMD's AMECS demonstration project at the Port of Long Beach (Port). MCC's participation specifically pertains to Task 10 Durability Testing as described in Exhibit A to the contract between the City of Long Beach and the SCAQMD, approved by the Port of Long Beach Board of Harbor Commissioners on February 10, 2014 (the "AMECS Demonstration Testing"), if at such time, AMECS technology is undergoing Task 10 Durability Testing at the Port.

If MCC participates in the testing of a vessel pursuant to the AMECS Demonstration Testing, the costs of testing will be borne as indicated in the contract, and no testing costs shall be borne by MCC (with the exception of in-kind staff time associated with coordinating the logistics of the testing). Additionally, if MCC participates in the AMECS Demonstration Testing, such vessel hoteling hours shall be exempt from the requirements of Project Environmental Control (EC AQ-2) – Shore to Ship Power/Cold Ironing, which requires OGVs that call at the MCC facility to use shore-to-ship power (cold-ironing) no less than 66 percent of the time (on an annual average) while at berth.

Mitigation Measure AQ-6: Periodic Technology Review. To promote new emission control technologies, MCC shall perform an investigation and submit a report to the POLB Chief Executive, every 5 years following the effective date of the new lease on any POLB-identified or other new emissions-reduction technologies that may reduce emissions at the MCC facility, including the feasibility of zero emissions and near-zero emissions technologies for cement delivery trucks and cement handling equipment (e.g. payloader). If the Periodic Technology Review demonstrates the new technology will be effective in reducing emissions and is determined through mutual agreement between the Port and MCC to be feasible, including but not limited to from a financial, technical, legal and operational perspective, MCC shall work with the Port to implement such technology.

Significance of Impacts after Mitigation

Table 3.2-11 shows that implementation of **MM AQ-2** would reduce average daily NO_x emissions from cement delivery trucks by 58 percent from unmitigated levels. However, the net increase in mitigated average daily NO_x emissions from total proposed operations would continue to exceed the SCAQMD daily NO_x emission threshold. Since there are no other feasible mitigation measures, the mitigated average daily NO_x emissions from Project operations would be significant and unavoidable

Courts have reached conflicting conclusions regarding whether an EIR should include an analysis that statistically correlates the impacts of a project's criteria pollutant emissions on human health. See, e.g., *Hanford No on Wal-Mart Supercenter v. City of Hanford* (2006) 2006 Cal. App. Unpub. LEXIS 5529 and *Sierra Club v. County of Fresno* (2014) 226 Cal. App. 4th 704. In addition, the Port is not aware of any scientific models that are designed to statistically correlate mass emissions of NO_x and project-specific health impacts. Nonetheless, it is possible to conclude, in general, that the average daily NO_x emissions produced by the mitigated Project operations could have several negative effects on public health, depending on the form they take in the atmosphere. The most common forms of NO_x and the potential negative effects of these compounds to public health include the following (SCAQMD 2013):

1. Emissions of NO_x occur mainly in the form of nitric oxide (NO) and NO_2. The NO portion of NO_x is not toxic to humans at concentrations typically present or monitored in ambient air. However, it can quickly convert to NO_2 in the presence of oxygen. The NO_2 portion of NO_x emissions can aggravate chronic respiratory disease and respiratory symptoms in sensitive groups and can cause changes in pulmonary and extra-pulmonary biochemical functions and cell structures. Short-term exposures (e.g., less than 3 hours) to low levels of NO_2 can lead to changes in airway responsiveness and lung function in individuals with pre-existing respiratory illnesses. These exposures also can increase respiratory illnesses in children. Long-term exposures to NO_2 can lead to increased susceptibility to respiratory infection and can cause irreversible alterations in lung structure. Chronic exposure to NO_2 can lead to eye and mucus membrane aggravation, along with pulmonary dysfunction. Epidemiological studies have also shown associations between NO_2 concentrations and daily mortality from respiratory and cardiovascular causes and with hospital admissions for respiratory conditions.

Table 3.2-11. Average Daily Mitigated Operational Emissions from Proposed Project – Year 2015

Activity	Emissions (Pounds per day)					
	VOC	CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$
Ships – Outer Waters Transit	13.2	30.9	352.7	9.5	5.7	4.6
Ships - Precautionary Area Transit	1.8	4.3	48.4	1.3	0.8	0.6
Ships - Harbor Transit	0.9	1.7	12.4	0.4	0.3	0.2
Ships – Docking	0.8	1.0	6.9	0.2	0.2	0.1
Ships - Hoteling Aux. Sources	1.6	4.0	14.6	4.6	1.4	1.1
Tugboats - Cargo Vessel Assist	0.5	5.9	12.2	0.0	0.3	0.3
Vessel Unloading - Dust					10.8	7.3
Payloaders	0.1	0.6	0.2	0.0	0.0	0.0
SCR Duct Burner	0.3	4.2	1.6	0.0	0.4	0.4
Truck Loading – Dust					5.2	3.5
On-road Trucks	16.4	66.6	169.4	0.8	95.2	63.3
Total Average Daily Emissions	**35.6**	**119.2**	**618.6**	**16.8**	**120.3**	**81.4**
CEQA Baseline Average Daily Emissions	**17.2**	**55.1**	**412.0**	**10.5**	**53.1**	**36.4**
Net Change - Proposed Project minus CEQA Baseline	**18.4**	**64.1**	**206.6**	**6.3**	**67.2**	**45.0**
SCAQMD Daily Emission Thresholds	**55**	**550**	**55**	**150**	**150**	**55**
Exceed Daily Emission Threshold?	**No**	**No**	**Yes**	**No**	**No**	**No**

2. Emissions of NO_x (NO and NO_2) promote the formation of O_3 in the atmosphere. Ozone can cause several respiratory ailments, as well as cardiovascular disease. Ozone can damage the respiratory tract, causing inflammation and irritation, and it can induce symptoms such as coughing, chest tightness, shortness of breath, and worsening of asthmatic symptoms. Ozone also accelerates aging, exacerbates pre-existing bronchitis, and can lead to the development of asthma in active children during conditions of high concentrations. The elderly and those with respiratory disease also are considered sensitive populations for O_3. High levels of O_3 can negatively affect immune systems, making people more susceptible to respiratory illnesses, such as bronchitis and pneumonia.
3. As discussed in Section 3.2.1.2, NO_x emissions also can contribute to the secondary formation of $PM_{2.5}$ in the atmosphere through complex chemical reactions. Potential health effects from $PM_{2.5}$ include (a) seasonal declines in pulmonary function, especially in children, (b) exacerbation and possible induction of asthma, (c) increased respiratory symptoms in children, such as cough and bronchitis, (d) increased hospitalization for both cardiovascular and respiratory disease, (e) adverse birth outcomes including low birth weight, (f) increased infant mortality, and (g) increased deaths from short- and long-term exposures.

The increase in Project NO_x emissions could contribute to one or more of the negative health effects mentioned above. Since the increase in significant NO_x emissions is based on an average day of project operations, these effects could occur throughout the year.

Impact AQ-4: Project operations would result in offsite ambient air pollutant concentrations that exceed a SCAQMD threshold of significance.

A dispersion modeling analysis using the EPA AERMOD program was performed to estimate ambient offsite impacts of the proposed Project operational emissions. For 1-hour to 24-hour impacts, the analysis evaluated the peak daily scenario presented for **Impact AQ-3** above. Appendix A-2 includes a discussion of the proposed Project operational emissions dispersion modeling analysis.

Impact Determination

Table 3.2-12 presents the projected maximum ambient offsite impacts for unmitigated proposed

Table 3.2-12. Maximum Ambient Pollutant Impacts – Unmitigated Operations from Proposed Project

Pollutant	Averaging Time	Maximum Impact from Unmitigated Project Emissions ($\mu g/m^3$)	Background Pollutant Concentration ($\mu g/m^3$) [a]	Total Maximum Unmitigated Project Impact ($\mu g/m^3$) [b]	SCAQMD Significance Threshold ($\mu g/m^3$)
NO_2	1-hour	**234**	40	**274**	188
	Annual	7	40	47	57
CO	1-hour	137	4,715	4,852	23,000
	8-hour	51	3,910	3,961	10,000
		Maximum Impact from Unmitigated Project Emissions ($\mu g/m^3$)	**Maximum Impact from CEQA Baseline Emissions ($\mu g/m^3$)**	**Maximum CEQA Increment ($\mu g/m^3$) [b]**	**SCAQMD Significance Threshold ($\mu g/m^3$)**
PM_{10}	24-hour	16.34	7.16	**9.18**	2.5
$PM_{2.5}$	24-hour	10.99	4.92	**6.07**	2.5
PM_{10}	Annual	4.94	1.28	**3.66**	1.0

Notes:

a. Background CO data obtained from the highest values recorded at either the POLB Superblock Inner Harbor or Gull Park Outer Harbor monitoring stations for the period of 2011 through 2013. The one-hour NO2 background value equates to the value associated with the maximum combined project impact plus background value identified in the Ozone Limiting Method (OLM) analysis and occurred during the 9/06 thru 8/07 period of record for the meteorological data used in the analysis. The analysis also obtained the annual NO2 background value from this same data set, which is somewhat higher than the calendar year average NO2 values recorded at the Gull Park monitoring station for the period of 2009 through 2013.

b. Exceedance of a threshold is **indicated in bold**. The thresholds for NO_2 and CO apply to the sum of Impacts from Project Emissions plus Background Pollutant Concentrations. The thresholds for $PM_{10}/PM_{2.5}$ are incremental and apply to Impacts from Project Emissions minus CEQA Baseline Emissions.

Project operations. These data show that the maximum total NO_2 impact would exceed the 1-hour SCAQMD ambient significance threshold. In addition, the maximum proposed Project minus CEQA baseline 24-hour PM_{10} and $PM_{2.5}$ and annual PM_{10} impacts would exceed their SCAQMD ambient significance thresholds. As a result, unmitigated emissions from proposed Project operations would contribute to significant levels of 1-hour NO_2, 24-hour PM_{10} and $PM_{2.5}$, and annual PM_{10}. All other ambient pollutant impacts would remain below significance levels. The main contributors to these significant PM_{10} and $PM_{2.5}$ impacts would be cement dust generated from the truck loaders and trucks driving along the east side of the terminal (road dust).

Mitigation Measures

As discussed above for **Impact AQ-3**, implementation of **MM AQ-2** would reduce Project operational emissions of NO_x and correspondingly NO_2. This measure also would reduce combustive DPM emissions from the proposed cement delivery trucks.

To further reduce PM emissions from proposed operations, the applicant proposes to install an active diesel particulate filter (DPF) system that would integrate into the proposed DoCCS. Due to the uncertainties associated with the application of this DPF technology to unmodified existing marine engines, a specific level of DPM emissions control is not provided at this time.

However, implementation of this technology would result in lower Project PM emissions compared to those currently identified in this EIR. No other measures (except **MMs AQ-5 and AQ-6** mentioned under Impact AQ-3) are feasible to reduce emissions of PM_{10} and $PM_{2.5}$ from proposed operations.

MM AQ-3: Diesel Particulate Filter for the DoCCS. MCC shall participate in a demonstration project for integrating an active diesel particulate filter (DPF) system into the DoCCS. Within three (3) months after the start-up/initial use of the DoCCS to control emissions from a ship, MCC shall submit to the Port a proposed plan, budget, and schedule for the demonstration project that includes, but is not limited to, designing, procuring, permitting, installing, operating, and emissions testing of the DPF system. The Port shall review and approve MCC's proposal and the demonstration project shall commence within six (6) months of the Port's approval. As part of the demonstration project, MCC shall operate the combined DPF and DoCCS system for 1,000 hours and conduct emissions testing of the combined DPF and DoCCS system in a manner that is compliant with testing requirements for both the SCAQMD and California Air Resources Board. The demonstration project shall be completed within two (2) years after installation and start-up of the DPF system.

The demonstration project may be terminated after less than 1,000 hours of operation in the event that MCC determines, and the Port concurs, that the DPF is not compatible with MCC's equipment and operations, or the technology has not yet sufficiently advanced for this application.

No later than six (6) months after the completion of the demonstration project, MCC shall provide a final report to the Port that includes a summary of the demonstration project, technical specifications and costs of the DPF system, emissions testing results, and a discussion of any operational considerations of adding the DPF system to the DoCCS. If it is determined through mutual agreement by MCC and the Port that the DPF system is compatible with MCC's equipment and operations, MCC shall permanently install the DPF and use the DPF whenever ships are treated with the DoCCS.

Vessel hoteling hours associated with the testing of the DPF system shall be exempt from the requirements of project EC AQ-2 - Shore-to-Ship Power/Cold Ironing. This EC requires OGVs that call at the MCC facility to use shore-to-ship power (cold-ironing) no less than 66 percent of the time (on an annual average) while at berth. The total number of OGV hoteling hours allowed by this exemption shall not exceed 1,000.

Significance of Impacts after Mitigation

Table 3.2-13 shows that implementation of **MM AQ-2** would reduce the ambient impacts of NO_2, PM_{10}, and $PM_{2.5}$ from unmitigated proposed operations. As discussed above, in order to avoid speculation, implementation of **MMs AQ-3, AQ-5, and AQ-6** are not quantified in Table 3.2-13. These data show that impacts of mitigated emissions of NO_x and PM would continue to exceed the SCAQMD ambient significance thresholds for 1-hour NO_2, 24-hour PM_{10} and $PM_{2.5}$, and annual PM_{10}. Since there are no other feasible mitigation measures, these ambient impacts from proposed Project operations would remain significant and unavoidable. However, the footprints of the PM_{10} and $PM_{2.5}$ ambient threshold exceedances would extend only a few hundred meters beyond the proposed Project terminal boundary (as shown in Figures A-2-6 through A-2-8 in Appendix A2).

With regard to 1-hour NO_2 impacts, the worst-case NO_2 background concentration used in the analysis of **Impact AQ-4** is at approximately 91 percent of the SCAQMD significance threshold. The incremental effect of adding NO_2 emissions from the Project was analyzed as part of the acute Hazard Index (HI). The acute HI is the ratio of the average short-term (generally one hour) ambient concentration of an acutely toxic substance(s) divided by the acute reference exposure level set by the Office of Environmental Health Hazard Assessment (OEHHA). If this ratio is above one, then adverse health effects may occur. The Project HRA determined that the unmitigated acute HI for all Project emissions is substantially less than 1.0 for all receptor types and the incremental impact would be insignificant (see Table 3.2-14). The mitigated levels of emissions would be lower and the health impacts would be further reduced.

Although the Project analysis shows that acute impacts would be insignificant, the off-site 1-hour NO_2 exceedances still could have health impacts on persons located within or near the exceedance areas. For example, a person within the area where the Project exceeds the NO_2 1-hour threshold could be impacted by NO_2 inhalation even if the person is only there temporarily. Moreover, it is important to note that the worst-case NO_2 background concentration is itself very close to the SCAQMD threshold (equal to the federal clean air standard). Thus, even minor additional increases in NO_2 emissions from the Project could cause an exceedance of the standard.

As stated above under **Impact AQ-3**, courts have reached differing conclusions regarding whether an EIR must correlate air emissions and project-specific health impacts. As discussed below in **Impact AQ-6**, such correlation is often done for TACs through an HRA. The HRA analysis does include the acute health effects of

Project NO_2 emissions and chronic health effects of Project PM emissions. In addition, the health risks of criteria pollutants have been taken into consideration by the ARB and USEPA in the establishment of the California and National Ambient Air Quality Standards. By definition, persons exposed to exceedance of those ambient standards are at risk of adverse health impacts.

The significant mitigated NO_2, PM_{10}, and $PM_{2.5}$ impacts produced by Project operations could have several negative effects on public health. The negative effects of NO_2 and $PM_{2.5}$ emissions are presented in the discussion of **Impact AQ-3**. If PM_{10} emissions accumulate in the respiratory system, they can aggravate

Table 3.2-13. Maximum Ambient Pollutant Impacts – Mitigated Operations from Proposed Project

Pollutant	Averaging Time	Maximum Impact from Mitigated Project Emissions (μg/m³)	Background Pollutant Concentration (μg/m³) [a]	Total Maximum Mitigated Project Impact (μg/m³) [b]	SCAQMD Significance Threshold (μg/m³)
NO_2	1-hour	229	23	**252**	188
		Maximum Impact from Mitigated Project Emissions (μg/m³)	**Maximum Impact from CEQA Baseline Emissions (μg/m³)**	**Maximum CEQA Increment (μg/m³) [b]**	**SCAQMD Significance Threshold (μg/m³)**
PM_{10}	24-hour	16.33	7.16	**9.17**	2.5
$PM_{2.5}$	24-hour	10.94	4.92	**6.02**	2.5
PM_{10}	Annual	4.93	1.28	**3.65**	1.0

Notes:

a. Background CO data obtained from the highest values recorded at either the POLB Superblock Inner Harbor or Gull Park Outer Harbor monitoring stations for the period of 2011 through 2013. The one-hour NO2 background value equates to value associated with maximum combined project impact plus background value identified in the OLM analysis. Annual NO2 background value obtained from the NO2 background data used in the OLM analysis.

b. Exceedance of a threshold is **indicated in bold**. The threshold for NO_2 applies to the sum of Impacts from Project Emissions plus Background Pollutant Concentrations. The threshold for PM_{10} is incremental and applies to Impacts from Project Emissions minus CEQA Baseline Emissions.

health problems such as asthma, bronchitis and other lung diseases. Children, the elderly, exercising adults, and those suffering from asthma are especially vulnerable to adverse health effects of PM_{10}. The negative health effects of $PM_{2.5}$ emissions described in the discussion of **Impact AQ-3** also apply to PM_{10} emissions.

Impacts of NO_2, PM_{10}, and $PM_{2.5}$ from Project operations could contribute to one or more of the public health effects mentioned above for persons located within each of the significant impact exceedance areas. These effects could occur throughout Project operation.

Impact AQ-5: Project operations would not create objectionable odors to sensitive receptors.

Project operational activities would generate air pollutants from the combustion of diesel fuels. Some individuals may sense that diesel combustion emissions (mainly VOC and DPM) are objectionable in nature, although quantifying the odorous impacts of these emissions to the public is difficult. In addition, operation of the DoCCS during periods of OGV hoteling would emit minor amounts of ammonia (less than 0.1 pounds per hour). As identified in Section 3.2.1.2, Setting, the nearest sensitive receptors to the MCC terminal are residents in southwest Long Beach, approximately 1.2 miles to the northeast. Residents also exist within about 0.1 mile of the main route (Interstate 710) used by cement delivery trucks to access the project terminal.

Impact Determination

The data in Tables 3.2-3 and 3.2-9 show that sources associated with proposed Project operations would increase air pollutants due to the combustion of diesel fuels compared to CEQA baseline levels. However, the distance between proposed emission sources and sensitive receptors would be far enough to allow for adequate dispersion of these emissions to below objectionable odor levels. The minor amounts of ammonia slip emissions produced by the DoCCS during periods of OGV hoteling also would produce ambient concentrations that would not exceed the odor threshold for ammonia (5 ppm). As a result, odor impacts from the unmitigated proposed Project operations would be less than significant. As odor impacts would be less than significant, no mitigation is required.

Impact AQ-6: Project construction and operations would not expose receptors to significant levels of TACs.

The following presents the results of an HRA that was conducted to quantify the significance of public health effects generated by proposed Project emissions of TACs. The HRA evaluated individual lifetime cancer risks and chronic and acute non-cancer hazard indices associated with the proposed Project.

Individual lifetime cancer risk represents the chance that an individual would contract cancer after a lifetime (70 years) of exposure to the TACs of concern. The SCAQMD considers the cancer risk associated with a proposed Project to be significant if it equals or exceeds 10 in 1 million (10×10^{-6}) at any residential receptor.

The chronic and acute non-cancer hazard indices represent predicted long- and short-term exposures to certain TACs, respectively; calculated by dividing the model-predicted TAC concentration by the TAC reference exposure levels (RELs) established by OEHHA (ARB 2012B). A health hazard index (HHI) equal to or greater than one indicates the potential for adverse non-cancer health effects.

Estimates of potential health effects are based on the evaluation of construction and operational emissions associated with the proposed Project. Appendix A-3 presents the Project HRA and the TAC emission calculations used for inputs in the HRA. Since the proposed Project would generate emissions of PM, this analysis also discusses the potential effects of these emissions in terms of increased mortality and morbidity in the region.

Emissions of TACs from proposed Project operational sources would occur from:

- Internal combustion of diesel or residual fuels in ships, tugboats, terminal equipment, and trucks;
- External combustion of distillate or residual fuels in OGV service boilers;
- Particulate emissions from truck tire and brake wear;
- Cement dust (chronic non-cancer effects only); and

- Ammonia slip from the SCR unit of the DoCCS (chronic non-cancer effects only).

For the internal combustion sources, DPM exhaust emissions were modeled in the HRA for cancer and chronic non-cancer effects. With regard to acute non-cancer effects from these sources, the HRA assessed both criteria pollutants and chemicals that are subsets of VOCs and DPM. For the OGV service boilers, combustion VOC and PM_{10} emissions were speciated into their respective TAC components using profiles provided by the ARB (ARB 2011c). For truck tire and brake wear, fugitive PM_{10} emissions also were speciated into their respective TAC components using ARB profiles.

When determining significance from a CEQA standpoint, the HRA calculated the incremental change in health effect values due to the proposed Project compared to CEQA baseline conditions (i.e., proposed Project minus CEQA baseline). These proposed Project increments were compared to the health risk thresholds identified in Section 3.2.2.1, Significance Criteria, to determine their significance.

To estimate cancer risk impacts, CEQA baseline and proposed Project operational emissions were projected over a 70-year period, from 2015 through 2084. This 70-year projection of emissions was done to match the 70-year exposure period evaluated for cancer risks. The 70-year emission calculations for both the CEQA baseline and future project scenarios took into consideration changes in source emission factors due to the effects of current regulations and proposed environmental controls, as discussed in Section 3.2.2.2, Methodology. Cement delivery trucks and OGVs assist tugboats would be the only baseline and proposed sources whose future emissions would be affected by current regulations.

Project operations and emissions are based on the assumption that the proposed Project would achieve full throughput at 2015 and that throughput and source activity levels would remain constant for the 70-year analysis period. For the CEQA baseline, source activity levels were held constant at their 2006 values for the 70-year period.

To estimate proposed Project non-cancer chronic and acute health effects, the HRA evaluated Project operations during year 2020, as cement delivery truck emission factors and resulting daily and annual emissions would be the highest during this year. For non-cancer effects, the CEQA baseline was modeled with the use of year 2015 emission factors.

The HRA estimated cancer and non-cancer effects to several population subgroups (receptors), including residential, offsite occupational, and sensitive (non-residential) receptors. Each of these receptor types has specific air pollutant exposure duration and breathing rate factors, as presented in Appendix A-3.

Table 3.2-14 presents estimates of maximum incremental cancer risks and chronic and acute HHI increments associated with the proposed Project. The values presented for each receptor

Table 3.2-14. Maximum Health Impacts Estimated for Unmitigated Construction and Operations from Proposed Project

Health Impact	Receptor Type	Maximum Predicted Incremental Impacts[a]			Significance Threshold[c]
		Proposed Project	CEQA Baseline	CEQA Increment[b]	
Cancer Risk	Residential	2.9×10^{-6}	1.2×10^{-6}	1.7×10^{-6}	10×10^{-6}
	Occupational	1.8×10^{-6}	0.9×10^{-6}	1.0×10^{-6}	
	Sensitive	3.8×10^{-6}	1.5×10^{-6}	2.3×10^{-6}	
Cancer Burden		0.09	0.06	0.04	0.5
Chronic Hazard Index	Residential	0.003	0.004	-0.001	1.0
	Occupational	0.042	0.029	0.012	
	Sensitive	0.004	0.004	-0.001	
Acute Hazard Index	Residential	0.11	0.10	0.01	1.0
	Occupational	0.33	0.27	0.06	
	Sensitive	0.11	0.09	0.01	

Notes:

a. For each receptor type, all risk values correspond to the receptor with the maximum CEQA incremental impact. Consequently, the risk numbers for the proposed project and the CEQA baseline are not constant, but rather would differ as they would correspond to values for the location of predicted maximum cancer and non-cancer risk increment value.

b The CEQA Increment represents proposed Project impact minus CEQA Baseline impact. These data may include rounding errors.

c Exceedances of the significance criteria are in bold. The significance thresholds for cancer risk and chronic hazard index only apply to the CEQA increment values.

type correspond to the receptor location with the maximum increment. These are the values on which the impact determinations were made. The cancer risk and non-cancer HHI increments at all other receptors within the modeling domain would be less than those shown in Table 3.2-14.

Impact Determination

Table 3.2-14 shows that the maximum CEQA increment for residential cancer risk from the unmitigated proposed Project is predicted to be 1.7 in one million (1.7×10^{-6}). This risk value is less than the significance criterion of 10 in 1 million (10×10^{-6}) risk and therefore would produce a less than significant impact. This risk level would occur in east Wilmington near the intersection of I-710 and Anaheim Street. The main contributor to this cancer risk value is trucks.

The maximum CEQA increment for occupational cancer risk from the unmitigated proposed Project is predicted to be 1.0 in 1 million (1.0×10^{-6}). This risk value is less than the significance criterion of 10 in 1 million cancer risk and therefore would produce a less than significant impact. This risk level would occur near the intersection of Pier G Avenue and Harbor Plaza within the POLB. The main contributors to this cancer risk value are ships and trucks.

The maximum CEQA increment for cancer risk at a sensitive receptor from the unmitigated proposed Project is predicted to be 2.3 in 1 million (2.3×10^{-6}). This risk value, which was conservatively modeled with 70-year residential exposure assumptions, is less than the significance criterion of 10 in 1 million cancer risk, and therefore would produce a less than significant impact. This risk level would occur in west Long Beach just north of Anaheim Street.

Table 3.2-14 shows that the CEQA increment for cancer burden from the unmitigated proposed Project would be substantially less than the significance threshold of 0.5 excess cancer cases.

Table 3.2-14 shows that the maximum CEQA increments for the chronic and acute HHIs from the unmitigated proposed Project would be substantially less than one for all receptor locations. The near zero to slightly negative chronic non-cancer CEQA increments occur, as the slightly higher annual emissions associated with the proposed Project are essentially offset by slightly higher annual baseline hoteling and cement dust emissions and resulting chronic effects (such as silica from cement dust). Therefore, the non-cancer chronic and acute health effects associated with the unmitigated proposed Project would produce less than significant impacts.

Since cancer risks and non-cancer health impacts would be less than significant, no mitigation is required.

PM Morbidity & Mortality Considerations

Particles small enough to be inhaled into the deepest parts of the lung are of great concern to public health. Respirable particles (PM_{10} and $PM_{2.5}$) can accumulate in the respiratory system and aggravate health problems such as asthma, bronchitis, and other lung diseases. Children, the elderly, exercising adults, and people suffering from asthma are especially vulnerable to adverse health effects of PM_{10} and $PM_{2.5}$. The proposed Project would emit fugitive cement dust and road DPM, which is mainly $PM_{2.5}$, during proposed Project construction and operation. Additional discussions of potential health effects caused by DPM emissions and the regulatory impetus to address their health impacts are presented in Section 8.2.2. of Appendix A3 in this EIR.

SCAQMD's localized significance thresholds for PM_{10} and $PM_{2.5}$ are 10.4 $\mu g/m^3$ and 2.5 $\mu g/m^3$ for construction and operation, respectively. These values were developed based on ARB guidance and epidemiological studies showing significant toxicity (resulting in mortality and morbidity) related to exposure to fine particles. In addition, since mortality and morbidity studies represent major inputs used by the ARB and EPA to set the CAAQS and NAAQS, Project-level mortality and morbidity impacts are indirectly evaluated as part of the proposed Project PM_{10}/$PM_{2.5}$ dispersion modeling analyses presented under **Impact AQ-4**. Therefore, it is appropriate to quantify Project PM mortality and morbidity effects only if a project dispersion modeling analysis identifies a significant 24-hour $PM_{2.5}$ impact of equal or greater than 2.5 $\mu g/m^3$. This general approach follows the guidance in CEQA Guidelines Section 15126.2(a), which provides that an EIR should focus on "significant" impacts, and further provides that an EIR's discussion of significant impacts should include "health and safety problems caused by the physical changes."

As shown in Table 3.2-13, the maximum mitigated proposed Project minus CEQA baseline 24-hour $PM_{2.5}$ impact outside of the MCC terminal is 6.02 μg/m^3, which is greater than the significance threshold of 2.5 μg/m^3. The footprint of this $PM_{2.5}$ ambient threshold exceedance only would extend a few hundred meters beyond the proposed Project terminal boundary (as shown in Figure A-2-7 in Appendix A2). There are no residents within this impact zone. Therefore, no further analysis is required and proposed Project emissions of PM would produce less than significant impacts on mortality and morbidity levels. Since impacts on health risk would be less than significant, no mitigation is required.

Uncertainty of Risk Analyses

Risk estimates, by their nature, cannot be completely accurate because they are predictions of risk. Scientists, medical experts, regulators, and practitioners do not completely understand how toxic air pollutants harm human cells and how different pollutants may interact with each other in the human body. The exposure assessment often relies on computer models that are based on numerous assumptions, both in terms of present and future conditions.

When information is missing or uncertain, risk analysts generally make assumptions that tend to prevent them from underestimating the potential risk. These assumptions generally are very conservative so they provide a margin of safety to protect human health. For example, regarding exposure durations for cancer risks, essentially no one resides in one location 24 hours a day and 350 days a year for 70 years. Additionally, there is no one standard way of conducting HRAs, leading to possible problems in comparing different risks. Assumptions also change over time, and even HRAs completed using the same models can produce different results.

OEHHA provided the following discussion of risk assessment uncertainties (OEHHA 2003):

> *There is a great deal of uncertainty associated with the process of risk assessment. The uncertainty arises from lack of data in many areas necessitating the use of assumptions. The assumptions used in these guidelines are designed to err on the side of health protection in order to avoid underestimation of risk to the public. Sources of uncertainty, which may either over estimate or under estimate risk, include: 1) extrapolation of toxicity data in animals to humans; 2) uncertainty in the estimation of emissions; 3) uncertainty in the air dispersion models; and 4) uncertainty in the exposure estimates. Uncertainty may be defined as what is not known and may be reduced with further scientific studies. In addition to uncertainty, there is a natural range or variability in the human population in such properties as height, weight, and susceptibility to chemical toxicants. Scientific studies with representative individuals and large enough sample size can characterize this variability.*
>
> *Interactive effects of exposure to more than one carcinogen or toxicant are also not necessarily quantified in the HRA. Cancer risks from all emitted carcinogens are typically added, and hazard quotients for substances impacting the same target organ system are added to determine the hazard index (HI). Many examples of additivity and synergism (interactive effects greater than additive) are known. For substances that act synergistically, the HRA could underestimate the risks. Some substances may have antagonistic effects (lessen the toxic effects produced by another substance). For substances that act antagonistically, the HRA could overestimate the risks.*
>
> *Other sources of uncertainty, which may underestimate or overestimate risk, can be found in exposure estimates where little or no data are available (e.g., soil half-life and dermal penetration of some substances from a soil matrix).*
>
> *The differences among species and within human populations usually cannot be easily quantified and incorporated into risk assessments. Factors including metabolism, target site sensitivity, diet, immunological responses, and genetics may influence the response to toxicants. The human population is much more diverse both genetically and culturally (e.g., lifestyle, diet) than inbred experimental animals. The intraspecies variability among humans is expected to be much greater than in laboratory animals. Adjustment for tumors at multiple sites induced by some carcinogens could result in a higher*

potency. Other uncertainties arise 1) in the assumptions underlying the dose-response model used, and 2) in extrapolating from large experimental doses, where, for example, other toxic effects may compromise the assessment of carcinogenic potential, to usually much smaller environmental doses. Also, only single tumor sites induced by a substance are usually considered. When epidemiological data are used to generate a carcinogenic potency, less uncertainty is involved in the extrapolation from workplace exposures to environmental exposures. However, children, a subpopulation whose hematological, nervous, endocrine, and immune systems, for example, are still developing and who may be more sensitive to the effects of carcinogens on their developing systems, are not included in the worker population and risk estimates based on occupational epidemiological data are more uncertain for children than adults. Finally, the quantification of each uncertainty applied in the estimate of cancer potency is itself uncertain.

Thus, risk estimates generated by an HRA should not be interpreted as the expected rates of disease in the exposed population but rather as estimates of potential risk, based on current knowledge and a number of assumptions. Additionally, the uncertainty factors integrated within the estimates of noncancer RELs are meant to err on the side of public health protection in order to avoid underestimation of risk. Risk assessment is best used as a ruler to compare one source with another and to prioritize concerns. Consistent approaches to risk assessment are necessary to fulfill this function.

Impact AQ-7: Project operations would not conflict with or obstruct implementation of the applicable AQMP.

The proposed Project would produce emissions of nonattainment pollutants primarily from diesel-powered sources and material handling. The 2012 AQMP proposes emission reduction measures that are designed to bring the SCAB into attainment of the NAAQS and CAAQS. The attainment strategies in this plan include mobile source control measures and clean fuel programs that are enforced at the federal and state levels on engine manufacturers and petroleum refiners and retailers.

The SCAQMD adopts AQMP control measures into the SCAQMD rules and regulations, which are then used to regulate sources of air pollution in the SCAB. The proposed Project would comply with these regulatory requirements. Additionally, the proposed Project would be required to meet appropriate CAAP requirements and other control measures, listed in Section 3.2.2.2, Methodology. These additional control requirements work in concert to implement the 2012 AQMP, and provide additional assurance that the proposed Project’s emissions sources would meet or exceed the emissions control forecasts for all approved AQMP control measures.

The POLB provides SCAG with Port-wide cargo forecasts that are used to simulate growth scenarios in the AQMP and the attainment demonstrations in the AQMP include emissions estimated for future growth at the Port. Implementation of the proposed Project has been included as part of these cargo forecasts. Therefore, the proposed Project would not exceed the future growth projections in the 2012 AQMP and it would not conflict with or obstruct implementation of the SIP. As a result, construction and operation of the proposed Project would promote the objectives of the 2012 AQMP.

Impact Determination

The proposed Project would not conflict with or obstruct implementation of the 2012 AQMP; therefore, impacts would be less than significant. As impacts on air quality would be less than significant, no mitigation is required.

3.2.2.4 Alternative 2 – Reduced Throughput Alternative

Construction Impacts

Impact AQ-1: Alternative 2 construction activities would produce emissions that would not exceed SCAQMD emission significance thresholds.

Table 3.2-15 presents an estimate of the unmitigated peak daily air emissions that would occur during each phase/stage of construction for the Reduced Throughput Alternative. To determine the significance of emissions based on criterion AQ-1, the analysis included a review of the proposed construction schedule to determine a peak daily period of activity and resulting emissions for comparison to the SCAQMD daily emission thresholds. Table 3.2-16 presents peak daily emissions associated with combined construction and operational activities from the Reduced Throughput Alternative.

Impact Determination

As shown in Table 3.2-15, during a peak day of activity, construction from the Reduced Throughput Alternative would produce emissions that would remain below all SCAQMD emission significance thresholds. The data in Table 3.2-16 also show that peak daily emissions associated with combined construction and operational activities from the Alternative would remain below all SCAQMD emission significance thresholds.

Since impacts on air quality would be less than significant, no mitigation is required.

Impact AQ-2: Alternative 2 construction activities would result in offsite ambient air pollutant concentrations that would not exceed a SCAQMD threshold of significance.

The SCAQMD LST methodology was employed to evaluate ambient air quality impacts from construction of the Reduced Throughput Alternative. Air emissions from construction activities mainly would occur from mobile equipment and fugitive dust within a 2 acre Project site, and to a lesser extent, construction worker commuter vehicles and trucks that operate within adjacent local and regional roadways. To be conservative, the analysis assumes that all peak daily construction emissions would occur within the area proposed for construction, which is located within the MCC terminal and the adjacent former Pacific Banana terminal.

Impact Determination

Table 3.2-15 shows that the peak daily emissions generated by construction of the Reduced Throughput Alternative would not exceed the LSTs for CO or NO_x but they would exceed the LSTs for PM_{10} and $PM_{2.5}$. As a result, unmitigated emissions from construction of this alternative would produce significant impacts on ambient 24-hour PM_{10} and $PM_{2.5}$ levels. The majority of PM_{10} and $PM_{2.5}$ emissions would occur in the form of fugitive dust. All other pollutant impacts would remain below significance levels.

Mitigation Measures

The construction contractor would implement **Mitigation Measure AQ-1** to achieve a 90 percent reduction in $PM_{10}/PM_{2.5}$ emissions from uncontrolled levels of fugitive dust.

Significance of Impacts after Mitigation

The data in Table 3.2-15 show that mitigated peak daily emissions generated by construction of the Reduced Throughput Alternative would not exceed the LSTs for PM_{10} and $PM_{2.5}$. As a result, mitigated emissions from construction of the Reduced Throughput Alternative would produce less than significant impacts on all ambient pollutant levels. Since impacts on ambient pollutant levels would be reduced to less than significant, no further mitigation is required.

Table 3.2-15. Peak Daily Construction Emissions and Impacts for the Reduced Throughput Alternative

Analysis Type/Construction Scenario	Emissions (Pounds per Day)					
	VOC	CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$
Daily Emissions						
Stage 1/Phase 0	2.6	13.6	34.8	0.2	64.2	14.7
Stage 1/Phase 1	6.4	28.4	84.2	0.2	84.3	19.3
Peak Daily Emissions[a]	**6.4**	**28.4**	**84.2**	**0.2**	**84.3**	**19.3**
SCAQMD Daily Emission Thresholds	**75**	**550**	**100**	**150**	**150**	**55**
Exceed Daily Emission Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
LST Analysis						
Peak Daily On-site Emissions[b]	**5.5**	**21.8**	**72.5**	**0.1**	**84.1**	**19.1**
SCAQMD Localized Significance Thresholds[c]	**NA**	**1,611**	**87**	**NA**	**37**	**13**
Exceed LST?	**No**	**No**	**No**	**No**	**Yes**	**Yes**
Mitigated Peak Daily Emissions[c]	**5.5**	**21.8**	**72.5**	**0.1**	**23.0**	**10.7**
Exceed LST?	**NA**	**No**	**No**	**NA**	**No**	**No**

Notes:

a. Peak daily construction emissions of all pollutants would occur during Stage 1/Phase 1.
b. Excludes emissions generated offsite by haul trucks and commuter vehicles.
c. Based upon a construction area of two acres and a downwind distance of 100 meters.
d. Implementation of additional fugitive dust control measures that would achieve a 90 percent reduction in $PM_{10}/PM_{2.5}$ emissions from uncontrolled levels.

Table 3.2-16. Peak Daily Emissions from Combined Construction and Operations for the Reduced Throughput Alternative

Scenario	Emissions (Pounds per Day)					
	VOC	CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$
Peak Day Construction [a]	6.4	28.4	84.2	0.2	5.3	4.5
Peak Day Operations	72.6	244.7	1,294.5	29.9	141.9	97.5
Total Peak Daily Project Emissions	**78.9**	**273.1**	**1,378.7**	**30.1**	**147.2**	**102.0**
CEQA Baseline Peak Daily Emissions	**60.5**	**171.6**	**1,426.7**	**33.3**	**97.1**	**68.1**
Net Change - Project minus CEQA Baseline	**18.4**	**101.5**	**(48.0)**	**(3.2)**	**50.1**	**33.9**
SCAQMD Daily Emission Thresholds	**75**	**550**	**100**	**150**	**150**	**55**
Exceed Daily Emission Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Notes: a. In association with operations from the Alternative, peak daily construction emissions of all pollutants would occur during month 5 of Phase 1 construction.

Operational Impacts

Impact AQ-3: Alternative 2 would generate operational emissions that would not exceed a SCAQMD threshold of significance.

Table 3.2-17 presents an estimate of the unmitigated annual average daily emissions that would occur from the operation of the Reduced Throughput Alternative in year 2015.

Table 3.2-18 presents an estimate of the peak daily emissions that would occur from the operation of the Reduced Throughput Alternative for year 2015. The peak day emissions scenario assumes the arrival of an

OGV, and then hoteling and unloading for the remainder of the day, estimated to be 19 hours. In addition, the MCC terminal and associated truck loading and truck transporting would operate 24 hours per day. This peak day scenario is identical to the one evaluated for the proposed Project, except that fewer trucks would visit the MCC terminal during a peak day under the Reduced Throughput Alternative.

Impact Determination

Table 3.2-17 shows that the unmitigated Reduced Throughput Alternative would produce higher average daily operational emissions compared to the CEQA baseline levels for all pollutants. These emission increases are due to the substantial increase in proposed annual throughput and resulting operations compared to CEQA baseline levels. The main contributors to these emission increases would be OGVs and delivery trucks.

The data in Table 3.2-17 show that the net change in unmitigated emissions from the Reduced Throughput Alternative would remain below all SCAQMD daily emission thresholds except for NO_x. As a result, unmitigated operations from the Alternative would produce significant levels of annual average daily NO_x emissions. All other annual average daily pollutant emissions would remain below significance levels.

Table 3.2-18 shows that during a peak day of activities, the unmitigated Reduced Throughput Alternative would produce higher peak daily operational emissions compared to the CEQA baseline levels for all pollutants except NO_x and SO_2. These lower NO_x and SO_2 emission levels are mainly due to the use of the DoCCS and OGV vessel speed reduction by the Alternative, versus an absence of their use under the CEQA baseline during a peak day of activities. However, the net changes in unmitigated Reduced Throughput Alternative operations would not exceed any SCAQMD emission significance threshold and would produce less than significant peak daily emissions.

Mitigation Measures

Similar to proposed Project operations, implementation of **MMs AQ-2, AQ-5, and AQ-6** would be the only feasible measures to mitigate NO_x emissions from operation of the Reduced Throughput Alternative.

Table 3.2-17. Average Daily Unmitigated Operational Emissions from the Reduced Throughput Alternative – Year 2015

Activity	Emissions (Pounds per day)					
	VOC	CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$
Ships – Outer Waters Transit	10.5	24.8	282.2	7.6	4.6	3.7
Ships - Precautionary Area Transit	1.4	3.4	38.7	1.1	0.6	0.5
Ships - Harbor Transit	0.7	1.4	9.9	0.3	0.2	0.2
Ships – Docking	0.6	0.8	5.5	0.1	0.1	0.1
Ships - Hoteling Aux. Sources	1.3	3.2	11.7	3.6	1.1	0.9
Tugboats - Cargo Vessel Assist	0.4	4.7	9.8	0.0	0.2	0.2
Vessel Unloading – Dust	-	-	-	-	9.9	6.1
Payloaders	0.1	0.5	0.2	0.0	0.0	0.0
SCR Duct Burner	0.3	4.2	1.6	0.0	0.4	0.4
Truck Loading – Dust	-	-	-	-	4.8	3.2
On-road Trucks	25.3	103.4	322.7	0.6	78.0	52.3
Total Average Daily Emissions	**40.7**	**146.3**	**682.3**	**13.4**	**99.9**	**67.6**
CEQA Baseline Average Daily Emissions	**17.2**	**55.1**	**412.0**	**10.5**	**53.1**	**36.4**
Net Change - Reduced Throughput Alternative minus CEQA Baseline	**23.6**	**91.3**	**270.4**	**2.9**	**46.9**	**31.2**
SCAQMD Daily Emission Thresholds	**55**	**550**	**55**	**150**	**150**	**55**
Exceed Daily Emission Threshold?	**No**	**No**	**Yes**	**No**	**No**	**No**

Table 3.2-18. Peak Daily Unmitigated Operational Emissions from the Reduced Throughput Alternative – Year 2015

Activity	Emissions (Pounds per day)					
	VOC	CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$
Ships - Outer Waters Transit	24.3	57.0	649.9	17.5	10.5	8.4
Ships - Precautionary Area Transit	3.3	7.8	89.1	2.5	1.5	1.2
Ships - Harbor Transit	2.1	3.5	23.1	0.6	0.5	0.4
Ships – Docking	1.4	1.8	12.7	0.3	0.3	0.2
Ships - Hoteling Aux. Sources	3.9	10.4	26.9	7.7	2.9	2.3
Tugboats - Cargo Vessel Assist	1.6	14.0	35.3	0.4	0.8	0.7
Vessel Unloading – Dust					9.2	6.2
SCR Duct Burner	0.3	4.2	1.6	0.0	0.4	0.4
Truck Loading – Dust					5.6	3.7
On-road Trucks	35.8	146.0	455.8	0.9	110.2	73.9
Total Peak Daily Emissions	**72.6**	**244.7**	**1,294.5**	**29.9**	**141.9**	**97.5**
CEQA Baseline Peak Daily Emissions	**60.5**	**171.6**	**1,426.7**	**33.3**	**97.1**	**68.1**
Net Change - Reduced Throughput Alternative minus CEQA Baseline	**12.0**	**73.1**	**(132.2)**	**(3.4)**	**44.8**	**29.4**
SCAQMD Daily Emission Thresholds	**55**	**550**	**55**	**150**	**150**	**55**
Exceed Daily Emission Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Significance of Impacts after Mitigation

Table 3.2-19 shows that implementation of **MM AQ-2** would reduce average daily NO_x emissions from cement delivery trucks by 58 percent from unmitigated levels (effects of **MMs AQ-5 and AQ-6** not considered due to their uncertain implementation schedules). However, the net increase in mitigated average daily NO_x emissions from total Reduced Throughput Alternative operations would continue to exceed the SCAQMD daily NO_x emission threshold. Since there are no other feasible mitigation measures, mitigated average daily NO_x emissions from the Alternative operations would be significant and unavoidable.

The significant increase in average daily NO_x emissions from Alternative 2 could contribute to one or more of the negative health effects described in the discussion of **Impact AQ-3** for

Table 3.2-19. Average Daily Mitigated Operational Emissions from the Reduced Throughput Alternative – Year 2015

Activity	Emissions (Pounds per day)					
	VOC	CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$
Ships – Outer Waters Transit	10.5	24.8	282.2	7.6	4.6	3.7
Ships - Precautionary Area Transit	1.4	3.4	38.7	1.1	0.6	0.5
Ships - Harbor Transit	0.7	1.4	9.9	0.3	0.2	0.2
Ships – Docking	0.6	0.8	5.5	0.1	0.1	0.1
Ships - Hoteling Aux. Sources	1.3	3.2	11.7	3.6	1.1	0.9
Tugboats - Cargo Vessel Assist	0.4	4.7	9.8	0.0	0.2	0.2
Vessel Unloading – Dust	-	-	-	-	9.9	6.1
Payloaders	0.1	0.5	0.2	0.0	0.0	0.0
SCR Duct Burner	0.3	4.2	1.6	0.0	0.4	0.4
Truck Loading – Dust	-	-	-	-	4.8	3.2
On-road Trucks	13.1	53.3	135.5	0.6	76.2	50.6
Total Average Daily Emissions	**28.5**	**96.2**	**495.2**	**13.4**	**98.1**	**65.9**
CEQA Baseline Average Daily Emissions	**17.2**	**55.1**	**412.0**	**10.5**	**53.1**	**36.4**
Net Change - Reduced Throughput Alternative minus CEQA Baseline	**11.3**	**41.1**	**83.2**	**2.9**	**45.1**	**29.5**
SCAQMD Daily Emission Thresholds	**55**	**550**	**55**	**150**	**150**	**55**
Exceed Daily Emission Threshold?	**No**	**No**	**Yes**	**No**	**No**	**No**

the proposed Project (Section 3.2.2.3). These effects could occur throughout the year.

Impact AQ-4: Alternative 2 operations would result in offsite ambient air pollutant concentrations that exceed a SCAQMD threshold of significance.

A dispersion modeling analysis using the EPA AERMOD program was performed to estimate ambient offsite impacts of operational emissions from the Reduced Throughput Alternative. For the 1- to 24-hour impact assessments, the analysis evaluated the peak daily scenario presented for **Impact AQ-3** above. Appendix A-2 includes a discussion of the operational emissions dispersion modeling analysis for the Reduced Throughput Alternative.

Impact Determination

Table 3.2-20 presents the projected maximum ambient offsite impacts for unmitigated Reduced Throughput Alternative operations. These data show that the maximum total NO_2 impact would exceed the 1-hour SCAQMD ambient significance threshold. In addition, the maximum Reduced Throughput Alternative minus CEQA baseline 24-hour PM10 and $PM_{2.5}$ and annual PM10 impacts would exceed their SCAQMD ambient significance thresholds. The main contributors to these significant PM_{10} and $PM_{2.5}$ impacts would be cement dust generated from the truck loaders and trucks driving along the east side of the terminal (road dust). As a result, unmitigated emissions from the Reduced Throughput Alternative operations would contribute to significant levels of 1-hour NO_2, 24-hour PM_{10} and $PM_{2.5}$, and annual PM_{10}. All other ambient pollutant impacts would remain below significance levels.

Mitigation Measures

Similar to proposed Project operations, implementation of **MMs AQ-2, AQ-3, AQ-5, and AQ-6** would be the only feasible measures to mitigate NO_x and PM_{10} emissions and resulting NO_2 and PM_{10} impacts from the Reduced Throughput Alternative.

Significance of Impacts after Mitigation

Table 3.2-21 shows that implementation of **MM AQ-2** would reduce the ambient impacts of NO_2 and PM_{10} from unmitigated operation of the Reduced Throughput Alternative. These data show that mitigated emissions of NO_x and PM_{10} would continue to exceed the SCAQMD ambient significance thresholds for 1-hour NO_2, 24-hour PM_{10} and $PM_{2.5}$, and annual PM_{10}. Since there are no other feasible mitigation measures, these ambient impacts from the Reduced Throughput Alternative operations would remain significant and unavoidable. However, the footprint of the PM_{10} and $PM_{2.5}$ ambient threshold exceedances only would extend a few hundred meters beyond the Alternative terminal boundary (as shown in Figures A-2-9 through A-2-11 in Appendix A2).

Table 3.2-20. Maximum Ambient Pollutant Impacts – Unmitigated Operations from the Reduced Throughput Alternative

Pollutant	Averaging Time	Maximum Impact from Unmitigated Alternative 2 Emissions (μg/m³)	Background Pollutant Concentration (μg/m³)[a]	Total Maximum Unmitigated Alternative 2 Impact (μg/m³)[b]	SCAQMD Significance Threshold (μg/m³)
NO_2	1-hour	195	68	**263**	188
	Annual	5.4	40	45.4	57
CO	1-hour	135	4,715	4,850	23,000
	8-hour	49	3,910	3,959	10,000
		Maximum Impact from Unmitigated Alternative 2 Emissions (μg/m³)	**Maximum Impact from CEQA Baseline Emissions (μg/m³)**	**Maximum CEQA Increment (μg/m³) [b]**	**SCAQMD Significance Threshold (μg/m³)**
PM_{10}	24-hour	12.62	7.15	**5.47**	2.5
$PM_{2.5}$	24-hour	8.48	4.92	**3.56**	2.5
PM_{10}	Annual	3.43	1.44	**1.99**	1.0

Notes:

a. Background CO data obtained from the highest values recorded at either the POLB Superblock Inner Harbor or Gull Park Outer Harbor monitoring stations for the period of 2011 through 2013. The one-hour NO2 background value equates to value associated with maximum combined project impact plus background value identified in the OLM analysis. Annual NO2 background value obtained from the NO2 background data used in the OLM analysis.

b. Exceedance of a threshold is **indicated in bold**. The thresholds for NO_2 and CO apply to the sum of Impacts from Alternative 2 Emissions plus Background Pollutant Concentrations. The thresholds for PM_{10}/$PM_{2.5}$ are incremental and apply to Impacts from Alternative 2 Emissions minus CEQA Baseline Emissions.

Table 3.2-21. Maximum Ambient Pollutant Impacts – Mitigated Operations from the Reduced Throughput Alternative

Pollutant	Averaging Time	Maximum Impact from Mitigated Project Emissions (μg/m³)	Background Pollutant Concentration (μg/m³) [a]	Total Maximum Mitigated Project Impact (μg/m³) [b]	SCAQMD Significance Threshold (μg/m³)
NO_2	1-hour	224	23	**247**	188
		Maximum Impact from Mitigated Alternative 2 Emissions (μg/m³)	**Maximum Impact from CEQA Baseline Emissions (μg/m³)**	**Maximum CEQA Increment (μg/m³) [b]**	**SCAQMD Significance Threshold (μg/m³)**
PM_{10}	24-hour	12.61	7.15	**5.46**	2.5
$PM_{2.5}$	24-hour	8.48	4.92	**3.56**	2.5
PM_{10}	Annual	3.43	1.44	**1.99**	1.0

Notes:

a. Background CO data obtained from the highest values recorded at either the POLB Superblock Inner Harbor or Gull Park Outer Harbor monitoring stations for the period of 2011 through 2013. The one-hour NO2 background value equates to value associated with maximum combined project impact plus background value identified in the OLM analysis. Annual NO2 background value obtained from the NO2 background data used in the OLM analysis.

b. Exceedance of a threshold is **indicated in bold**. The threshold for NO_2 applies to the sum of Impacts from Project Emissions plus Background Pollutant Concentrations.

The significant impacts of NO_2, PM_{10}, and $PM_{2.5}$ emissions from the operation of Alternative 2 could contribute to one or more of the negative health effects mentioned in the discussion of **Impact AQ-4** for the proposed Project (Section 3.2.2.3). These effects could occur throughout Project operation.

Impact AQ-5: Alternative 2 operations would not create objectionable odors to sensitive receptors.

The Reduced Throughput Alternative operational activities would generate air pollutants from the combustion of diesel fuels. Some individuals may sense that diesel combustion emissions (mainly VOC and PM) are objectionable in nature, although quantifying the odorous impacts of these emissions to the public is difficult. In addition, operation of the DoCCS during periods of OGV hoteling would emit minor amounts of ammonia (less than 0.1 pounds per hour).

Impact Determination

The data in Table 3.2-17 show that sources associated with the operation of the Reduced Throughput Alternative would increase air pollutants due to the combustion of diesel fuels compared to CEQA baseline levels (presented in Table 3.2-3). However, the distance between proposed emission sources and the nearest sensitive receptors would be far enough to allow for adequate dispersion of these emissions to below objectionable odor levels. The minor amounts of ammonia slip emissions produced by the DoCCS during periods of OGV hoteling also would produce ambient concentrations that would not exceed the odor threshold for ammonia (5 ppm). As a result, odor impacts from the unmitigated Reduced Throughput Alternative operations would be less than significant. As odor impacts would be less than significant, no mitigation is required.

Impact AQ-6: Alternative 2 would not expose receptors to significant levels of TACs.

The following discussion presents the results of the HRA that was conducted to quantify the significance of public health effects generated by the Reduced Throughput Alternative construction and operational emissions of TACs. The HRA evaluated individual lifetime cancer risks and chronic and acute non-cancer hazard indices associated with the Reduced Throughput Alternative.

Appendix A-3 presents the Reduced Throughput Alternative HRA and the TAC emission calculations used for inputs in the HRA. Since the Reduced Throughput Alternative would generate emissions of PM, this analysis also discusses the potential effects of these emissions in terms of increased mortality and morbidity in the region.

From the standpoint of determining significance under CEQA, the HRA calculated the incremental change in health effect values due to the Reduced Throughput Alternative compared to CEQA baseline conditions (i.e., proposed Reduced Throughput Alternative minus CEQA baseline). These Reduced Throughput Alternative increments were compared to the health risk thresholds identified in Section 3.2.2.1, Significance Criteria, to determine their significance.

The Reduced Throughput Alternative operations and emissions are based on the assumption that the Reduced Throughput Alternative would achieve full throughput at 2015 and that throughput and source activity levels would remain constant for 70 years. Similar to the proposed Project, to estimate non-cancer chronic and acute health effects, the HRA evaluated operations from the Reduced Throughput Alternative during year 2020, as cement delivery truck emission factors and resulting daily and annual emissions would be the highest during this year.

Table 3.2-22 presents estimates of maximum incremental cancer risks and the chronic and acute HHI increments associated with the Reduced Throughput Alternative. The values presented for each receptor type correspond to the receptor location with the maximum increment. These are the values upon which the impact determinations were made. The cancer risk and non-cancer HHI increments at all other receptors within the modeling domain would be less than those shown in Table 3.2-22.

Impact Determination

Table 3.2-22 shows that the maximum CEQA increment for residential cancer risk from the unmitigated Reduced Throughput Alternative is predicted to be 1.1 in 1 million (1.1×10^{-6}). This risk value is less than the significance criterion of 10 in 1 million (10×10^{-6}) risk and therefore it would result in a less than significant impact.

This risk level would occur in east Wilmington near the intersection of I-710 and Anaheim Street. The main contributor to this cancer risk value is trucks.

Table 3.2-22. Maximum Health Impacts Estimated for Unmitigated Construction and Operations from the Reduced Throughput Alternative

Health Impact	Receptor Type	Maximum Predicted Incremental Impacts[a]			Significance Threshold[c]
		Alternative 2	CEQA Baseline	CEQA Increment[b]	
Cancer Risk	Residential	2.3×10^{-6}	1.2×10^{-6}	1.1×10^{-6}	10×10^{-6}
	Occupational	1.2×10^{-6}	0.6×10^{-6}	0.6×10^{-6}	
	Sensitive	3.0×10^{-6}	1.5×10^{-6}	1.5×10^{-6}	
Cancer Burden		0.07	0.06	0.01	0.5
Chronic Hazard Index	Residential	0.002	0.004	-0.002	1.0
	Occupational	0.008	0.008	0.000	
	Sensitive	0.002	0.004	-0.002	
Acute Hazard Index	Residential	0.11	0.10	0.01	1.0
	Occupational	0.31	0.27	0.04	
	Sensitive	0.10	0.09	0.01	

Notes:

a. For each receptor type, all risk values correspond to the receptor with the maximum CEQA incremental impact. Consequently, the risk numbers for the proposed Project and the CEQA baseline are not constant, but rather would differ as they would correspond to values for the location of predicted maximum cancer and non-cancer risk increment value.

b. The CEQA increment represents proposed Project impact minus CEQA baseline impact. These data may include rounding errors.

c. Exceedances of the significance criteria are in bold. The significance thresholds for cancer risk and chronic hazard index only apply to the CEQA increment values.

The maximum CEQA increment for occupational cancer risk from the unmitigated Reduced Throughput Alternative is predicted to be 0.6 in 1 million (0.6×10^{-6}). This risk value is less than the significance criterion of 10 in 1 million cancer risk and therefore would produce a less than significant impact. This risk level would occur in the eastern portion of Pier C near Pico Avenue within the POLB. The main contributors to this cancer risk value are ships and trucks.

The maximum CEQA increment for cancer risk at a sensitive receptor from the unmitigated Reduced Throughput Alternative is predicted to be 1.5 in 1 million (1.5×10^{-6}). This risk value, which was conservatively modeled with 70-year residential exposure assumptions, is less than the significance criterion of 10 in 1 million cancer risk, and therefore would produce a less than significant impact. This risk level would occur in west Long Beach just north of Anaheim Street.

Table 3.2-22 shows that the CEQA increment for cancer burden from the unmitigated Reduced Throughput Alternative would be substantially less than the significance threshold of 0.5 excess cancer cases.

Table 3.2-22 shows that the maximum CEQA increments for the chronic and acute HHIs from the unmitigated Reduced Throughput Alternative would be substantially less than one for all receptor locations. Therefore, the non-cancer chronic and acute health effects associated with the unmitigated Reduced Throughput Alternative would produce less than significant impacts.

Since impacts on health risk would be less than significant, no mitigation is required.

PM Morbidity & Mortality Considerations

As shown in Table 3.2-20, the maximum Reduced Throughput Alternative minus CEQA baseline 24-hour $PM_{2.5}$ impact outside of the MCC terminal is 3.56 μg/m^3, which is greater than the significance threshold of 2.5 μg/m^3. The footprint of this $PM_{2.5}$ ambient threshold exceedance only would extend a few hundred meters beyond the proposed Project terminal boundary. There are no residents within this impact zone. Therefore, no further analysis is required and reduced Project emissions of PM would produce less than significant impacts on mortality and morbidity levels. Since impacts on health risk would be less than significant, no mitigation is required.

Impact AQ-7: Alternative 2 operations would not conflict with or obstruct implementation of the applicable AQMP.

For the same reasons identified for the proposed Project under **Impact AQ-7**, the Reduced Throughput Alternative would not conflict with or obstruct the objectives or implementation of the 2012 AQMP.

Impact Determination

The Reduced Throughput Alternative would not conflict with or obstruct implementation of the 2012 AQMP and impacts would be less than significant. Since impacts on air quality would be less than significant, no mitigation is required.

3.2.2.5 Alternative 3 – No Project Alternative

Construction Impacts

There would be no construction for the No Project Alternative and, therefore, no impacts associated with construction would occur.

Operational Impacts

Impact AQ-3: Operational emissions from Alternative 3 would not exceed a SCAQMD threshold of significance.

Table 3.2-23 presents an estimate of the unmitigated annual average daily emissions that would occur from the operation of the No Project Alternative for year 2015.

Table 3.2-24 presents an estimate of the peak daily emissions that would occur from the operation of the No Project Alternative for year 2015. The peak day emissions scenario assumes the arrival of an OGV, and then hoteling and unloading for the remainder of the day, estimated to be 19 hours. In addition, the terminal and associated truck loading and truck transporting would operate 24 hours per day.

Impact Determination

Table 3.2-23 shows that the unmitigated No Project Alternative would produce higher average daily operational emissions compared to the CEQA baseline levels for all pollutants. The net change in unmitigated operational emissions from the No Project Alternative would remain below all SCAQMD daily emission thresholds except for NO_x. As a result, unmitigated operations from the Alternative would produce significant levels of annual average daily NO_x emissions. All other annual average daily pollutant emissions would remain below significance levels.

Table 3.2-24 shows that the unmitigated No Project Alternative would produce higher operational peak daily emissions compared to the CEQA baseline levels for all pollutants except NO_x and SO_2. These lower NO_x and SO_2 emission levels are mainly due to the use of OGV vessel speed reduction by the Alternative, versus an absence of their use under the CEQA baseline during a peak day of activities. The net change in unmitigated No Project Alternative operations would not exceed any SCAQMD emission significance threshold and would produce less than significant peak daily emissions.

Table 3.2-23. Average Daily Unmitigated Operational Emissions from the No Project Alternative– Year 2015

Activity	Emissions (Pounds per day)					
	VOC	CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$
Ships – Outer Waters Transit	8.9	20.9	238.6	6.4	3.9	3.1
Ships - Precautionary Area Transit	1.2	2.9	32.7	0.9	0.5	0.4
Ships - Harbor Transit	0.6	1.2	8.4	0.2	0.2	0.1
Ships – Docking	0.5	0.7	4.7	0.1	0.1	0.1
Ships - Hoteling Aux. Sources	1.2	3.1	34.0	3.6	1.1	0.9
Tugboats - Cargo Vessel Assist	0.4	4.0	8.3	0.0	0.2	0.2
Vessel Unloading – Dust	-	-	-	-	12.8	8.6
Payloaders	0.1	0.5	0.2	0.0	0.0	0.0
Truck Loading – Dust	-	-	-	-	5.6	3.7
On-road Trucks	16.9	69.5	217.0	0.4	52.0	34.9
Total Average Daily Emissions	**29.9**	**102.7**	**543.9**	**11.7**	**76.4**	**52.0**
CEQA Baseline Average Daily Emissions	**17.2**	**55.1**	**412.0**	**10.5**	**53.1**	**36.4**
Net Change – No Project Alternative minus CEQA Baseline	**12.7**	**47.6**	**131.9**	**1.2**	**23.3**	**15.6**
SCAQMD Daily Emission Thresholds	**55**	**550**	**55**	**150**	**150**	**55**
Exceed Daily Emission Threshold?	**No**	**No**	**Yes**	**No**	**No**	**No**

Table 3.2-24. Peak Daily Unmitigated Operational Emissions from the No Project Alternative– Year 2015

Activity	Emissions (Pounds per day)					
	VOC	CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$
Ships - Outer Waters Transit	24.3	57.0	649.9	17.5	10.5	8.4
Ships - Precautionary Area Transit	3.3	7.8	89.1	2.5	1.5	1.2
Ships - Harbor Transit	2.1	3.5	23.1	0.6	0.5	0.4
Ships – Docking	1.4	1.8	12.7	0.3	0.3	0.2
Ships - Hoteling Aux. Sources	3.9	10.4	113.7	7.7	2.9	2.3
Tugboats - Cargo Vessel Assist	1.6	14.0	35.3	0.4	0.8	0.7
Vessel Unloading – Dust					14.3	9.6
Truck Loading – Dust					6.6	4.4
On-road Trucks	27.3	111.5	377.9	0.8	88.5	59.0
Total Peak Daily Emissions	**66.2**	**216.3**	**1,304.7**	**29.7**	**128.7**	**88.5**
CEQA Baseline Peak Daily Emissions	**60.5**	**171.6**	**1,426.7**	**33.3**	**97.1**	**68.1**
Net Change – No Project Alternative minus CEQA Baseline	**5.7**	**44.7**	**(122.0)**	**(3.6)**	**31.6**	**20.4**
SCAQMD Daily Emission Thresholds	**55**	**550**	**55**	**150**	**150**	**55**
Exceed Daily Emission Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Mitigation Measures

Mitigation measures were not identified for the No Project Alternative, as this scenario would not require any discretionary action by an agency.

The significant increase in average daily NO_x emissions from Alternative 3 could contribute to one or more of the negative health effects mentioned in the discussion of **Impact AQ-3** for the proposed Project (Section 3.2.2.3). These effects could occur throughout the year.

Impact AQ-4: Alternative 3 operations would result in offsite ambient air pollutant concentrations that exceed a SCAQMD threshold of significance.

A dispersion modeling analysis using the EPA AERMOD program was performed to estimate ambient offsite impacts of operational emissions from the No Project Alternative. For 1- to 24-hour impacts, the analysis evaluated the peak daily scenario presented for **Impact AQ-3** above. Appendix A-2 includes a discussion of the operational emissions dispersion modeling analysis for the No Project Alternative.

Impact Determination

Table 3.2-25 presents the projected maximum ambient offsite impacts for unmitigated No Project Alternative operations. These data show that the maximum total NO_2 impact would exceed the 1-hour SCAQMD ambient significance threshold. In addition, the maximum No Project Alternative minus CEQA baseline 24-hour and annual PM_{10} impacts would exceed the SCAQMD ambient significance threshold. The main contributors to this significant PM_{10} impact would be cement dust generated from the truck loaders and trucks driving along the east side of the terminal (road dust). As a result, unmitigated emissions from the No Project Alternative operations would contribute to significant levels of 1-hour NO_2 and 24-hour and annual PM_{10}. The footprints of these PM_{10} ambient threshold exceedances only would extend a few hundred meters beyond the Alternative terminal boundary (as shown in Figures A-2-12 and A-2-13 in Appendix A2). All other ambient pollutant impacts would remain below significance levels.

Mitigation Measures

Mitigation measures were not identified for the No Project Alternative, as this scenario would not require any discretionary action by an agency.

The significant impacts of NO_2 and PM_{10} emissions from the operation of Alternative 3 could contribute to one or more of the negative health effects described in the discussion of **Impact AQ-4** for the proposed Project (Section 3.2.2.3). These effects could occur throughout operation of Alternative 3.

Table 3.2-25. Maximum Ambient Pollutant Impacts – Unmitigated Operations from the No Project Alternative

Pollutant	Averaging Time	Maximum Impact from Unmitigated Alternative 3 Emissions (μg/m³)	Background Pollutant Concentration (μg/m³)[a]	Total Maximum Unmitigated Alternative 3 Impact (μg/m³)[b]	SCAQMD Significance Threshold (μg/m³)
NO_2	1-hour	227	25	**252**	188
	Annual	4.6	40	44.6	57
CO	1-hour	137	4,715	4,852	23,000
	8-hour	48	3,910	3,958	10,000
		Maximum Impact from Unmitigated Alternative 3 Emissions (μg/m³)	**Maximum Impact from CEQA Baseline Emissions (μg/m³)**	**Maximum CEQA Increment (μg/m³)[b]**	**SCAQMD Significance Threshold (μg/m³)**
PM_{10}	24-hour	13.70	10.31	**3.39**	2.5
$PM_{2.5}$	24-hour	9.31	7.22	2.09	2.5
PM_{10}	Annual	4.05	2.87	**1.18**	1.0

Notes:

a. Background CO data obtained from the highest values recorded at either the POLB Superblock Inner Harbor or Gull Park Outer Harbor monitoring stations for the period of 2011 through 2013. The one-hour NO2 background value equates to value associated with maximum combined project impact plus background value identified in the OLM analysis. Annual NO2 background value obtained from the NO2 background data used in the OLM analysis.

b. Exceedance of a threshold is **indicated in bold**. The thresholds for NO_2 and CO apply to the sum of Impacts from Alternative 3 Emissions plus Background Pollutant Concentrations. The thresholds for PM_{10}/$PM_{2.5}$ are incremental and apply to Impacts from Alternative 3 Emissions minus CEQA Baseline Emissions.

Impact AQ-5: Alternative 3 operations would not create objectionable odors to sensitive receptors.

The No Project Alternative operational activities would generate air pollutants from the combustion of diesel fuels. Some individuals may sense that diesel combustion emissions (mainly VOC and PM) are objectionable in nature, although quantifying the odorous impacts of these emissions to the public is difficult.

Impact Determination

The data in Tables 3.2-3 and 3.2-23 show that sources associated with operation of the No Project Alternative would increase air pollutants due to the combustion of diesel fuels compared to CEQA baseline levels. However, the distance between these emission sources and the nearest sensitive receptors would be far enough to allow for adequate dispersion of their emissions to below objectionable odor levels. As a result, odor impacts from the unmitigated No Project Alternative operations would produce less than significant impacts.

Impact AQ-6: Alternative 3 operations would not expose receptors to significant levels of TACs.

The following presents the results of a HRA that was conducted to quantify the significance of public health effects generated by the No Project Alternative operational emissions of TACs. The HRA evaluated individual lifetime cancer risks and chronic and acute non-cancer hazard indices associated with the No Project Alternative.

Appendix A-3 presents the No Project Alternative HRA and the TAC emission calculations used for inputs in the HRA. Since the No Project Alternative would generate emissions of PM, this analysis also discusses the potential effects of these emissions in terms of increased mortality and morbidity in the region.

For determining significance from a CEQA standpoint, the HRA calculated the incremental change in health effect values due to the No Project Alternative compared to CEQA baseline conditions (i.e., No Project Alternative minus CEQA baseline). These No Project Alternative increments were compared to the health risk thresholds identified in Section 3.2.2.1, Significance Criteria, to determine their significance.

The No Project Alternative operations and emissions are based upon the assumption that the No Project Alternative would achieve full throughput at 2015 and that throughput and source activity levels would remain constant for 70 years. Similar to the proposed Project, to estimate non-cancer chronic and acute health effects, the HRA evaluated operations from the No Project Alternative during year 2020, as cement delivery truck emission factors and resulting daily and annual emissions would be the highest during this year.

Table 3.2-26 presents estimates of maximum incremental cancer risks and chronic and acute HHI increments associated with the No Project Alternative. The values presented for each receptor type correspond to the receptor location with the maximum increment. These are the values on which the impact determinations were made. The cancer risk and non-cancer HHI increments at all other receptors within the modeling domain would be less than those shown in Table 3.2-26.

Impact Determination

Table 3.2-26 shows that the maximum CEQA increment for residential cancer risk from the unmitigated No Project Alternative is predicted to be 0.5 in 1 million (0.5×10^{-6}). This risk value is less than the significance criterion of 10 in 1 million (10×10^{-6}) risk and therefore it would produce a less than significant impact. This risk level would occur in east Wilmington near the intersection of I-710 and Anaheim Street. The main contributor to this cancer risk value is trucks.

The maximum CEQA increment for occupational cancer risk from the unmitigated No Project Alternative is predicted to be 0.3 in 1 million (0.3×10^{-6}). This risk value is less than the significance criterion of 10 in 1 million cancer risk and therefore would produce a less than significant impact. This risk level would occur in east Wilmington near I-710. The main contributors to this cancer risk value are ships and trucks.

The maximum CEQA increment for cancer risk at a sensitive receptor from the unmitigated No Project Alternative is predicted to be 0.7 in 1 million (0.7×10^{-6}). This risk value, which was conservatively modeled with 70-year residential exposure assumptions, is less than the significance criterion of 10 in 1 million cancer risk, and therefore would produce a less than significant impact. This risk level would occur in west Long Beach just north of Anaheim Street.

Table 3.2-26 shows that the CEQA increment for cancer burden from the unmitigated No Project Alternative would be substantially less than the significance threshold of 0.5 excess cancer cases.

Table 3.2-26 shows that the maximum CEQA increments for the chronic and acute HHIs from the unmitigated No Project Alternative would be substantially less than one for all receptor

Table 3.2-26. Maximum Health Impacts Estimated for Unmitigated Operations from the No Project Alternative

Health Impact	Receptor Type	Maximum Predicted Incremental Impacts[a]			Significance Threshold[c]
		No Project Alternative	CEQA Baseline	CEQA Increment[b]	
Cancer Risk	Residential	1.6×10^{-6}	1.2×10^{-6}	0.5×10^{-6}	10×10^{-6}
	Occupational	0.8×10^{-6}	0.5×10^{-6}	0.3×10^{-6}	
	Sensitive	2.1×10^{-6}	1.5×10^{-6}	0.7×10^{-6}	
Cancer Burden		0.059	0.056	0.003	0.5
Chronic Hazard Index	Residential	0.003	0.004	-0.001	1.0
	Occupational	0.008	0.008	0.000	
	Sensitive	0.003	0.004	-0.001	
Acute Hazard Index	Residential	0.10	0.10	0.01	1.0
	Occupational	0.30	0.28	0.02	
	Sensitive	0.10	0.09	0.01	

Notes:

a. For each receptor type, all risk values correspond to the receptor with the maximum CEQA incremental impact. Consequently, the risk numbers for the proposed project and the CEQA baseline are not constant, but rather would differ as they would correspond to values for the location of predicted maximum cancer and non-cancer risk increment value.

b. The CEQA increment represents proposed Project impact minus CEQA baseline impact. These data may include rounding errors.

c. Exceedances of the significance criteria are in bold. The significance thresholds for cancer risk and chronic hazard index only apply to the CEQA increment values.

locations. Therefore, the non-cancer chronic and acute health effects associated with the unmitigated No Project Alternative would produce less than significant impacts.

PM Morbidity & Mortality Considerations

As shown in Table 3.2-25, the maximum No Project Alternative minus CEQA baseline 24-hour $PM_{2.5}$ impact outside of the MCC terminal is 2.09 μg/m^3, which is less than the significance threshold of 2.5 μg/m^3. Therefore, no further analysis is required and the No Project Alternative emissions of PM would produce less than significant impacts on mortality and morbidity levels.

Impact AQ-7: Alternative 3 operations would not conflict with or obstruct implementation of the applicable AQMP.

For the same reasons identified for the proposed Project under **Impact AQ-7**, the No Project Alternative would not conflict with the objectives or implementation of the 2012 AQMP.

<u>Impact Determination</u>

The No Project Alternative would not conflict with or obstruct implementation of the 2012 AQMP. Therefore, impacts would be less than significant.

3.2.3 Cumulative Impacts

The following discussion evaluates whether air quality impacts of the proposed Project would be cumulatively significant within the context of impacts caused by other past, present, or reasonably foreseeable future projects in the geographic location of the proposed Project.

3.2.3.1 Geographic Extent/Context

The region of analysis for the proposed Project's cumulative effects on air quality is the SCAB for regional criteria pollutant analysis. For localized effects of air quality, SCAQMD typically assesses cumulative projects located within 1 mile of a project. The proposed Project cumulative air quality analyses considered all cumulative projects listed in Table 2.1-1 that potentially would generate air emissions within a minimum of 1 mile from proposed Project emission sources.

Additionally, the determination of the proposed Project conformance with air quality plans used to assess **Impact AQ-7** are project specific analyses that are not cumulative in nature and thus cannot be assessed as such. Therefore, the proposed Project cumulative impact finding for **Impact AQ-7** is no impact. However, the CAAP and other initiatives would ensure that future activities at the Port, as a whole, would comply with the AQMP.

For health risk analysis purposes, the area of influence includes the assessment of all of the cumulative projects within the Port Complex and their effects on the surrounding communities.

3.2.3.2 Cumulative Conditions

Due to its large population, substantial numbers of emission sources, and geographical/ meteorological conditions that inhibit atmospheric dispersion, the SCAB experiences degraded air quality. As stated in Section 3.2.1.2, Setting, the region currently does not attain the NAAQS or CAAQS for O_3, PM_{10}, and $PM_{2.5}$, and does not attain the CAAQS for NO_2. However, the 2012 AQMP predicts attainment of all NAAQS within the SCAB, including $PM_{2.5}$ by 2014 and O_3 by 2023. The pollutant nonattainment conditions within the Project region are considered to be cumulatively significant.

The SCAQMD in its MATES-IV report and the ARB in their *Diesel Particulate Matter Exposure Assessment Study for the Ports of Los Angeles and Long Beach* (ARB 2006b) estimated that elevated levels of cancer risks due to operational emissions from the POLB and POLA occur within and in proximity to the two Ports. Regarding non-cancer effects, the ARB identifies that elevated levels of air pollution that can occur within the Ports region are associated with adverse health effects, including asthma, bronchitis, reduced lung function, and increased mortality and morbidity (ARB 2006b). Based on this information, the baseline and future airborne cancer and non-cancer conditions within the proposed Project region are cumulatively significant.

Tables 3.2-3 and 3.2-4, respectively, present the average daily and peak daily emissions associated with the CEQA baseline.

Reasonably Foreseeable Projects

Cumulative projects considered in this analysis are shown in Table 2.1-1 in Chapter 2, Related Projects and Relationship to Statues, Plans, and

Other Requirements. This table lists 56 projects, almost all of which are identified to have potential cumulative air quality effects. These projects include construction and/or operational activities that could, at least in part, occur concurrently with the proposed Project; are within the proposed Project's region; and could potentially contribute cumulatively to the proposed Project's air quality impacts. The following sections discuss cumulative impacts associated with the proposed Project.

3.2.3.3 Criteria Pollutant Impacts

With regard to **Impact AQ-1**, peak daily construction activities for the proposed Project would produce emissions that would remain below the SCAQMD regional emission thresholds. Any activity that concurrently occurs in the vicinity of the proposed Project's construction would contribute additional air emissions to the proposed Project emissions and could cumulatively exceed these pollutant thresholds. As a result, given the large number of reasonably foreseeable projects, emissions from construction of the proposed Project would produce cumulatively considerable impacts to regional pollutant levels and would cause cumulatively significant air quality impacts under **Impact AQ-1**.

With regard to **Impact AQ-2**, peak daily construction activities for the proposed Project would produce mitigated emissions that would not exceed any SCAQMD ambient significance threshold. However, considering the numerous cumulative projects that would cause additional emissions impacts, proposed Project construction would produce cumulatively considerable impacts to localized pollutant levels and would cause cumulatively significant air quality impacts under **Impact AQ-2**.

With regard to **Impact AQ-3**, annual average daily operational activities for the proposed Project would produce emissions that would exceed the SCAQMD regional NO_x threshold. Any activity that concurrently occurs in the vicinity of the proposed Project would add additional air emission burdens and could cumulatively exceed other pollutant thresholds. As a result, all pollutant emissions from operation of the proposed Project (other than SO_2 emission reductions) would produce cumulatively considerable impacts to regional pollutant levels and would cause cumulatively significant air quality impacts under **Impact AQ-3**.

With regard to **Impact AQ-4**, peak daily operational activities for the proposed Project would produce emissions that would exceed the SCAQMD ambient air quality significance thresholds for NO_2 and PM_{10}. Considering the numerous nearby cumulative projects causing additional emissions impacts, operation of the proposed Project would produce cumulatively considerable impacts to localized levels of all pollutants and would cause cumulatively significant air quality impacts under **Impact AQ-4.**

With regard to **Impact AQ-5**, the proposed Project operational activities would generate air pollutants from the combustion of diesel fuels. Some individuals may sense that diesel combustion emissions are objectionable in nature, although quantifying the odorous impacts of these emissions to the public is difficult. The Port contains a large number of diesel emission sources. There are residents and receptors in proximity to Port operations who may be sensitive to odorous emissions from these sources.

Sources associated with proposed Project operations would increase air pollutants due to the combustion of diesel fuels compared to CEQA baseline levels. However, the distance between proposed and existing emission sources and sensitive receptors would be far enough to allow for adequate dispersion of these emissions to below objectionable odor levels. As a result, odorous emissions due to unmitigated proposed Project operations would produce less than cumulatively considerable contributions to ambient odor levels under **Impact AQ-5**.

Mitigation Measures

Implementation of **Mitigation Measures AQ-1 through AQ-3** and **Mitigation Measures AQ-5 and AQ-6** would reduce Project cumulative contributions to criteria pollutants levels, but not to below significance. Therefore, the following measure is proposed to further mitigate Project cumulative contributions to criteria pollutants levels.

Mitigation Measure AQ-4: Tier 4 Standards for Nonroad *Construction Equipment* – Starting Jan. 1, 2015, construction contractors shall use construction equipment that achieves

EPA Tier 4 nonroad equivalent standards at a minimum.

The Project air quality analysis assumes that unmitigated construction equipment would comply with Tier 3 nonroad emission standards. Use of construction equipment with Tier 4 nonroad standards would produce lower emissions compared to equipment with Tier 3 standards by the following amounts on average: (1) 48 percent for VOCs, (2) 91 percent for NO_x, and 3) 92 percent for PM. However, these benefits would be unable to reduce Project cumulative contributions to criteria pollutants levels to below significance. As discussed in Section 3.2.2.3, due to the environmental controls implemented by the proposed Project, no additional feasible measures are available that would reduce significant Project cumulative contributions to criteria pollutants levels to less than significant. Impacts would remain significant and unavoidable.

The cumulatively significant impacts of criteria pollutant emissions from construction and operation of proposed Project could contribute to one or more of the negative health effects described in the discussion of **Impact AQ-3** for the proposed Project (Section 3.2.2.3). These effects could occur throughout Project operation.

3.2.3.4 Toxic Air Contaminant Impacts

Emissions of TACs from construction and operation of the unmitigated proposed Project would increase cancer risks to all receptor types within the proposed Project region compared to emissions from the future CEQA baseline. The Project incremental contribution to cancer risks is less than significant under CEQA. Therefore, the Project would not produce a cumulatively considerable contribution to airborne cancer risks within the Project region.

Emissions of TACs from operation of the unmitigated proposed Project would produce only minor increases in acute and chronic non-cancer effects to all receptor types within the proposed Project region compared to emissions from the CEQA baseline. These nominal increases in non-cancer effects would produce less than cumulatively considerable impacts to airborne non-cancer effects.

Implementation of **Mitigation Measures AQ-1 through AQ-6** would result in lower Project TAC emissions and resulting public health impacts compared to those currently identified in this EIR. Several environmental controls also are included as part of the proposed Project and are integrated into the emissions estimates for the unmitigated proposed Project. Approval of the proposed Project would initiate implementation of these proposed environmental controls and applicable CAAP emission control measures. The CAAP is designed with the goal of reducing the population-weighted cancer risk of port-related DPM emissions by 85 percent, in highly impacted communities and residential areas in the Port region (POLA/POLB 2010).

In developing the SPBS, the POLB and POLA recognize the importance of ensuring that new projects are designed to be consistent with the CAAP as well as with other applicable regulations and that implementation of the Project would allow for the ports to meet their long-term health risk and emission reduction goals. Therefore, with implementation of the CAAP, the proposed Project contributions to cancer and non-cancer health effects would be less than significant, and considering the cumulative risk reductions mandated by the POLB, the proposed Project would not incrementally contribute to cumulative TAC impacts in a significant way.

<u>Mitigation Measures</u>

Since unmitigated Project contributions to cumulative cancer and non-cancer health effects would be less than significant, no mitigation is required.

3.2.4 Mitigation Monitoring Program

Mitigation Measures AQ-1 through AQ-6 and their associated monitoring requirements will be documented in the proposed Project's MMRP. The MMRP would document compliance with implementing mitigation measures approved in the Final EIR.

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3.3 GLOBAL CLIMATE CHANGE

It is well-documented that the Earth's climate has fluctuated throughout its history. However, scientific evidence indicates a correlation between increasing global temperatures over the past century and the worldwide proliferation of greenhouse gas (GHG) emissions by mankind. Climate change associated with global warming is predicted to produce negative environmental, economic, and social consequences across the globe. As a result, this section evaluates the potential for GHG emissions from the proposed Project to impact global climate.

Global climate change (GCC) could affect a variety of environmental conditions in the future. However, sea level rise (SLR) is the condition that has the greatest potential to affect the Port region. SLR is defined as the change in global mean sea level over time. Therefore, this EIR also includes an assessment of how future predictions of SLR potentially would affect operations of the proposed Project.

3.3.1 Environmental Setting

3.3.1.1 Area of Influence

The direct environmental effect of GHG emissions is to increase global temperatures, which indirectly causes numerous environmental and social effects. Therefore, the area of influence for proposed GHG impacts would be global in scale. However, these cumulative global impacts would be manifested as impacts on resources and ecosystems in California. The area of influence for effects from SLR would include the Port waters and Port lands directly adjacent to the ocean.

3.3.1.2 Setting

The Project site is within the Port's Southeast Harbor Planning District. The following section describes types of GHG, the current scientific understanding of GCC, observations and predictions of SLR, and regulations that would apply to GHG emitted from the proposed Project.

Greenhouse Gas Emissions and Effects

GHG are gases that trap heat in the atmosphere. Emissions of GHG occur from natural processes and human activities. The most common GHG emitted from natural processes and human activities include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Examples of GHG created and emitted primarily through human activities include fluorinated gases (hydrofluorocarbons and perfluorocarbons) and sulfur hexafluoride. The accumulation of GHG in the atmosphere regulates the Earth's temperature. Without this natural greenhouse effect, the average surface temperature of the Earth would be about 60°F colder (U.S. Global Change Research Program [USGCRP] 2014).

Each GHG is assigned a global warming potential (GWP), which is the ability of a gas or aerosol to trap heat in the atmosphere. The GWP rating system is standardized to CO_2, which has a GWP value of one. For example, CH_4 has a GWP of 25, which means that it has a global warming effect 25 times greater than CO_2 on an equal-mass basis (The Climate Registry 2014). Total GHG emissions from a source are often reported as a CO_2 equivalent (CO_2e). The CO_2e is calculated by multiplying the emission of each GHG by its GWP and adding the products together to produce a single, combined emission rate representing all GHG.

Numerous studies document the recent trend of rising atmospheric concentrations of CO_2. The longest continuous record of CO_2 monitoring extends back to 1958 (Keeling 1960 and Scripps Institution of Oceanography 2014). These data show that atmospheric CO_2 levels have risen an average of 1.5 ppm per year over the last 55 years (National Oceanic and Atmospheric Administration 2014). As of 2014, CO_2 levels are about 30 percent higher than the highest levels estimated for the 800,000 years preceding the industrial revolution, as determined from CO_2 concentrations analyzed from air bubbles in Antarctic ice core samples (USGCRP 2014).

Recent observed environmental changes due to global warming include rising temperatures, shrinking glaciers and sea ice, thawing permafrost, a lengthened growing season, and shifts in plant and animal ranges. International, national, and state organizations independently confirm these findings, and they predict that climate change will continue into the foreseeable future (Intergovernmental Panel on Climate Change 2014, USGCRP 2014, and California Climate Change Center 2012).

The most recent assessment of climate change impacts in California by the state of California predicts that temperatures in California will increase between 4.1°F to 8.6°F by 2100, based upon low and high global GHG emission scenarios (California Climate Change Center 2012). Predictions of long-term negative environmental impacts due to global warming include SLR, changing weather patterns with increases in the severity of storms and droughts, changes to local and regional ecosystems including the potential loss of species, and a reduction in winter snow pack. In California, predictions of these effects include exacerbation of air quality problems, a reduction in municipal water supply from the Sierra snowpack, a rise in sea level that would displace coastal businesses and residences, an increase in wild fires, damage to marine and terrestrial ecosystems, and an increase in the incidence of infectious diseases, asthma, and other human health problems (California Climate Change Center 2012).

It is estimated that airborne black carbon contributes to global warming due to its ability to warm the atmosphere and to melt snow packs and polar ice if deposited onto these surfaces (International Polar Foundation 2008). Black carbon is emitted from a range of naturally occurring events and human activities, including wildfires, diesel engines, and burning biofuels.

At present, there are no standards, regulations, or protocols related to assessing the impact of proposed emissions of black carbon to GCC. Therefore, this EIR provides a qualitative assessment of this effect. Black carbon is a component of DPM that would occur from diesel-powered project sources. Section 3.2, Air Quality and Health Risk, quantitatively evaluates proposed DPM emissions (and in part black carbon) as a criteria pollutant and TAC.

Direct Effects of Sea-Level Rise on the California Coast

Over the past several decades, sea level along the California coast has risen at a rate of about 17 to 20 centimeters (cm) per century (California Climate Change Center 2012). The rate of SLR is predicted to increase in the future. The California Sea Level Rise Task Force recommends a range of future SLR estimates for state agencies to consider for planning future development projects (Sea-Level Rise Task Force of the Coastal and Ocean Working Group of the California Climate Action Team [CO-CAT] 2013). These projections identify that sea levels will rise an average of 7, 14, and 41 inches by years 2030, 2050, and 2100, respectively, compared to 2000 levels.

3.3.1.3 Regulatory Setting

All levels of government have some responsibility to protect air quality through the adoption and enforcement of regulations. The regulation of GHG is a relatively new component of air quality. The following describes the federal, state, and local GHG regulations that would apply to the proposed Project and alternatives.

Federal Regulations

The U.S. government administers a wide array of public-private partnerships to reduce U.S. GHG emissions. These programs focus on energy efficiency, renewable energy, CH_4, non-CO_2 gases, agricultural practices, and implementation of technologies to achieve GHG reductions.

Based on a recent U.S. Supreme Court decision (Massachusetts v. EPA (2007) 549 U.S. 497, the EPA has been given the authority to regulate GHG as air pollutants under the federal CAA (refer to Section 3.2, Air Quality and Health Risk, for a discussion of the CAA). EPA also implements several voluntary programs that contribute to the reduction of GHG emissions. At this time, the EPA has not promulgated regulations for GHG emissions from mobile sources that would require direct compliance by operators at the Port. However, operators of stationary sources of GHG could be subject to the following EPA regulations:

- Prevention of Significant Deterioration (PSD) Permit Program – For new or modified stationary sources that are subject to the PSD Program due to their criteria pollutant emissions and that the subject source also emits more than 75,000 metric tons per year of CO_2e, these GHG emissions are subject to Best Available Control Technology (BACT) requirements; and
- Mandatory GHG Reporting Rule applies to facilities that emit 25,000 metric tons per year or more of GHG.

State Regulations and Agreements

To date, California is one of 23 states that have set GHG emission targets. Executive Order (EO) S-3-05 and AB 32, the California Global Warming Solutions Act of 2006, promulgated targets to achieve reductions in GHG to 1990 GHG levels by the year 2020. This target-setting approach allows progress to be made in addressing climate change, and is a forerunner to setting emission limits. The California Air Resources Board (CARB) is responsible for regulating GHG in California.

Assembly Bill 32 – California Global Warming Solutions Act of 2006

AB 32 was signed into law by then-governor Arnold Schwarzenegger on September 27, 2006 and it is the first law to limit GHG emissions at the state level. The Act directs the State to reduce California emissions of GHG to 1990 levels by 2020. It instructs the CARB to establish a program of regulatory and market mechanisms to achieve GHG reductions and to implement a mandatory GHG reporting and verification program. AB 32 requires the CARB to finalize GHG emission limits and reduction measures by January 1, 2011 and to implement them by January 1, 2012.

In accordance with AB 32, the CARB approved the Climate Change Scoping Plan (Scoping Plan) (ARB 2008) in October 2008, which outlines the state's strategy for achieving the 2020 GHG emissions limit outlined under the law. The Scoping Plan includes recommendations for reducing GHG emissions from most sectors of the California economy.

As part of the statewide programs to reduce GHG emissions, on October 25, 2007, the CARB approved several emission reduction strategies that pertain to goods movement activities for ships, Port drayage trucks, cargo handling equipment, and transport refrigeration units:

- Green Ports (ship electrification);
- SmartWay Truck Efficiency;
- Tire Inflation Program;
- Anti-idling enforcement;
- Refrigerant Tracking, Reporting, and Recovery Program; and
- Low Carbon Fuel Standard.

Several of the measures within the Scoping Plan are targeted at goods movement and ports operations and they are expected to achieve a combined reduction of 3.7 million metric tons of CO_2e. For goods movement, the Scoping Plan included two measures: 1) Measure T-5, an Early Action Measure that requires ship electrification at ports (shore-to-ship power or cold-ironing); and 2) Measure T-6, requires GHG emission reductions from goods movement through various efficiency measures. While Measure T-6 includes several explicit strategies, including the CARB Port Drayage Truck Regulation and the proposed OGV Vessel Speed Reduction Rule, many specific voluntary or regulatory strategies needed to achieve the Scoping Plan's GHG emission reduction target for goods movement have yet to be defined. The CARB completed its first update to the Scoping Plan on May 22, 2014 (ARB 2014).

Executive Order S-3-05

EO S-3-05, signed by then-Governor Schwarzenegger on June 1, 2005, establishes the following GHG emission reduction targets for California: 1) by 2010, reduce GHG emissions to 2000 levels; 2) by 2020, reduce GHG emissions to 1990 levels; and 3) by 2050, reduce GHG emissions to 80 percent below 1990 levels. EO S-3-05 also calls for the California Environmental Protection Agency to prepare biannual reports on 1) progress made towards achieving these goals, 2) impacts to California from global warming, and 3) mitigation and adaptation plans to combat these impacts. The most recent of these reports was completed in December 2010 (Climate Action Team 2010).

California Climate Action Registry/ The Climate Registry

Established by the California Legislature in 2000, the California Climate Action Registry (CCAR) was a non-profit public/private partnership that maintains a voluntary registry for GHG emissions. The purpose of CCAR was to help companies, organizations, and local agencies establish GHG emissions baselines for purposes of complying with future GHG emission reduction requirements. CCAR transitioned into two programs in 2009, the Climate Action Reserve and The Climate Registry (TCR). The Climate Action Reserve tracks and registers voluntary projects that reduce emissions of GHG, while TCR has taken over the voluntary registry for GHG emissions from CCAR.

AB 32 requires the CARB to incorporate the standards and protocols developed by CCAR into the state's future GHG emissions reporting program, to the maximum extent feasible. The current GHG emission calculation methods used by TCR are contained in *The Climate Registry – General Reporting Protocol, Version 2.0* (TCR Protocol) (TCR 2014). This protocol categorizes GHG emission sources as either 1) direct (vehicles, onsite combustion, fugitive, and process emissions) or 2) indirect (from offsite electricity, steam, and co-generation).

TCR is a nonprofit collaboration among North American states, provinces, territories, and Native Sovereign Nations who sets consistent and transparent standards to calculate, verify, and publicly report GHG emissions into a single registry. The Climate Registry Information System is the TCR's online GHG calculation, reporting, and verification tool.

Regulation for the Mandatory Reporting of Greenhouse Gas Emissions

As part of the AB 32 requirements, the CARB approved a mandatory GHG reporting regulation that became effective January 2009. The regulation requires operators of facilities in California that emit greater than 25,000 metric tons per year of CO_2 from stationary combustion sources in any calendar year after 2007 to report these emissions on an annual basis.

California Senate Bill 97

Senate Bill 97, enacted in 2007, directed the State Office of Planning and Research to propose CEQA Guidelines "for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions" by January 1, 2010. On December 30, 2009, the California Natural Resources Agency (Resources Agency) adopted the proposed amendments to the CEQA Guidelines in the CCR

According to the Resources Agency, "due to the global nature of GHG emissions and their potential effects, GHG emissions will typically be addressed in a cumulative impacts analysis" (California Natural Resources Agency 2009). The recently adopted amendments to the CEQA Guidelines, which address the mitigation of GHG emissions, create a new resource section for GHG emissions in the CEQA Guidelines *Appendix G* Environmental Checklist. That section poses the following questions – Would the project:

1. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?
2. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG?

As discussed in CEQA Guidelines Section 15064.4, the determination of the significance of GHG emissions calls for a careful judgment by the lead agency. CEQA Guidelines Section 15064.4 further provides that a lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate, or estimate the amount of GHG emissions resulting from a project. A lead agency shall have discretion to determine in the context of a particular project whether to:

1. Use a model or methodology to quantify GHG emissions resulting from a project, and which model or methodology to use. The lead agency has discretion to select the model or methodology it considers most appropriate, provided it supports its decision with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use; and/or
2. Rely on a qualitative analysis or performance based standards.

CEQA Guidelines Section 15064.4 also advises a lead agency to consider the following factors, among others, when assessing the significance of impacts from GHG emissions on the environment:

1. The extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting;
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and
3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

California Solid Waste Reuse and Recycling Access Act

The California Solid Waste Reuse and Recycling Access Act of 1991 requires each jurisdiction to adopt an ordinance by September 1, 1994, requiring any "development project" for which an application for a building permit is submitted to provide an adequate storage area for collection and removal of recyclable materials. The MCC facility currently complies with this requirement. Further, material reuse would continue to be consistent with the Port's Import Soil-Material Quality Requirements (dated March 29, 2006). Pursuant to the City of Long Beach ordinance, recyclable waste materials (i.e., concrete and asphalt) shall be processed for reuse. Asphalt and concrete shall be recycled and other recyclable waste shall be taken to accredited recycling centers, thereby diverting waste from landfills. Materials shall be separated on-site for reuse, recycling, or proper disposal. During construction, separate bins for recycling of construction materials shall be provided.

Executive Order S-13-08 (Sea Level Rise)

On November 14, 2008, Governor Schwarzenegger issued EO S-13-08 for purposes of developing a plan for the State to deal with future effects of SLR (California Office of the Governor 2012). The EO directs the California Resources Agency, in cooperation with other agencies, to:

1. Request the National Academy of Sciences (NAS) to convene an independent panel to complete the first California Sea Level Rise Assessment Report by December 1, 2010. The final Sea Level Rise Assessment Report will advise how California should plan for future SLR. The report should include 1) relative SLR projections specific to California, taking into account issues such as coastal erosion rates, tidal impacts, El Niño and La Niña events, storm surge, and land subsidence rates, 2) the range of uncertainty in selected SLR projections, 3) a synthesis of existing information on projected SLR impacts to state infrastructure (such as roads, public facilities and beaches), natural areas, and coastal and marine ecosystems, and 4) a discussion of future research needs regarding SLR for California;
2. Conduct a review of the NAS assessment every 2 years or as necessary;
3. Prepare a report to assess vulnerability of transportation systems to SLR that will include provisions for investment critical to safety, maintenance and operational improvements of the system and economy of the state;
4. Develop a state Climate Adaptation Strategy. The strategy will summarize the best known science on climate change impacts to California, assess California's vulnerability to the identified impacts, and outline solutions to promote resiliency. This strategy will be facilitated through the Climate Action Team and will be coordinated with California's climate change mitigation efforts; and
5. Provide state land-use planning guidance related to SLR and other climate change impacts.

The EO also states that prior to release of the final Sea Level Rise Assessment Report from the NAS, all state agencies that are planning construction projects in areas vulnerable to future SLR shall consider a range of SLR scenarios for the years 2050 and 2100 in order to assess project vulnerability and, to the extent feasible, reduce expected risks and increase resiliency to SLR. However, it excludes projects that have filed a NOP, and/or are programmed for construction funding the next five years, or are routine maintenance projects as of the date of this EO.

Subsequent to the release of the EO, it was apparent that the NAS would be unable to complete the Sea Level Rise Assessment Report until sometime in 2012. Therefore, as interim guidance, the CO-CAT, with science support provided by the Ocean Protection Council's Science Advisory Team and the California Ocean Science Trust, released the *State of California Sea-Level Rise Interim Guidance Document* in October 2010 (CO-CAT 2010). This interim guidance recommended a range of SLR estimates for years 2030 to 2100 for state agencies to consider for planning future development projects.

The National Research Council (NRC) (of the NAS) released their final report on SLR for California in June 2012 (NRC 2012). The CO-CAT updated their *SLR Interim Guidance Document* with the findings from the 2012 NRC report (CO-CAT 2013). The SLR projections recommended by the CO-CAT that pertain to the POLB project region (South of Cape Mendocino) include the following (compared to year 2000 sea levels):

- 0.13 to 0.98 feet by 2030;
- 0.39 to 2.0 feet by 2050; and
- 1.38 to 5.48 feet by 2100.

Local Regulations and Agreements

Port of Long Beach Green Port Policy

As discussed in Section 3.2, Air Quality and Health Risk, the POLB Green Port Policy includes initiatives that reduce emissions of criteria pollutant and TACs from operations at the Port. Many of these measures also will result in GHG emission reductions. Recent commitments for Port sustainability and terminal development made through the Green Port Policy also will reduce air emissions (POLB 2013).

San Pedro Bay Ports Clean Air Action Plan

As discussed in Section 3.2, Air Quality and Health Risk, the POLB and POLA implement the San Pedro Bay Ports CAAP to reduce emissions of criteria pollutants and TACs generated from operations at the Port and POLA in the interest of public health. While the CAAP does not specifically pertain to GHG emissions, many of the CAAP measures also will result in GHG emission reductions, which are identified in this EIR. In addition, the annual emission inventories produced for operations at each port now contain estimates of GHG emissions.

Greenhouse Gas Strategic Plan

The Port's commitment to protecting the environment from the harmful effects of Port operations, as stated in the Green Port Policy, necessitates the development of programs and projects to reduce GHG emissions. In September 2008, the Port's Board of Harbor Commissioners adopted a formal resolution that established a framework to reduce GHG emissions. The framework outlined efforts that are already underway at the Port to mitigate impacts to climate change:

1. The Port collaborated with other city departments to produce the city's first voluntary GHG emissions inventory (calendar year 2007), which was submitted to the CCAR. The Port continues to develop an annual inventory GHG emissions for the Harbor Department;
2. The Port joined other city departments in preparing a plan to increase energy efficiency in city-owned facilities, thereby reducing indirect GHG emissions from energy generation. This initiative is known as the Southern California Edison 2009–2011 Local Government Partnership;
3. In February 2010, the City of Long Beach adopted the Long Beach Sustainable City Action Plan that includes initiatives, goals, and actions that will move Long Beach toward becoming a sustainable city. The Sustainable City Action Plan includes initiatives to reduce the city's carbon footprint and sets a goal to reduce GHG emissions from city facilities and operations by 15 percent in 2020, relative to 2007 levels;
4. The Port participates in tree planting and urban forest renewal efforts through its support of the City of Long Beach's Urban Forest Master Plan;
5. Port staff consulted with the Long Beach Gas and Oil Department and Tidelands Oil Production Company (Tidelands) to evaluate potential opportunities for capturing CO_2 produced by oil operations in the Harbor District and re-injecting (sequestration) it through wells at the Port back into the subsurface formations;
6. Beginning with the 2006 POLB air emissions inventory, GHG emissions from OGV, heavy-duty trucks, CHE, harbor craft, and locomotives are quantified to enable the establishment of GHG reduction goals;
7. The Port's Renewable Energy Working Group is developing strategies to expand the use and production of renewable energy at the Port. Criteria for emerging technologies will be established so that the technologies can be evaluated in a manner similar to the existing CAAP Technology Advancement Program;
8. The Port's Renewable Energy Working Group finalized a Solar Energy Technology and Siting Study (Solar Siting Study) that reviewed available solar technologies and estimated solar energy generation potential for the entire Harbor District. The study determined that there are many sites within

the Harbor District where solar energy technologies could be developed on building rooftops and at ground-level;

9. Based on the Solar Siting Study, Port staff is developing a program to provide incentive funding to Port tenants for the installation of solar panels on tenant-controlled facilities; and
10. In May 2013, the Port's Board of Harbor Commissioners adopted the Port of Long Beach Energy Policy to guide efforts to secure a more sustainable and resilient supply of power as demand grows. Under the Energy Policy, the Port will implement measures to increase efficiency, conservation, resiliency, and renewable energy in collaboration with various groups including port tenants, utilities, other city departments, industry stakeholders, labor unions, universities, and the Port of Los Angeles.

The Port is developing a Greenhouse Gas Strategic Plan (GHG Plan) that will examine GHG impacts for activities within the Harbor District and will identify strategies for the reduction of the overall carbon footprint of such activities. Similar to the CAAP, the GHG Plan will identify strategies for activities under direct Port control and those that are controlled by third parties, such as tenants. The GHG Plan also will be used to mitigate project-specific and cumulative GHG impacts from future projects through modernization and/or upgrading of marine terminals and other facilities in the Harbor District.

The Port also developed the Greenhouse Gas Emission Reduction Program Guidelines (GHG Guidelines) that describe the procedure that the Port will use to select GHG emission reduction programs that will meet the GHG Plan reduction goals. The Board of Commissioners adopted the GHG Guidelines on March 22, 2009.

Climate Change Adaptation and Coastal Resiliency Strategic Plan

The POLB is developing a harbor-wide Climate Change Adaptation and Coastal Resiliency Strategic Plan (CRS Plan) that will enable the Port to begin preparing for the impacts of climate change and associated coastal hazards. The CRS Plan will provide a framework for the Port to incorporate adaptive measures due to projected climate change into its policymaking and planning processes, environmental documents, infrastructure design, construction practices, and community outreach and education efforts.

The CRS Plan will focus on protecting the built environment of the Port, as the Port's terminals and associated goods movement infrastructure are critically important economic assets for the region. Successful development and implementation of the CRS Plan will require the engagement of all Port divisions and tenants, as well as industry, regulatory, and community stakeholders. Specifically, the CRS Plan will provide a framework for identifying and managing risks associated with climate change in the Harbor District, and ensure resiliency and business continuity of Port operations, the supply chain, and other businesses that depend on the Port.

3.3.2 Impacts and Mitigation Measures

The following analysis considers the GHG impacts that would occur from the proposed Project and alternatives. It should be noted that GCC impacts are, by nature, cumulative impacts. Therefore, there is no separate cumulative impacts analysis for GCC.

3.3.2.1 Significance Criteria

According to CEQA Guidelines *Appendix G* Environmental Checklist, the following criteria may be considered to establish the significance of GHG emissions:

Would the Project:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG?

CEQA Guidelines allow the lead agency discretion in how to address and evaluate significance based on these criteria.

To provide guidance to local lead agencies on determining significance for GHG emissions in its CEQA documents, the SCAQMD staff has convened an on-going GHG CEQA Significance Threshold Working Group. Members of the working group include government agencies implementing CEQA and representatives from various stakeholder groups, including the POLB, that provide input to the SCAQMD staff on developing GHG CEQA significance thresholds.

On December 5, 2008, the SCAQMD Governing Board adopted the staff proposal for an interim GHG significance threshold for CEQA projects where the SCAQMD is lead agency. For industrial projects, a significance threshold of 10,000 metric tons of CO_2e emissions per year was determined. Construction GHG emissions are required to be included, amortized over the project life, in the project's annual GHG emissions totals.

Considering these guidelines and Port-specific climate change impact issues, the following thresholds are used in this EIR to determine the significance of Project GCC impacts:

GCC-1: Produce GHG emissions that exceed the SCAQMD interim 10,000 metric tons CO_2e annualized significant emissions threshold for industrial projects.

GCC-2: Expose people or structures to a significant risk of loss, injury or death involving flooding as a result of SLR.

3.3.2.2 Methodology

This analysis includes an estimate of GHG emissions that would be produced from proposed construction and operational activities. Sources considered in the analysis include those identified in Section 3.2, Air Quality and Health Risk, for criteria pollutant impacts.

Appendix A.1 includes a description of the methods and assumptions used to estimate GHG emissions for proposed construction and operational activities.

GHG emissions associated with the proposed Project scenarios were calculated using the methodologies presented in Section 3.2, Air Quality and Health Risk, and the TCR Protocol. However, for purposes of CEQA, TCR has not developed a protocol for determining the operational boundaries for some Port-related sources, such as OGVs. Therefore, this GHG analysis evaluated an expanded geographic boundary of operational activities that included the entire state of California. For on-road cement delivery trucks, operations would occur from round trip distances of 60 miles, as evaluated for criteria pollutants in Section 3.2, Air Quality and Health Risk. For OGV transit operations, the analysis evaluated a shipping route distance between the Port and the State Water's 3-mile jurisdictional boundary west of Point Conception of about 92 nm. The analysis assumed that all proposed Project ships would follow this "northern route." The northern route represents the longest distance that OGVs would travel to and from the Port while in State Waters. GHG emission calculations also include environmental control (EC) AQ-1 through AQ-4, which are described in Section 3.2, Air Quality and Health Risk.

Table 3.3-1 presents an estimate of annual GHG emissions generated from the operation of the MCC terminal under the CEQA Baseline scenario.

Table 3.3-1. Annual GHG Emissions Associated with CEQA Baseline Operations at the MCC Terminal

Activity	Metric Tons CO_2e
Ships – Outer Waters Transit	2,944
Ships - Precautionary Area Transit	112
Ships - Harbor Transit	29
Ships – Docking/Turning	13
Ships - Hoteling Aux. Sources	1,346
Tugboats - Cargo Vessel Assist	94
Payloaders	29
On-road Trucks	5,944
Offsite Electrical Generation	4,134
Total MCC Terminal GHG Emissions	**14,649**

3.3.2.3 Alternative 1 – Proposed Project

Construction and Operational Impacts

Impact GCC-1: The Project would produce GHG emissions that exceed the SCAQMD interim annualized significant emissions threshold for industrial projects.

As discussed in Section 3.3.2.1, Air Quality and Health Risk Significance Criteria, construction and operational activities include both direct and indirect GHG emissions. Direct emissions include those GHG emissions that are generated by construction equipment, and operational emission sources directly related to the proposed Project, including OGVs, payloaders, and cement delivery trucks.

Project-related construction sources for which GHG emissions were calculated include: 1) off-road diesel construction equipment, 2) on-road trucks, and 3) worker commute vehicles. Per SCAQMD interim guidance for assessing industrial project impacts, construction emissions are amortized over a 30-year period and added to the annual operating emissions to address their contribution to annual emissions over the lifetime of the proposed Project.

Project-related operation emission sources for which GHG emissions were calculated include: 1) OGVs and assist tugboats, 2) onsite off-road equipment, 3) on-road delivery trucks, and 4) offsite generation of electricity used by the terminal. Due to the small net change in the number of employees that would occur between the baseline and proposed Project, GHG emissions from employee commuting were not calculated since they would be negligible. Table 3.3-2 summarizes total annualized GHG emissions that would result from proposed Project construction and operational activities.

Impact Determination

As shown in Table 3.3-2, construction and operation of the proposed Project would generate a net increase of 22,248 metric tons of unmitigated CO_2e compared to CEQA baseline levels. These emissions would exceed the SCAQMD interim significance threshold of 10,000 metric tons of CO_2e per year and therefore would be significant.

Mitigation Measures

Measures that reduce electricity consumption or fossil fuel usage from proposed Project emission sources would reduce GHG emissions associated with the proposed Project. The proposed Project would be required to implement applicable CAAP requirements, which were developed to implement the Port's Green Port Policy, and the environmental controls listed in Section 3.2.2.2, Air Quality and Health Risk Methodology. Although the focus of the currently approved CAAP is criteria pollutant

Table 3.3-2. Annual GHG Emissions from Proposed Project Operations – Year 2015

Activity	Metric Tons CO_2e
Amortized Construction Emissions (30-year life)	56
Ships – Outer Waters Transit	8,134
Ships - Precautionary Area Transit	309
Ships - Harbor Transit	82
Ships – Docking	38
Ships - Hoteling Aux. Sources	1,037
Tugboats - Cargo Vessel Assist	251
Payloaders and SCR Duct Burner	1,072
On-road Trucks	18,319
Off-site Electrical Generation	7,599
Total unmitigated GHG Emissions	**36,897**
CEQA Baseline Annual Emissions	**14,649**
Net Change - Proposed Project minus CEQA Baseline	**22,248**
SCAQMD Interim Threshold	**10,000**
Exceed SCAQMD Threshold?	**Yes**

emissions reduction, some of the measures that are being implemented under the CAAP would also have the effect of reducing GHG emissions from operations.

On-road cement delivery trucks and OGVs are two of the largest sources of GHGs from proposed Project operations. The air quality/ GHG analysis assumes that the operation of OGVs under the proposed Project would comply with the following environmental controls, which would minimize GHG emissions: 1) OGV transit speeds would not exceed 12 knots within 40 nm of Point Fermin (CAAP measure OGV1 [OGV Vessel Speed Reduction]) and 2) OGVs would cold-iron at Berth 66 percent of the time on an annual average. While extending OGV Vessel Speed Reduction beyond 40 nm from the Port would result in additional fuel savings and resulting reductions of GHGs, implementation of this measure would be unenforceable due to a lack of adequate monitoring of OGV activities in this region. No other measures are feasible to reduce GHGs from the operation of proposed OGVs.

The air quality/GHG analysis also assumes that proposed cement delivery trucks would comply with the POLB CTP, which would minimize GHG emissions from these sources. This is the case, as the CTP fleet contains a large number of relatively newer trucks that produce lower GHG emissions compared to older trucks. **Mitigation Measure AQ-2** proposed in Section 3.2.2.3, Air Quality and Health Risk requires that at least 90 percent of the Project truck fleet would be no more than five years old to mitigate emissions of NO_x and PM_{10}. This measure also would slightly lower GHGs from Project delivery trucks compared to the unmitigated CTP fleet. This slight benefit (less than one percent reduction in GHGs) would not occur until project year two (2016), when the average age of the mitigated truck fleet would become younger than the CTP fleet. As a result, to be conservative, the proposed Project mitigated GHG analysis does not include GHG emission reductions due to **MM AQ-2**. Delivery trucks powered with alternative fuels, such as liquid propane gas or compressed natural gas, would produce lower GHGs compared to diesel-powered trucks. However, MCC only owns diesel-powered trucks and procuring these lower-emitting trucks for purposes of project GHG mitigation would have a very high cost per mass of GHG reduction. Therefore, no other measures are feasible to further reduce GHGs from the operation of proposed cement delivery trucks.

The Project operations would implement several environmental controls and the only other feasible method to reduce proposed GHG emissions is to achieve emission reductions from non-Project sources. Therefore, the following mitigation measures are recommended to provide additional GHG emission reductions.

Mitigation Measure GCC-1: Indirect GHG Emission Reduction/Avoidance. MCC shall minimize the release of indirect GHG emissions through measures that reduce or avoid electricity consumption at the facility. Measures to reduce indirect GHG emissions from electricity generation shall include: 1) installation of low-energy demand lighting (e.g., fluorescent or light-emitting diode) in the existing office building, other facility buildings, and the existing and new exterior lighting, except where compatible energy efficient lighting is not available or its installation could compromise safety; and 2) installation of approximately 1,000 square feet of solar panels on the existing office building, with the total amount to be determined based on available space and the additional weight that can be borne by the existing roof. Prior to the start of Project construction, MCC shall submit to the Port a proposed plan and schedule for implementing these two measures. The low-energy demand lighting and solar panels shall be installed no later than three (3) years from the start of Project construction. Once these installations have been completed, MCC shall prepare and submit to the Port a report detailing the number of existing lights replaced, number of new low-energy demand lighting installed, and the final total square feet of solar panels installed. The report also shall include a quantitative assessment of the amount of greenhouse gas emissions reduced from each of the two measures and the amount of power generated from the solar panels in kilowatt-hours per year.

Mitigation Measure GCC-2: Energy Audit. To identify future opportunities to reduce GHG emissions, commencing in 2018 and every five years thereafter, MCC at its expense shall complete a site-specific energy audit using a qualified third party energy auditor. Both the energy auditor and the scope of the audit must be approved by the Port. This audit shall evaluate MCC's facility and operations to determine whether there are additional, cost-effective measures that would reduce overall power use. No later than six (6) months following completion of the energy audit, MCC shall submit a report to the Port that presents 1) the results of the audit and 2) a schedule for implementation of the feasible, cost-effective energy-efficiency or conservation measures identified in the report.

Mitigation Measure GCC-3: Funding Contributions to the POLB Greenhouse Gas Emissions Reduction Grant Program. MCC shall provide a one-time lump sum contribution of $333,720 to the POLB GHG Emissions Reduction Grant Program. This fee is based on the following: 1) Project operations are estimated to increase CO_2e emissions from baseline conditions by as much as 22,248 metric tons at maximum design throughput of 4.58 million tons per year of cement and 2) the SCAQMD has established Rule 2702 (GHG Reduction Program), which offers GHG emission reductions at a rate of $15 per metric ton of CO_2e. The Project-related cost would be based on: 22,248 metric tons CO_2e emissions x $15 per metric ton = $333,720.

This contribution would be used to fund projects pursuant to the GHG Program, including but not limited to generation of green power from renewable energy sources; installation of urban forests and drought-tolerant community gardens; purchase of electric vehicles; lighting replacement with light-emitting diode fixtures; and energy-efficiency projects such as building insulation; and heating, ventilation, and air conditioning; and boiler replacements. This contribution shall not be used to fund projects at MCC's project site.

The timing of the payment pursuant to this mitigation measure shall be made by the later of the following two dates: 1) the date that MCC issues a Notice to Proceed or otherwise authorizes the commencement of construction on the construction contract or 2) the date that the Final EIR is conclusively determined to be valid, either by operation of PRC Section 21167.2 or by final judgment or final adjudication.

Significance of Impacts after Mitigation

Due to the difficulty of determining the specific extent of each proposed mitigation measure in reducing GHG emissions, the analysis did not quantify the effects of implementing **Mitigation Measures GCC-1 through GCC-3**. Implementation of these measures would result in lower Project GHG emissions compared to unmitigated levels, although mitigated net GHGs from the Project would exceed the SCAQMD interim significance threshold of 10,000 metric tons of CO_2e per year. Since there are no other feasible mitigation measures, emissions of GHGs from the proposed Project would remain significant and unavoidable.

Implementation of **Mitigation Measure AQ-3, Diesel Particulate Filter for the DoCCS** (presented in Section 3.2.2.3 of this EIR), would reduce emissions of PM and associated black carbon from project OGVs while at berth. These emission reductions also would result in a corresponding yet indeterminable reduction in impacts to global warming and climate change.

Impact GCC-2: The Project would not expose people or structures to a significant risk of loss, injury, or death involving flooding as a result of sea level rise. Construction and Operational Impacts.

The *California Flood Risk: Sea Level Rise - Long Beach Quadrangle* shows that a SLR of 4.6 feet on top of a 100-year flood event at the Port would produce virtually no risk of increased flooding over the next century at the MCC terminal or within the Project vicinity (Pacific Institute 2009). The project terminal and wharf would remain higher than this elevated sea level by a safe margin. This also would be the case for the effects of the extreme SLR range of 5.48 feet by 2100, as identified by the CO-CAT for assessing project vulnerability to SLR. SLR would occur at a slow enough rate that there would be ample time to respond to incremental changes in sea level and therefore to implement adaptations. These adaptations would be developed as part of the Port's Climate Change Adaptation and Coastal Resiliency Strategic Plan to avoid potential impacts from these long-term changes.

Impact Determination

SLR would not significantly impact Project operations during the life of the Project. Since impacts from SLR would be less than significant, no mitigation is required.

3.3.2.4 Alternative 2 – Reduced Expansion Alternative

Construction and Operational Impacts

Impact GCC-1: Alternative 2 would produce GHG emissions that exceed the SCAQMD interim annualized significant emissions threshold for industrial projects.

Table 3.3-3 summarizes total annualized GHG emissions that would result from construction and operation of the Reduced Throughput Alternative.

Impact Determination

As shown in Table 3.3-3, construction and operation of the Reduced Throughput Alternative would generate a net increase of 15,106 metric tons of unmitigated CO_2e compared to CEQA baseline levels. These emissions would exceed the SCAQMD interim significance threshold of 10,000 metric tons of CO_2e per year and therefore would be significant.

Mitigation Measures

Measures that reduce electricity consumption or fossil fuel usage from the Reduced Throughput Alternative activities would reduce proposed GHG emissions. The Reduced Throughput Alternative would be required to institute all applicable CAAP requirements, which were developed to implement the Port's Green Port Policy, and the environmental controls listed in Section 3.2.2.2, Air Quality and Health Risk Methodology.

The same mitigations identified for the proposed Project (**Mitigation Measures GCC-1 through GCC-3)** also are proposed to reduce GHG emissions from the Reduced Throughput Alternative. Similar to the proposed Project, since operations associated with the Reduced Throughput Alternative would implement **Mitigation Measure AQ-2** and several environmental controls, there are no other feasible methods to reduce proposed GHG emissions.

Significance of Impacts after Mitigation

Due to the difficulty of determining the specific extent of each proposed mitigation measure in reducing GHG emissions, the analysis did not quantify the effects of implementing **Mitigation Measures GCC-1 through GCC-3**.

Table 3.3-3. Annual Unmitigated GHG Emissions from Reduced Throughput Alternative – Year 2015

Activity	Metric Tons CO_2e
Amortized Construction Emissions (30-year life)	36
Ships – Outer Waters Transit	6,507
Ships - Precautionary Area Transit	247
Ships - Harbor Transit	66
Ships – Docking	30
Ships - Hoteling Aux. Sources	829
Tugboats - Cargo Vessel Assist	201
Payloaders and SCR Duct Burner	1,059
On-road Trucks	14,655
Off-site Electrical Generation	6,125
Total Annual GHG Emissions	**29,755**
CEQA Baseline Annual Emissions	**14,649**
Net Change – Reduced Throughput Alternative minus CEQA Baseline	**15,106**
SCAQMD Interim Threshold	**10,000**
Exceed SCAQMD Threshold?	**Yes**

Implementation of these measures would result in lower GHG emissions from Alternative 2 compared to unmitigated levels, although mitigated net GHGs from the Alternative would exceed the SCAQMD interim significance threshold of 10,000 metric tons of CO_2e per year. Since there are no other feasible mitigation measures, emissions of GHGs from the Reduced Throughput Alternative would remain significant and unavoidable.

Implementation of **Mitigation Measure AQ-3, Diesel Particulate Filter for the DoCCS** (presented in Section 3.2.2.3 of this EIR), would reduce emissions of PM and associated black carbon from project OGVs while at berth. These emission reductions also would result in a corresponding yet indeterminable reduction in impacts to global warming and climate change.

Impact GCC-2: Alternative 2 would not expose people or structures to a significant risk of loss, injury, or death involving flooding

For the same reasons identified for the proposed Project under **Impact GCC-2**, SLR would not significantly impact the Reduced Throughput Alternative operations during its expected life. Since impacts from SLR would be less than significant, no mitigation is required.

3.3.2.5 Alternative 3 – No Project Alternative

Operational Impacts

Impact GCC-1: Alternative 3 would not produce GHG emissions that exceed the SCAQMD interim annualized significant emissions threshold for industrial projects.

Table 3.3-4 summarizes total annual GHG emissions that would result from the operation of the No Project Alternative.

Impact Determination

As shown in Table 3.3-4, operation of the No Project Alternative would generate a net increase of 9,143 metric tons of unmitigated CO_2e compared to CEQA baseline levels. These emissions would not exceed the SCAQMD interim significance threshold of 10,000 metric tons of CO_2e per year and therefore would be less than significant. In addition, this alternative does not require any discretionary action by an agency.

Impact GCC-2: Alternative 3 would not expose people or structures to a significant risk of loss, injury, or death involving flooding

Table 3.3-4. Annual Unmitigated GHG Emissions from the No Project Alternative– Year 2015

Activity	Metric Tons CO_2e
Ships – Outer Waters Transit	5,502
Ships - Precautionary Area Transit	209
Ships - Harbor Transit	56
Ships – Docking	25
Ships - Hoteling Aux. Sources	814
Tugboats - Cargo Vessel Assist	170
Payloaders	53
On-road Trucks	9,863
Off-site Electrical Generation	7,100
Total Annual GHG Emissions	**23,792**
CEQA Baseline Annual Emissions	**14,649**
Net Change – No Project Alternative minus CEQA Baseline	**9,143**
SCAQMD Interim Threshold	**10,000**
Exceed SCAQMD Threshold?	**No**

For the same reasons identified for the proposed Project under **Impact GCC-2**, SLR would not significantly impact the No Project Alternative operations during its expected life. Since impacts from SLR would be less than significant, no mitigation is required.

3.3.3 Cumulative Impacts

As noted above, GHG and GCC impacts are, by nature, cumulative impacts. Therefore, there is no separate cumulative impacts analysis for GCC.

3.3.4 Mitigation Monitoring Program

Mitigation Measures GCC-1 through GCC-3 and their associated monitoring requirements will be documented in the Project's Mitigation, Monitoring, and Reporting program. The Mitigation, Monitoring, and Reporting Program will document compliance with implementing the mitigation measures approved in the final EIR.

3.4 HYDROLOGY AND WATER QUALITY

3.4.1 Environmental Setting

3.4.1.1 Area of Influence

The area of influence for Project effects on hydrology and water quality is defined as the Inner and Outer Harbor waters of Long Beach Harbor. Although Long Beach Harbor is adjacent to Los Angeles Harbor and the two are connected via Cerritos Channel and the outer harbors, measurable effects of the proposed Project are not expected to reach waters of Los Angeles Harbor due to distance.

3.4.1.2 Setting

The Project site is located on landfill-constructed Pier F, adjacent to Basin Six of Long Beach Harbor. Waters in this area are marine, with freshwater inflows primarily from storm runoff. Direct precipitation also adds freshwater and small amounts of dry weather runoff enter harbor waters. The existing beneficial uses of coastal and tidal waters in the Inner Harbor areas include industrial service supply, navigation, non-contact water recreation, commercial and sport fishing, preservation of rare and endangered species, and marine habitat (SWRCB 1994).

Beneficial uses in the Outer Harbor are navigation, water contact and non-contact recreation, commercial and sport fishing, marine habitat, and preservation of rare and endangered species. Waters in the Project area that are 303(d)-listed for impairment (list approved by EPA June 28, 2007 include the Los Angeles/ Long Beach Outer Harbor (inside breakwater), Los Angeles/Long Beach Inner Harbor, and Los Cerritos Channel (SWRCB 2007). The regulatory setting for 303(d)-listed water bodies is discussed in Section 3.4.1.3, Regulatory Setting. Public beaches that could be affected by beach closures are not present in the Project area. Table 3.4-1 lists water quality impairments for the harbor area.

Marine Water Quality

Marine water quality in Long Beach Harbor is primarily affected by climate, circulation, biological activity, surface runoff, effluent discharges, and accidental discharges of pollutants related to shipping activities. Suspension of bottom sediments can also affect water quality through release of contaminants and by reducing dissolved oxygen (DO) concentrations. Harbor water quality has been extensively studied for many years and has improved considerably since the 1960s as a result of pollution control measures. Within Long Beach Harbor, water quality in the inner and middle areas is poorer than in the Outer Harbor due to reduced circulation and increased runoff from urban and industrial areas (SAIC et al. 2010). The water quality parameters commonly used to describe marine water quality include salinity, temperature, nutrients, DO, hydrogen ion concentration (pH), transparency/ turbidity, and contaminant loading. Following is a discussion of each of these parameters.

Salinity. Salinity in harbor waters varies due to the effects of stormwater runoff, waste discharges, rainfall, and evaporation. Harbor water salinities usually range from 30.0 to 34.2 parts per thousand (ppt), but salinities ranging from less than 10.0 ppt to greater than 39.0 ppt have been reported (USACE and LAHD 1984).

Temperature. Temperature of waters in the harbor shows seasonal and spatial variations that reflect the influence of the ocean, local

Table 3.4-1. Section 303(d) Listed Waters in Long Beach Harbor

Listed Waters/Reaches	Impairments
Los Angeles/Long Beach Outer Harbor, inside breakwater (4,042 acres)	Dichloro-diphenyl-trichloroethane (DDT), polychlorinated biphenyls (PCBs), sediment toxicity
Los Angeles/Long Beach Inner Harbor (3,003 acres)	Beach closures, benthic community effects, copper, zinc, DDT, PCBs, sediment toxicity
Los Cerritos Channel (31 acres)	Ammonia, bis(2ethylhexyl)phthalate/DEHP, coliform bacteria, copper, lead, zinc, trash Sediment: chlordane

Source: SWRCB 2007.

climate, physical configuration of the harbor, and circulation patterns. General trends in water temperature consist of uniform, cooler temperatures throughout the water column in the winter and spring and warmer, but stratified temperatures, with cooler waters at the bottom, in the summer and fall.

Nutrients. Nutrients, in addition to availability of light, can limit the photosynthetic production by phytoplankton. Factors that influence nutrient concentrations include biological processes, wastewater discharge, and stormwater runoff. Depending on location, depth, and season, nutrients in the Los Angeles/Long Beach Harbor may vary in concentration by several orders of magnitude. The enclosed nature of the harbor creates seasonal and spatial levels of nutrients that vary from the so-called "normal" levels found in areas outside the breakwaters.

Based on 2002-2003 water quality sampling, dissolved inorganic nitrogen was low throughout most of Los Angeles/Long Beach Harbor and San Pedro Bay. All of the stations sampled would be categorized as being of high quality (<0.5 milligrams per liter [mg/L]). Orthophosphate concentrations were higher in Los Angeles/Long Beach Harbor with stations characterized as being of moderate quality (0.01 to 0.1 mg/L) (Lyons and Byrosik 2007).

Sources of nutrients in harbor waters include wastewater discharges such as the Terminal Island Treatment Plant (TITP) in the Outer Harbor and industrial discharges. Point source inputs, such as effluent discharges from wastewater treatment plants, are regulated through discharge permits. Water quality monitoring of the TITP has documented that elevated ammonia levels occur during storm events and in the immediate area of the TITP discharge (LADWP 2008).

Dissolved Oxygen. DO is key indicator of marine water quality, as many aquatic species depend on adequate DO levels for survival. The EPA and the RWQCB have established a DO concentration of 5 mg/L) as the minimum concentration for aquatic habitats (SWRCB 1994). The RWQCB also requires that the mean annual DO concentration be 6 mg/L or greater with no event less than 5 mg/L. DO concentrations may vary considerably based on the influence of a number of parameters such as respiration of plants and other organisms, waste (nutrient) discharges, surface water mixing through wave action, diffusion rates at the water surface, and disturbance of anaerobic bottom sediments.

In recent years, DO concentrations throughout Los Angeles/Long Beach Harbor have generally met or exceeded the 5 mg/L standard, with average values in the 6 to 8 mg/L range (POLA and POLB 2009).

pH. pH refers to the hydrogen ion concentration, which typically ranges from 7.0 to 9.0 in marine waters. It is affected by plant and animal metabolism, mixing with water with different pH values from external sources, and, on a small scale, by disturbances in the water column that cause redistribution of waters with varying pH levels or the resuspension of bottom sediments. In the Outer Harbor, pH levels have ranged from 8.1 (upper level in warmer months) to 7.4 (lower levels, cooler months). In Long Beach Harbor waters, pH levels have ranged from 7.0 to 8.7. The RWQCB has established an acceptable range of 6.5 to 8.5 with a change in tolerance level of no more than 0.2 due to discharges (i.e., Project impacts).

Transparency/Turbidity. Transparency is a measure of the ability of water to transmit light, or water clarity, and it is measured by the distance a black and white disk (i.e., a secchi disk) can be seen through the water and by a transmissometer that measures percent light transmission through water. Turbidity is also a measure of water clarity as affected by the amount of suspended solids in the water column. Increased turbidity usually results in decreased transparency.

Turbidity generally increases as a result of one or a combination of the following conditions: fine sediment from terrestrial runoff or resuspension of fine bottom sediments; plankton bloom; and dredging activities. Historically, water clarity in the harbor has varied tremendously with secchi disk readings ranging from 0 to 40 feet. Water clarity has generally increased since 1967, although individual readings still vary greatly. Suspended solids concentrations in surface waters of the Outer Harbor range from less than 1 to 22.4 mg/L (USACE and LAHD 1992). One cause of increased turbidity is phytoplankton blooms following storm runoff events during warm weather. The storm runoff typically provides high nutrient levels that are efficiently utilized by the phytoplankton.

Contaminants. Contaminants in the harbor water column can include low levels (relative to water quality standards) of heavy metals (particularly cadmium, chromium, copper, lead, mercury, nickel, silver, and zinc), oil and grease, chlorinated hydrocarbons (e.g., pesticides such as DDTs and chlordanes), and polychlorinated biphenyls (PCBs). These contaminants have been found in harbor sediments as addressed below. In addition, some contaminated sediment areas have been covered by less contaminated sediments as part of recent landfill construction, thereby sealing them from interchange with the overlying water.

Sources of contaminants include municipal and industrial wastewaters and stormwater runoff. Another source is dry and wet aerial fallout. Data from the California RWQCB and EPA indicate that there are approximately 60 active, individual NPDES permitted discharges to the Dominguez Channel and to the Los Angeles and Long Beach Harbor. These discharges include four refineries that discharge to the Dominguez Channel, two generating stations that discharge to the Inner Harbor areas, and the TITP. The latter discharges secondary-treated effluent to the Outer Harbor and is under a time schedule order to eliminate their discharge into surface waters. In addition, there are approximately 50 active, general NPDES permitted discharges to the watershed (California RWQCB and EPA 2010). Maintenance dredging, previous channel deepening projects, and long-term effluent limitations imposed by the RWQCB are responsible for decreased chemical contamination in harbor waters and sediments.

Atmospheric deposition of pollutants such as particulates, mercury, and polycyclic aromatic hydrocarbons are sources of pollutant loads in water bodies. California air and water regulators have begun to examine the role of atmospheric deposition in California waters, both fresh and salt. One potential method to regulate deposition is through the Total Maximum Daily Loads (TMDLs) program, which was established and regulated as part of the CWA. TMDLs have been established in California, and therefore, an existing model could be used to develop a similar program for pollutants deposited via air transport. However, a number of issues related to atmospheric deposition still remain. Deposition mechanisms are not understood for all potential pollutants, and research on actual concentrations of such pollutants is not complete. Additionally, there is controversy regarding the legal authority of the Regional Water Quality Control Boards in regulating sources that are traditionally regulated by the Air Quality Management Districts. Air pollutants can also travel long distances, and identifying true sources can be complicated.

The primary sources of pollutants, such as zinc, in aerial deposition are dust from paved and unpaved roads, tire wear, and construction areas (Stolzenbach 2006). Direct aerial deposition of metals onto the water surface is a minor source of pollutants in the water.

The Port, through its CAAP, will actively reduce air pollutants generated by the Port, thereby complying with the goal of reducing potential air deposition at its source for targeted pollutants. The CAAP is focused primarily on PM, NO_x, and SO_x reduction, but also aims to reduce all pollutant sources, thereby reducing total available pollutants (Section 3.2.1.3, Air Quality Regulatory Setting). Additionally, the Port will comply with any future regulation to control water pollution.

Freshwater Quality

Surface water (freshwater) in the Project area consists primarily of stormwater runoff, which drains into the adjacent harbor waters. Following storm events, the quality of surface water may be degraded due to loading from petroleum hydrocarbons, metals, SVOCs, particulate matter associated with the operation of vessel unloading facilities, industrial land uses, and runoff from roadways. POLB storm drains are sampled as part of the annual monitoring required by the Statewide General Permit No. 97-03. Analyses of chemical constituents in the outfall discharges and receiving waters are conducted annually (once during the dry season and twice during storm events in the wet season).

Sampling of the outfall discharges has found variable, rather than persistent, detections of volatile organics, zinc, lead, copper, and surfactants, as well as infrequent detection of extractable and fuel hydrocarbons (MBC 2012).

Total suspended solids levels generally increase during periods of greater rainfall, or if there was a longer dry interval prior to runoff, which increases the amount of particulate material available. During 2011/2012 monitoring, total suspended solids concentrations did not exceed

100 mg/L in any sample from either storm. Three metals, barium, copper and zinc, have consistently been detected at concentrations above about 0.10 mg/L (= 100 micrograms per Liter [µg/L]) during the 16 years of monitoring (MBC 2012).

Stormwater discharges mix with the marine harbor waters at the discharge point of each drain. During 2005-2008 water quality surveys, two samples in POLB Inner Harbor exceeded CTR water quality criterion for copper (POLA and POLB 2009). However, it is the effect of the discharges on harbor water quality that is critical, not the quality of the discharges themselves (POLA and POLB 2009).

TMDLs for organic pollutants and heavy metals in the Dominguez Channel were adopted by the RWQCB and have been in effect since March 2012. The TMDLs set allocations for lead, zinc, and copper under wet weather conditions. The allocations were determined to meet CTR criteria.

Hydrology

Because the Project does not involve any work in harbor waters, oceanographic processes within the harbor have not been described. Hydrologic processes on land include storm runoff before it enters stormwater facilities. The runoff at the MCC facility is collected in a series of storm drain inlets and discharges at a single outlet into the Southeast Basin. The only external sources of flooding at the Project site would be storm surge, tsunami, or seiche. The latter two sources are discussed in Section 3.1, Geology, Groundwater, and Soils.

Flooding. Although portions of Pier F to the north of the Project area are within a 100-year flood zone, the Project site is not within the 100-year or 500-year flood zones, as mapped by the Federal Emergency Management Agency (FEMA). The Project area is currently paved; therefore, minimal surface water infiltration occurs during precipitation events.

3.4.1.3 Regulatory Setting

CWA (33 U.S.C. 33 §1251 et seq. [1972]). This Act provides for the restoration and maintenance of the physical, chemical, and biological integrity of the nation’s waters. Discharges (including through dredge and fill) of pollutants must be authorized through either individual or general NPDES permits. These permits can include waste discharge requirements and SWPPPs. The SWRCB and its regional water quality control boards implement sections of the Act through the Water Quality Control Plan, Standard Urban Stormwater Mitigation Plans, and permits for discharges. Under Section 303(d), the state is required to list water segments that do not meet water quality standards and to develop action plans to improve water quality.

Water Quality Control Plan, Los Angeles Region (Basin Plan, Adopted 1994, most recently amended in February 2012). The SWRCB Basin Plan is designed to preserve and enhance water quality and to protect beneficial uses of regional waters (inland surface waters, groundwater, and coastal waters such as bays and estuaries). The Basin Plan designates beneficial uses of surface water and groundwater, such as contact recreation or municipal drinking water supply. The Basin Plan also establishes water quality objectives, which describe the pollution thresholds beyond which the beneficial uses will be impaired, and describes implementation programs. Beneficial uses and water quality objectives combine to form water quality standards under the CWA.

State Water Resources Control Board, Stormwater Permits. The SWRCB has developed a statewide General Construction Activity Stormwater Permit and a General Industrial Activity Stormwater Permit for projects that do not require an individual permit for these activities. The General Construction Activities Stormwater Permit applies to all stormwater discharges associated with construction activity, except for those on tribal lands, those in the Lake Tahoe Hydrologic Unit, and those performed by California Department of Transportation (Caltrans). Under this permit, all construction activities that disturb one acre or more must:

- Determine the risk level (1, 2, or 3) of the project based on the sediment erosion potential and the sensitivity of the receiving waters;
- Prepare and implement a SWPPP that specifies BMPs to prevent construction pollutants from contacting stormwater. The intent of the SWPPP and BMPs is to keep all products of erosion from moving offsite into receiving waters;

- Eliminate or reduce non-stormwater discharges to storm sewer systems and other waters of the U.S.;
- Perform routine monitoring to determine the effectiveness of BMPs in: 1) preventing further impairment by sediment in stormwaters discharged directly into waters listed as impaired for sediment or silt; and 2) reducing or preventing pollutants (even if not visually detectable) in stormwater discharges from causing or contributing to exceedances of water quality objectives; and
- Perform sampling during storm events if the project is determined to be a risk level 2 or 3. No sampling is required for risk level 1 projects. However, for all projects, sampling and analysis of pollutants not visually detectable in stormwater is required when exposure to construction materials occurs and discharge can cause or contribute to the exceedance of a water quality objective.

The General Industrial Activities Stormwater Permit (2014-0057-DWQ) was adopted in April 2014 and will become effective on July 1, 2015. The permit regulates stormwater discharges associated with industrial activity and requires dischargers to implement management measures that will "achieve the performance standard of best available technology economically achievable (BAT) and best conventional pollutant control technology (BCT). The General Industrial Permit also requires the development of a Storm Water Pollution Prevention Plan (SWPPP) and a monitoring plan. Through the SWPPP, sources of pollutants are to be identified and the means to manage the sources to reduce storm water pollution are described."

State Water Resources Control Board, Standard Urban Stormwater Mitigation Plans. The City of Long Beach is covered under a Permit for Municipal Stormwater and Urban Runoff Discharges (RWQCB Order No. R4-2014-0024 and NPDES No. CAS004003). This Order became effective in March 2014 and expires in March 2019. The permit includes a monitoring and reporting program (CI No. 8052) intended to provide information that can be used to refine control measures for the reduction of pollutant loading and the protection and enhancement of the beneficial uses of the receiving waters and to implement the provisions listed in Order R4-2014-0024.

The City of Long Beach must comply with specified receiving water limitations; discharge prohibitions; stormwater management, monitoring and reporting; and special and standard provisions.

California Porter-Cologne Act (1969, most recently amended June 27, 2012). This Act (State Water Code Sections 13000 *et seq*.) is the basic water quality control law for California and works in concert with the federal CWA. The state Act is implemented by the SWRCB and its nine regional boards which implement the permit provisions of Section 402 and certain planning provisions of Sections 205, 208, and 303 of the federal Act. This means that the state issues one discharge permit for purposes of state and federal law. Permits for discharge of pollutants are officially called NPDES permits. Anyone discharging waste or proposing to discharge waste that could affect the quality of state waters must file a "report of waste discharge" with the governing RWQCB.

Additional water quality permitting requirements may include an NPDES General Construction Activities Stormwater Permit (including the development of a SWPPP) from the SWRCB for projects that would disturb over one acre and a General Industrial Activities Stormwater Permit that requires dischargers to develop and implement a SWPPP, eliminate unauthorized non-storm discharges, and conduct visual and analytical stormwater discharge monitoring to verify the effectiveness of the SWPPP.

California Toxics Rule of 2000 (40 CFR Part 131). This rule establishes numeric criteria for priority toxic pollutants in inland waters as well as enclosed bays and estuaries to protect ambient aquatic life (23 priority toxics) and human health (57 priority toxics). The toxics rule also includes provisions for compliance schedules to be issued for new or revised NPDES permit limits when certain conditions are met. The numeric criteria are the same as those recommended by the EPA in its CWA Section 304(a) guidance.

TMDLs for toxics and metals in the Los Angeles and Long Beach harbors were adopted in May 2011 and added as an amendment to the Basin Plan in 2012. TMDLs set daily load allocations on a pollutant by pollutant basis, and by doing so focus on preventing pollutants at their source from entering the water bodies. The Port is actively involved with the EPA and RWQCB in developing TMDL implementation plans for the Dominguez Channel and Los Angeles and Long Beach Harbor.

3.4.2 Impacts and Mitigation Measures

3.4.2.1 Significance Criteria

Criteria for determining the significance of impacts related to hydrology and water quality are based on the CEQA Guidelines *Appendix G* Environmental Checklist. A significant impact would occur if the Project would:

WQ-1: Result in violation of regulatory standards or guidelines (e.g., California Water Code, Water Quality Control Plan, CWA, CTR, etc.);

WQ-2: Substantially alter water circulation;

WQ-3: Result in flooding that could harm people, damage property, or adversely affect biological resources; or

WQ-4: Result in wind or water erosion that causes substantial soil runoff or deposition not contained or controlled onsite.

3.4.2.2 Methodology

Potential water and sediment quality impacts of the Project and alternatives were assessed through a combination of literature data (including all applicable water quality criteria), results from past projects in the Port, and results from previous testing of sediments. For flooding, potential impacts were assessed using the FEMA flood zone maps, and preparer expertise. Impacts would be significant if any of the criteria listed above are met as a result of the Project.

The assessment of impacts is based on the assumption that the Project would include the following:

- An individual NPDES permit for construction stormwater discharges or coverage under the General Construction Activity Stormwater Permit, would be obtained for the Project. A SWPPP would be completed in association with the NPDES permit;
- All contaminated soils would be characterized and remediated in accordance with POLB, RWQCB, DTSC, and LBFD protocol and clean-up standards, as necessary;
- The terminal operator would be required by the terms of the lease to participate in the POLB Stormwater Program in order to comply with the General Industrial Activities Permit;
- A Municipal Stormwater and Urban Runoff Discharge Plan would be prepared and implemented for the Project; and
- The Project would comply with the National Flood Insurance Program floodplain management building requirements.

3.4.2.3 Alternative 1 – Proposed Project

Construction Impacts

Impact WQ-1.1: Project construction activities would not result in violation of regulatory standards or guidelines.

Construction activities could result in temporary impacts on marine water quality through surface water runoff containing asphalt leachate, concrete wash water, and other construction and demolition materials, particularly during the rainy season. It is assumed that any contaminated soils encountered during utility demolition and soil excavations would be remediated (Section 3.4.2.2, Methodology). Erosion and runoff of upland soils into the harbor is discussed under **Impact WQ-4.1.** All construction, including structural piles, would be completed behind the bulkhead. No piles would be driven outside the cellular bulkhead and directly into marine waters, resulting in no direct impacts on marine waters or marine sediments.

Impact Determination

Runoff of construction-related contaminants from Project construction, including demolition of utilities and construction of new facilities would enter harbor waters primarily through storm drains. Most runoff would occur during storm events, although some could occur when water is used as part of construction activities. Standard BMPs, such as sediment barriers, sedimentation basins, and site contouring, would be used during these construction activities to minimize runoff of contaminants dissolved in water and adsorbed on soil particles, in compliance with the State General Permit for Stormwater Discharges Associated with Construction Activity (Water Quality Order 2009-0009-DWQ, as amended by 2010-0014 DWQ and 2012-0006-DWQ) and a Project-specific SWPPP.

Sediment control measures generally have an average efficiency of approximately 70 percent, although efficiencies can be higher, particularly for coarser materials such as sand (EPA 1993). Thus, a small amount of pollutants associated with soils could reach harbor waters via storm drains, but this runoff would be rapidly diluted by rainfall and mixing in the immediate vicinity of the drain discharge.

Since the implementation of the NPDES to regulate point source discharges, the water quality in the harbor has improved to a point where much of the harbor supports healthy and diverse biological communities.

Effects of this runoff on nutrient levels and DO would be minor, as small amount of soils that could potentially reach the harbor would have minimal levels of nutrients (nitrates and phosphates). SWPPP controls on concrete mixing and cement wastes would reduce potential impacts on pH. No substances that are identified in the 303(d) list for the Inner Harbor (e.g., DDT and PCBs) would be used during construction, but some could be present in soils disturbed during construction activities. As described in Section 3.1, Geology, Groundwater, and Soils, control of soil runoff from contaminated areas would be in accordance with all applicable regulations and would prevent these substances from entering harbor waters.

Accidental leaks and spills of fuels, lubricants, or hydraulic fluid during demolition and construction activities would have a low probability of entering storm drains due to implementation of BMPs, as required in the Project-specific SWPPP. Most spills are expected to be small and contained within the work area. Existing regulations, such as the General Construction Activity Stormwater Permit and LBSWMP, include requirements to avoid or minimize effects on water quality during construction activities, and these would be implemented during the Project. Examples of BMPs that would be included in the SWPPP are:

- Equipment shall be inspected regularly (daily) during construction, and any leaks found shall be repaired immediately;
- Refueling of vehicles and equipment shall be in a designated, contained area;
- Drip pans shall be used under stationary equipment (e.g., diesel fuel generators), during refueling, and when equipment is maintained;
- Drip pans that are in use shall be covered during rainfall to prevent washout of pollutants; and
- Monitoring shall be performed to verify that the BMPs are implemented and kept in good working order.

Implementation of these measures would result in less than significant water quality impacts with regard to compliance with regulatory standards and guidelines. Since impacts on water quality would be less than significant, no mitigation is required.

Impact WQ-2.1: Project construction activities would not substantially alter water circulation.

Site grading would result in minor changes in topography and drainage patterns that would not substantially alter water movement at the Project site. Surface water would be directed to flow across paved, impermeable surfaces and through surface drains toward the waters of the harbor.

Impact Determination

Impacts on water circulation during construction would be less than significant. Since impacts on water circulation would be less than significant, no mitigation is required.

Impact WQ-3.1: Project construction activities would not result in flooding that could harm people, damage property, or adversely affect biological resources.

The Project site is not located within a 100-year or 500-year flood zone. New impermeable surfaces constructed as part of the Project would not increase the potential for flooding onsite because the Project site is currently paved (no net increase in paved areas is proposed), and existing drainage areas would be maintained.

Impact Determination

Site elevations would remain generally the same as a result of Project construction and runoff would be directed to storm drains. Because flooding risks would not be increased by Project construction, impacts on people, property, or biological resources would be less than significant. Since impacts from flooding would be less than significant, no mitigation is required.

Impact WQ-4.1: Project construction activities would not result in wind or water erosion that causes substantial soil runoff or deposition not contained or controlled onsite.

Ground disturbances and construction activities related to utilities demolition, site preparation, construction of additional storage capacity, and wharf improvements could result in temporary impacts on surface water quality through runoff of soils. However, eroded soils would be controlled by use of BMPs, as described under **Impact WQ-1.1**.

Soils transported from the Project site would enter harbor waters primarily through storm drains. Most runoff would occur during storm events, although some could occur during use of water as part of construction activities. Standard BMPs would be used during these construction activities to minimize runoff of soils in compliance with the State General Permit for Stormwater Discharges Associated with Construction Activity (Water Quality Order 2009-0009-DWQ as amended by 2010-0014 DWQ and 2012-0006-DWQ) and the Project-specific SWPPP described under **Impact WQ-1.1**.

Impact Determination

The small amount of soil that could reach harbor waters via storm drains would be rapidly dispersed by mixing with harbor waters in the immediate vicinity of the drain discharge. Effects of this runoff on DO would be minor and limited to the vicinity of the drain discharge locations, due to the expected small amount of sediment in stormwater runoff. Soil erosion resulting from construction activities is not expected to affect harbor water pH or nutrient levels because substances that could measurably alter pH or nutrient levels would not be present in the soils. Therefore, short-term water quality impacts resulting from grading and construction-induced erosion would be less than significant. In addition, paving the exposed soil surfaces during construction would eliminate the long-term soil erosion potential. Since impacts on hydrology and water quality would be less than significant, no mitigation is required.

Operational Impacts

Impact WQ-1.2: Project operations would not result in violation of regulatory standards or guidelines.

Operation of the MCC facility would not result in any direct waste discharges to the harbor, other than stormwater discharges. However, increased transportation activities (truck and vessel) associated with the Project could increase the amount of particulate and chemical pollutants settling from the air and brought in by vehicles (e.g., tires, fuel and lubricant leaks, and brake dust) and cargo on the larger paved area. Although the Project site is routinely vacuumed, a small portion of the pollutants from these sources would enter the harbor waters, primarily through stormwater runoff.

Sixteen years of stormwater discharge sampling in the POLB through 2012 (MBC 2012) has found pollutants such as metals and SVOCs present in runoff before it entered harbor waters. During 2005-2008 water quality surveys, two samples in POLB Inner Harbor exceeded CTR water quality criterion for copper (POLA and POLB 2009). However, Project activities are unlikely to result in discharges of metals at concentrations that would exceed water quality standards.

Aerial deposition of pollutants from Project-related non-electric equipment and vehicle and vessel operations would occur on land, with a minor amount of deposition occurring on the surface of harbor waters. Pollutants deposited on land could be washed into harbor waters in stormwater runoff. This deposition would represent a small amount of pollutants that would periodically enter the harbor. No DDT or PCBs would be in the Project aerial fallout because these chemicals would not be used during Project operations.

Impact Determination

Use of existing pollution controls and implementation of improved storm drain infrastructure would reduce the potential for pollutants to enter the harbor. As described in

Section 3.4.1.3, Regulatory Setting, the Port will require all tenants to comply with applicable pollution control measures in the City's Municipal Stormwater and Urban Runoff Discharges Permit (RWQCB Order No. R4-2014-0024 and NPDES No. CAS004003) and the LBSWMP. Other sources of pollutants that could accumulate in sediments of the harbor include accidental spills on land that enter storm drains and accidental spills from vessels. Impacts would depend on the material spilled, speed and efficiency of cleanup, and sedimentation rate of the material.

The amount of pollutants in clean water discharges from vessels would be low because the Port prohibits discharge of polluted water or refuse to the harbor.

Because the MCC facility operator would be required to implement pollution control measures, in compliance with the Port's Stormwater Program (Section 3.4.2.2, Methodology), runoff from new and existing impervious surfaces would result in less than significant impacts on harbor sediments and marine water quality. Existing regulatory controls for runoff and storm drain discharges, as implemented by the Port's Stormwater Program, are designed to reduce impacts on water quality. Although the presence of regulatory standards or requirements cannot be assumed to result in less than significant impacts, results from past stormwater monitoring (MBC 2005) indicate that the Project is not expected to result in significant impacts on water quality. Since impacts on water quality would be less than significant, no mitigation is required.

Impact WQ-2.2: Project operations would not substantially alter water circulation.

As described in **Impact WQ-2.1**, surface water at the Project site would be directed to flow across paved, impermeable surfaces and through surface drains toward the waters of the harbor.

<u>Impact Determination</u>

Impacts on water circulation during operations would be less than significant. Since impacts on water circulation would be less than significant, no mitigation is required.

Impact WQ-3.2: Project operations would not result in flooding that could harm people, damage property, or adversely affect biological resources.

The Project site is not located within a 100-year or 500-year flood zone. Project operations would not increase the potential for flooding onsite. Runoff associated with a large storm could exceed the capacity of the storm drain system, resulting in temporary and localized ponding. Site elevations, however, would remain generally the same as prior to construction, and the risk of flooding would not be increased above baseline conditions. As impacts on flooding would be less than significant, no mitigation is required.

<u>Impact Determination</u>

Because the likelihood of flooding would not be increased by Project operations, impacts on people, property, or biological resources would be less than significant. Since impacts from flooding would be less than significant, no mitigation is required.

Impact WQ-4.2: Project operations would not result in wind or water erosion that causes substantial soil runoff or deposition not contained or controlled onsite.

Project operations would not result in substantial erosion, since the Project site would be paved with minimal exposed soil surfaces. The paved surface area would minimize potentials for erosion and soil runoff from the Project site.

<u>Impact Determination</u>

Impacts on hydrology and water quality during operations would be less than significant. Since impacts on hydrology and water quality would be less than significant, no mitigation is required.

3.4.2.4 Alternative 2 – Reduced Throughput Alternative

The Reduced Throughput Alternative would be the same as the proposed Project except that only two cement silos would be constructed and only one additional truck lane would be constructed to permit loading beneath the two new silos. This alternative would involve similar, but less construction activities. Operations would be similar in nature, but with reduced throughput. As a result, impacts related to hydrology and water quality would be similar, but less than those described under **Impacts WQ-1 through WQ-4** for the Project due to the reduction in construction activity and reduced throughout during operation. Similar to the Project, impacts on hydrology and water quality would be less than significant. Since impacts on hydrology and water quality would be less than significant, no mitigation is required.

3.4.2.5 Alternative 3 – No Project Alternative

The No Project Alternative would not include demolition, site preparation, construction of additional storage capacity, or wharf improvements. The MCC facility would generate operational impacts: ships would perform their unloading activities; facility equipment would handle bulk cement; and trucks would transport the cement product to outlying distribution facilities. Facility throughput would be limited by truck loading capacity being confined to the existing three truck loading lanes. With no new construction, **Impacts WQ-1.1 through WQ-4.1** would not occur. However, **Impacts WQ-1.2 through WQ-4.2** would be similar but less than those described for the Project due to the reduced throughput for the No Project compared to the Project. Similar to the Project, impacts on hydrology and water quality would be less than significant.

3.4.3 Cumulative Impacts

The region of influence for cumulative impacts on marine waters is the Long Beach/Los Angeles Harbor (Inner and Outer Harbor areas). Since the proposed Project does not include any in-water construction activities, the Project would not contribute to any cumulative impacts on water quality due to in-water construction.

Temporary disturbances on land during construction of cumulative projects would add a small amount of soils in runoff to harbor waters. Such projects would include all those listed in Table 2.1-1, with the exception of the Channel Deepening Project, Consolidated Slip Restoration Project, and Berths 206-209 Interim Container Terminal Reuse Project, as these projects do not involve ground disturbance associated with new construction, demolition, or remediation. Runoff from most of the projects with ground disturbance, however, would not occur simultaneously, but rather would be spread over time as each project is completed. As a result, construction-related runoff to harbor waters would be dispersed in time and space. Runoff from projects that overlap in time would occur at different locations in the harbor, and each project would implement control measures as required in project-specific permits. The proposed Project's contribution to cumulative water quality impacts would not be considerable and, therefore, would not be significant. This is due to the implementation of runoff control measures required in project permits, such as SWPPPs.

Runoff during operations of the cumulative projects could change as industrial uses and the amount of paving change, but such changes would be small since most areas are already developed and would be redeveloped. Thus, operational cumulative impacts on water quality would be less than significant. Project demolition and construction activities, as well as operation of the MCC facility, would have less than significant impacts on water quality, as described above in **Impacts WQ-1 through WQ-4**. The proposed Project would not make a cumulatively considerable contribution to effects on water quality due to implementation of runoff controls during construction and operations.

3.4.4 Mitigation Monitoring Program

Since the project and its alternatives would not create impacts to hydrology and water quality, no mitigation measures are required. As such, no mitigation monitoring program is required.

3.5 BIOLOGICAL RESOURCES AND HABITATS

3.5.1 Environmental Setting

The biological resources of the POLB have been described in several environmental studies and documents. Marine habitats within the POLB consist of soft bottom, hard substrate (rock riprap, sheet piles, and pilings), and water column environments. Terrestrial areas in the Project area are fully developed with industrial uses. In addition, the Project site is entirely paved. Thus, no native plant communities are present on the site.

Comprehensive studies of biological resources within the Long Beach and Los Angeles Port Complex are conducted periodically, providing detailed information on current biological conditions and historical trends. Two recent comprehensive biological studies were completed in 2000 and 2008 (MEC and Associates 2002, SAIC et al. 2010), which provide an updated inventory and assessment of the marine biological environment throughout the harbor complex. These studies, along with water quality analyses, have shown an improvement in marine habitat quality over time (HEP 1980, MEC and Associates 2002, SAIC et al. 2010).

3.5.1.1 Area of Influence

In terms of the proposed Project's effects on biological resources and habitats, the area of influence is Pier F, waters of Basin Six and the Southeast Basin, plus the outer harbor area. Although the POLB harbor is adjacent to POLA, and the two are connected via the Outer Harbor and Inner Harbor (Cerritos Channel), construction and operational effects of the proposed Project are not expected to affect marine and terrestrial habitats or resources within POLA, since POLA is located more than two miles from the Project site. Mobile species, such as fish and birds, can and do move throughout the Long Beach and Los Angeles Port Complex, but this movement would not be impeded by the proposed Project.

3.5.1.2 Setting

Terrestrial Habitats

Upland areas where Project-related site improvements would occur are previously developed areas that provide no natural terrestrial habitat for wildlife and plants. No natural or sensitive plant communities are present. Wildlife use of the Project site and other developed areas within the Port is generally limited. Terrestrial animals may include various common insects, lizards, rats (*Rattus norvegicus, R. rattus*), house mouse (*Mus musculus*), feral cats (*Felis catus*), and opossum (*Didelphis virginiana*). These wildlife species are generally adapted to human-disturbed landscapes.

A number of terrestrial birds may occur along the piers of Basin Six and the Southeast Basin (MEC and Associates 2002, SAIC et al. 2010). The most commonly observed species during 2000 and 2008 surveys included the non-native, rock pigeon (*Columba livia*) and European starling (*Sturnus vulgaris*). Other relatively common species included American crow (*Corvus brachyrhynchos*), common raven (*C. corax*), black phoebe (*Sayornis nigricans*), Bullock's oriole (*Icterus bullockii*), yellow-rumped warbler (*Dendroica coronata*), and house finch (*Carpodacus mexicanus*). These species were observed in low abundance in the survey area and are adapted to urban and disturbed habitats.

Several species of marine-associated birds (e.g., California least tern, western snowy plover, Belding's savannah sparrow, California brown pelican, great blue heron, Brandt's cormorant, etc.) may occur on piers, wharfs, and other structures as well as waters within the harbor. They are described in the following section.

Marine Habitats and Associated Animals

Soft Bottom. Organisms that live in (benthic infauna) and on (benthic epifauna) bottom sediments are important to overall community functions and productivity, contributing to nutrient recycling and providing important food source for fish, invertebrates, and other organisms. Several hundred species of invertebrates occur in Long Beach and Los Angeles Port Complex (MEC and Associates 2002, SAIC et al. 2010). The benthic infauna in Basin Six was dominated in 2008 by polychaete worms (e.g., *Aphelochaeta petersenae, Cossura* spp., *Scoletoma* sp. A, *Spiophanes berkeleyorum*), amphipod crustaceans (*Amphideutopus oculatus, Listriella goleta*), ghost shrimp (*Neoptrayea gigas*), commensal pea crab (*Scleroplax granulata*), and semele clam (*Theora lubrica*)

(SAIC et al. 2010). The most abundant epifaunal invertebrates in 2008 within the Southeast Basin included shrimps (*Heptocarpus* spp., *Crangon nigricauda, Crangon nigromaculata*), prawns (*Sicyonia ingentis*, *S. pencillata*), and Xantus' swimming crab (*Portunus xantusii*). Generally, invertebrate species composition was similar between 2000 and 2008 surveys (MEC and Associates 2002, SAIC et al. 2010).

Hard Substrate. Hard substrates provide surfaces for attachment of invertebrates (e.g., mussels, barnacles, tunicates, sponges, etc.) and algae, as well as providing shelter for mobile invertebrates and fish. Organisms occurring on hard substrates in the harbor show vertical zonation (changes in species with changes in water depth) similar to rocky shores. In 2008, the upper intertidal zone of the Southeast Basin was dominated by acorn barnacles *(Balanus glandula*). Lower intertidal and subtidal zones were dominated by spirorbidae polychaetes, sea squirts (ascidean tunicates), amphipod crustaceans (*Caprella californica, C. simia, Photis bifurcata*), and the dwarf brittlestar echinoderm (*Amphipholis squamata*). Similar species were recorded in 2000 (MEC and Associates 2002).

No kelp habitat occurs within Basin Six, but it is present on subtidal rock riprap at the entrance of the Southeast Basin and along a portion of the outer edge of Pier G (SAIC et al. 2010). Giant kelp (*Macrocystis pyrifera*) was the dominant overstory and feather boa kelp (*Egregia menziesii*) was a conspicuous subcanopy species in the Outer Harbor during 2008 surveys. Understory species included brown algae (*Colpomenia sinuosa*, *Cystoseira* sp., *Dictyota/Pachydictyon sp*.), and coralline red algae (*Corallina spp.*). Also present within the Southeast Basin were two non-native species of brown algae (*Sargassum muticum* and *Undaria pinnatifida*).

Fish. Long Beach Harbor supports substantial populations of pelagic and bottom-associated (demersal) fish. Over 60 species were collected in the Long Beach and Los Angeles Port Complex in 2000 and 2008 (MEC and Associates 2002, SAIC et al. 2010). Dominant species collected within the Southeast Basin in 2008 included northern anchovy (*Engraulis mordax*), topsmelt (*Atherinops affinis*), queenfish (*Seriphus politus*), and white croaker (*Genyonemus lineatus*). These species dominated the catch throughout the Long Beach and Los Angeles Port Complex both in 2000 and 2008 (MEC and Associates 2002, SAIC et al. 2010). The Port Complex represents important nursery habitat for several species of fish, including flatfish, white croaker, queenfish, rays, anchovies, and topsmelt. Some fish move into and out of the harbor for spawning, nursery, and foraging.

Plankton. The water column provides habitat for plankton (small floating animals and plants) and larval fish. The Long Beach and Los Angeles Port Complex is an important nursery area for marine fish. Dominant fish eggs and larvae collected in the Southeast Basin in 2008 included several bottom-associated species, such as gobies, combtooth blennies (*Hypsoblennius* spp.), bay goby (*Lepidogobius lepidus*), and flatfish eggs (SAIC et al. 2010). In addition, white croaker larvae and sciaenid eggs (queenfish/white croaker) were relatively abundant. Diatoms and dinoflagelllates dominate the phytoplankton (plant plankton), and cladocerans and copepods dominate the zooplankton (HEP 1980). Larvae of shellfish, including kelp crabs, pea crabs, spider crabs, and lobster also represent an important element of the plankton community (MBC et al. 2007).

Birds. The harbor area is used by numerous species of birds. Water-associated birds use the water surface for resting and forage, over or in the water. Some species also rest or roost on breakwaters and other structures in the harbor. More than 65 water-associated species were recorded throughout the Long Beach and Los Angeles Port Complex during 2000 and 2008 surveys, respectively (MEC and Associates 2002, SAIC et al. 2010). The most abundant birds within Basin Six and Southeast Basin across all seasons were gulls and waterfowl. Western gull (*Larus occidentalis*) was relatively abundant throughout the year; whereas, the following species were seasonally abundant: Heerman's gull (*Larus heermanni*), California gull (*L. californicus*), ring-billed gull (*L. delawarensis*), surf scoter (Melanitta *perspicillata*), and western grebe (*Aechmophorus occidentalis*). Several other water-associated birds were occasionally observed in low numbers, including California brown pelican (*Pelecanus occidentalis californicus*), cormorants, herons, shorebirds, and terns.

Marine Mammals. California sea lion (*Zalophus californianus*) is the most abundant marine mammal in the Long Beach and Los Angeles Port Complex. Sea lions were observed in low numbers in open water within Basin Six and Southeast Basin during 2000 and 2008 surveys. No substantial hauls outs have been documented within Basin Six and Southeast Basin (MEC and Associates 2002, SAIC et al. 2010). The Pacific bottlenose dolphin (*Tursiops truncatus*) and common dolphin (*Delphinus delphis*) were occasionally observed in low numbers in the Outer Harbor during monthly or more frequent surveys in 2008 (SAIC et al. 2010). Whales seasonally occur in nearshore waters, and the gray whale (*Eshrichtius robustus*) rarely may enter the outer harbor (MEC and Associates 2002). No marine mammals breed in the POLB or Los Angeles harbors. Sea lion and harbor seal rookeries are on the offshore Channel Islands and harbor seals also have localized mainland rookeries in San Diego, Ventura, and Santa Barbara counties (Caretta et al. 2011).

Special Status Species

Birds. The federally and state endangered California least tern (*Sterna antillarum browni*) has nested for several years at Pier 400 in the POLA, and forage in open waters, primarily adjacent to the nest site and in shallow water habitats adjacent to Pier 300 and off Cabrillo Beach (SAIC et al. 2010, KBC 2012). The nest site at Pier 400 is located more than two miles from the Project site. Most records of least tern foraging has been more than two miles from the Project site; however, the species also was observed foraging in the West Basin of Long Beach Harbor in 2008 (SAIC et al. 2010). The entrance of the West Basin is approximately 0.5 mile from the Project site.

The federally threatened western snowy plover (*Charadrius alexandrines nivosus*) is an occasional migrant to the Pier 400 site, but no nesting has been observed (MEC and Associates 2002, SAIC et al. 2010, Mudry 2012). No federally designated critical habitat occurs within the Port or POLA.

The state endangered Belding's savannah sparrow (*Passerculus sandwichensis beldingi*) is a transient visitor to marsh areas in POLA. The nearest marsh locations are several miles from the Project site.

Two fully protected bird species are known to occur in the vicinity of the Project site: California brown pelican and American Peregrine falcon (*Falco peregrinus anatum*), both of which are delisted endangered species (state and federal). Pelicans have been observed in the Southeast Basin, but in low numbers (MEC and Associates 2002, SAIC et al. 2010). Pelicans may use all areas of the harbor, but prefer to roost and rest on the breakwaters, particularly the Middle Breakwater (MEC and Associates 2002, SAIC et al. 2010). Pelicans forage on fish both inside and outside the harbor. Although occurring year-round, higher numbers generally are found in the harbor between May and early November (MEC and Associates 2002, SAIC et al. 2010). The nearest nesting colonies are on west Anacapa and Santa Barbara Islands.

Peregrine falcons are known to nest or rest on bridges within the Ports of Long Beach and Los Angeles. The nearest nesting location is the Gerald Desmond Bridge, which is more than one mile from the Project site. A pair of peregrine falcons has nested within the supporting structure below the bridge off and on for several years, successfully fledging young each time (SAIC et al. 2010). One individual was observed in flight over the Southeast Basin during the 2000 surveys (MEC and Associates 2002).

Several migratory birds nest within the POLB and POLA. Nesting sites are protected under the Migratory Bird Treaty Act (MBTA). The closest nesting area to the Project site is Gull Park at the end of the Pier T Mole of the West Basin. Great blue heron (*Ardea herodias)* nested there on trees in 2006-2008, but black-crowned night heron (*Nycticorax nycticorax*) has not been reported to nest there since 2002 (Caltrans 2009, SAIC et al. 2010). Gull Park is approximately 0.75 mile from the Project site. Brandt's cormorant (*Phalacrocorax penicillatus*) nested among the old docks on the south side of the West Basin in 2008 (SAIC et al. 2010), which is more than 1.5 mile from the Project site.

Several migratory species have nested at other locations in the Ports of Long Beach and Los Angeles, all located more than 1 mile from the Project site. For example, Black skimmer (*Rynchops niger*), Caspian Tern (*Sterna caspia*), elegant tern (*S. elegans*), or royal tern (*S. maxima*) nested on Pier 400 in 2011-2012 (KBC 2012, Mudry 2012). Loggerhead shrike (*Lanius ludovicianus*) was suspected of nesting at Pier 400 in 2011 (KBC 2012). The black skimmer and loggerhead shrike are state species of special concern.

Black oystercatcher (*Haematopus bachmani*) nested on the outer breakwater of both Ports of Long Beach and Los Angeles in 2008 (SAIC et al. 2010); the closest location is more than 1.5 miles from the Project site. The closest nesting locations for double-crested cormorants (*Phalacrocorax auritus*) in 2008 were on transmission towers at Piers S and A north of the Gerald Desmond Bridge; more than 2 miles from the Project site.

Other state species of special concern with records of occurrence, but no documented nesting, include Brant (*Branta benicla*), burrowing owl (*Athene cunicularia*), and common loon (*Gavia immer*) (MEC and Associates 2002, SAIC et al. 2010, KBC 2012, Mudry 2012).

Bats. Townsend's big-eared bat (*Corynorhinus townsendii*), a state Species of Special Concern, has the potential to occur under bridges in the Port Complex, but has not been reported (Caltrans 2009). Unidentified bats, most likely a species of *Myotis,* have been observed roosting under the Gerald Desmond Bridge (Caltrans 2009), which is more than 1 mile from the Project site. *Myotis* bats are not identified as sensitive species by the state of California.

Marine Mammals. All marine mammals are protected under the Marine Mammal Protection Act (MMPA) of 1972. California sea lion is the most abundant marine mammal in the harbor. Harbor seals and dolphins may occasionally occur in low numbers in the Outer Harbor, and sightings of gray whales are rare (MEC and Associates 2002, SAIC et al. 2010). Outside the breakwater, a variety of marine mammals use nearshore waters. These include the delisted gray whale, which migrates from the Bering Sea to Mexico and back each year, and the federally endangered blue whale (*Balaenoptera musculus*), which may be observed as single individuals or in small pods of several individuals. The blue whale feeds off the coast of California during the summer (NMFS 2012a). Other endangered whales with the potential to occur offshore include the fin whale (*Balaenoptera physalus*), humpback whale (*Megaptera novaeangliae*), sperm whale (*Physeter catodon*), minke whale (*Balaenoptera sp.*), and killer whale (*Orcinus orca*). Primary threats to these species are incidental vessel strikes and fisheries interactions.

Several species of dolphin and porpoise that are commonly found in coastal areas near Long Beach and Los Angeles include the Pacific bottlenose dolphin, common dolphin (*Delphinus delphis*), Pacific white-sided dolphin (*Lagenorhynchus obliquidens*), Risso's dolphin (*Grampus grisseus*), Dall's porpoise (*Phocoenoides dalli*), and northern right whale dolphin (*Lissodelphis borealis*), with the common dolphin the most abundant (Forney et al. 1995). Dolphins generally are found in groups, ranging from several individuals up to a thousand or more (Leatherwood and Reeves 1983).

The number of whales struck by ships each year offshore of California (corrected for the low likelihood of detection) is estimated to include as many as 6 humpback whales, 11 blue whales, and 7 fin whales (Redfern et al. 2013 cited by Dettmer and Teufel 2014). An average of three California sea lions and three harbor seals are killed or injured by vessel strikes in California each year (Carretta et al. 2004).

Vessel speed has been linked to collision and fatality of large whale strikes. Jensen and Silber (2003) compiled and analyzed 134 cases of whale strikes in terms of type of vessel and vessel speed. Of these 134 cases, 15 percent involved container/cargo ships/freighters, and 6 percent involved tankers. Vessel speed was known for 58 cases. Of these, most vessels were traveling more than 13 knots, with the average speed being 18.6 knots. Jensen (2004) prepared a "white paper" review of whale strikes and vessel speed for NOAA, stating that data strongly suggests that ships going slower than 14 knots are less likely to collide with large whales, and recommended speed restrictions in the range of 10-13 knots in areas where feasible and necessary to reduce the risk of ship strikes and facilitate whale avoidance. Similarly, Vanderlaan and Taggert (2007) analyzed these and other available published records and determined there was a 50 percent chance of serious injury or mortality to whales when struck by a vessel traveling at a speed of 11.8 knots. The odds of serious injury to whales approached 100 percent at vessel speeds greater than 15 knots.

The Port promotes a Green Flag VSRP of 12 knots or slower within 40 nm of Point Fermin, and tracks compliance with that speed reduction target within two distance categories: 20 nm and 40 nm. The VSRP was implemented as a voluntary program to reduce smog-forming emissions. Because the speed reduction target is 12 knots or lower, it also has the potential to reduce the risk of serious injury to whales from accidental collision with maritime vessels using the Port. Between 2009 and 2011, the percentage of vessels in compliance was 95 to 96 percent within 20 nm. The percentage of vessels that slowed within 40 nm increased from 72 to 80 percent over the same time period (POLB 2009, 2010, 2011). In 2013, the International Maritime Organization (IMO) amended the Santa Barbara Channel Traffic Separation Scheme (TSS) and the approach to the ports of Los Angeles and Long Beach reducing the width of the separation zone from 2 nm to 1 nm and shifting the inbound south lane shoreward and away from known whale concentrations. These changes to the separation zone are expected to reduce co-occurrence of ships and whales while maintaining navigational safety. Additionally, the Channel Islands National Marine Sanctuary, Santa Barbara County Air Pollution Control District, and Environmental Defense Center instituted a trial incentive program to reduce ship speeds in the Santa Barbara Channel. Selected ships that reduce their speed to 12 knots or less as they travel between Point Conception and the Ports of Los Angeles and Long Beach between July through October 2014 will receive $2,500 per transit.

Sea Turtles. No observations of sea turtles have been reported during surveys within the harbor (MEC and Associates 2002, SAIC et al. 2010). Based on distributional ranges (NMFS 2012b), there is the potential for occurrence offshore and low potential within the harbor for the following sea turtles: loggerhead (*Caretta caretta*), leatherback (*Dermochelys coriacea*), and olive ridley (*Lepidochelys olivacea*). Green sea turtles (*Chelonia mydas*) are more common in bays and protected shorelines, especially areas with seagrass beds. On the West Coast, green sea turtles most commonly occur south of San Diego (NMFS 2012b). However, green sea turtles have been reported in Alamitos Bay and San Gabriel River, which are more than 6 miles southeast of the Project site (Aquarium of the Pacific 2008). Sea turtles do not nest on beaches or congregate nearshore in southern California. The leatherback sea turtle is federally endangered, and the other species listed above are federally threatened. No federally designated sea turtle critical habitat occurs in the Project vicinity (NMFS 2012b).

Wildlife Movement Corridors

The Project area is fully developed and located within an industrial complex where natural terrestrial corridors are lacking. Although the harbor is not a migratory route, some marine fish species, (e.g., halibut, bat rays), likely move into and out of the harbor for spawning, nursery, and foraging. Several whale species migrate along the coast of California, including the grey whale and blue whale.

Invasive Species

At least 46 invasive aquatic species have become established in waters of the Long Beach and Los Angeles Port Complex (Gregorio and Layne 1997). The primary source of these organisms is likely discharges of ballast water from cargo vessels using the ports (NRC 1996; USCG 1998).

The overall percentage of non-native and cryptogenic (unknown origin) invertebrate species in the Port Complex was estimated between 14 and 15 percent in the 2000 and 2008 surveys (MEC and Associates 2002, SAIC et al. 2010). Examples included amphipod crustaceans (*Caprella simia, Corophium heteroceratum*, *Eochelidium* sp., *Grandidierella japonica*), clams (*Theora lubrica, Venerupis phillipinarium*), New Zealand bubble snail (Philine auriformis), and polychaete worms (*Pseudopolydora paucibranchiata, Cossura candida, Nicolea sp.).*

The only non-native fish collected in the 2000 and 2008 surveys was the yellowfin goby (*Acanthogobius flavimanus*), which occurred at the Southeast Basin and at several locations in both Ports.

Two non-native species of brown algae (*Sargassum muticum* and *Undaria pinnatifida*) were present in the Southeast Basin in 2008 (SAIC et al. 2010). Another non-native sargassum (*S. filicinum*) also has been reported in Long Beach Harbor (Miller 2006). Sargassum occurred throughout the harbor, but was more prevalent in Inner and Middle Harbor areas in 2000 and 2008 (MEC and Associates 2002, SAIC et al. 2010). *Undaria* was found at more stations in 2008 than 2000, indicating some expansion of its distribution in the harbors (SAIC et al. 2010). The invasive alga *Caulerpa taxifolia* has not been reported from the Long Beach/ Los Angeles Port Complex.

Non-native terrestrial species within the Port Complex include the European starling, which were relatively abundant, and house sparrow was less frequently observed during 2000 and 2008 surveys. Non-native rats, mice, feral cats, and opossum occur in the Port.

Wetlands and Other Special Habitats

Wetlands. No wetlands as defined by the U.S. Army Corps of Engineers (USACE) are present in the Project area. The Salinas de San Pedro salt marsh in the western part of POLA is located more than 4 miles from the Project site.

Eelgrass. Eelgrass (*Zostera marina*) is a rooted aquatic plant that inhabits shallow soft bottom habitats in quiet waters of bays and estuaries, as well as sheltered coastal areas (Dawson and Foster 1982). It can form dense beds that provide substrate, food, and shelter for a variety of marine organisms. Most eelgrass beds in bays or estuaries are found in water less than 20 feet deep with light being the primary limiting factor. Eelgrass beds are considered “special aquatic sites” under the Clean Water Act. No eelgrass beds occur in the Southeast Basin. The closest eelgrass beds have been reported in Cerritos Channel, immediately east of the Heim Bridge, and on the east side of Pier 300 in Los Angeles Harbor (SAIC et al. 2010). Both of these locations are more than 1 mile from the proposed Project.

Significant Ecological Areas

The County of Los Angeles has established Significant Ecological Areas (SEAs) to preserve a variety of biological communities for public education, research, and other non-disruptive outdoor uses. The only designated SEA in the Port Complex is the Pier 400 nesting site (Los Angeles County 2005), which is more than 2 miles from the Project site.

Essential Fish Habitat

The Southeast Basin area includes Essential Fish Habitat (EFH) for fish covered by two Fishery Management Plans (FMPs): Coastal Pelagics Plan and Pacific Coast Groundfish Management Plan. Of the 95 species federally managed under these plans, four pelagic species and nine groundfish species may occur in the outer Long Beach Harbor area (Table 3.5-1).

One of the five species in the Coastal Pelagics FMP (northern anchovy) was abundant in Southeast Basin in 2000 and 2008 (MEC and Associates 2002, SAIC et al. 2010). The Pacific sardine was common in the West Basin. Both species support a commercial bait fishery in the Outer Harbor. Adult jack mackerel are present and likely prey on small northern anchovy. Adult Pacific mackerel are also fairly common throughout the harbor. None of the eight

Table 3.5-1. Fisheries Management Plan Species in the Project Area

Common Name	Scientific Name	Notes
Coastal Pelagics Fishery Management Plan		
Northern anchovy	*Engraulis mordax*	Abundant in harbor and Project area[1,3]
Pacific sardine	*Sardinops sagax*	Common in harbor, but uncommon in Project area[1,3]
Pacific (chub) mackerel	*Scomber japonicus*	Uncommon in harbor and Project area[1,3]
Jack mackerel	*Trachurus symmetricus*	Uncommon in harbor and Project area[1,3]
Pacific Coast Groundfish Fishery Management Plan		
English sole	*Parophrys vetulus*	Uncommon in harbor[2]
Pacific sanddab	*Citharichthys sordidus*	Uncommon in harbor and Project area[1,3]
Big skate	*Raja binoculata*	Uncommon in harbor and Project area[1]
Black rockfish	*Sebastes melanops*	Uncommon in harbor and Project area[1]
Calico rockfish	*Sebastes dalli*	Uncommon in harbor and Project area[2]
Vermillion rockfish	*Sebastes miniatus*	Uncommon in harbor and Project area[1,3]
California scorpionfish	*Scorpaena guttata*	Uncommon in harbor and Project area[1,3]
California skate	*Raja inornata*	Uncommon in harbor and Project area[1,3]
Spiny dogfish	*Squalus acanthias*	Uncommon in harbor and Project area[3]

Sources: 1. MEC and Associates 2002; 2. SAIC and MEC 1997; 3. SAIC et al. 2010.

Pacific Groundfish FMP species are common in the Project area (MEC and Associates 2002, SAIC et al. 2010), and none of these species are known to spawn in the harbor.

EFH habitats of particular concern in the Southeast Basin include localized kelp beds near the entrance to the basin and along Pier G. Eelgrass also is designated habitats of particular concern, but does not occur in Basin Six. As noted above, the closest eelgrass beds are located in the Cerritos Channel near the Heim Bridge and adjacent to Pier 300, more than 1 mile from the Project area.

3.5.1.3 Regulatory Setting

Clean Water Act. The federal CWA (33 United States Code [U.S.C.] §1251 *et seq*.) provides for the restoration and maintenance of the physical, chemical, and biological integrity of the nation's waters. The Act established a system of water quality standards, discharge limitations, and permit requirements.

California Porter-Cologne Act. This Act (California Water Code Sections 13000 *et seq*.) is the basic water quality control law for California and works in concert with the federal CWA. The Porter-Cologne Act is implemented by the SWRCB and its nine regional boards, which implement the permit provisions of Section 402 and certain planning provisions of Sections 205, 208, and 303 of the federal Act. This means that the state issues one discharge permit that complies with both state and federal laws.

Permits for discharge of pollutants are officially called NPDES permits. Anyone discharging waste or proposing to discharge waste that could affect the quality of state waters must file a "report of waste discharge" with the governing RWQCB. Additional water quality permitting requirements under the Porter-Cologne Act may include an NPDES General Construction Activities Stormwater Permit.

Federal Endangered Species Act. The Endangered Species Act (ESA) (16 U.S.C. §1531 *et seq.*) provides for the conservation of endangered and threatened species and the ecosystems they inhabit. The U.S. Fish and Wildlife Service (USFWS) and National Marine Fishery Service (NMFS) share responsibilities for administering the ESA. Section 9 prohibits taking of species federally listed as threatened or endangered (take is defined as to harm, harass, pursue, hunt, shoot, wound, kill, trap, capture, or collect or to attempt to engage in any such conduct, and includes habitat modification or degradation that could potentially kill or injure wildlife by impairing essential behavioral patterns, including breeding, feeding, or sheltering). A take incidental to otherwise lawful activities can be authorized under Section 7 when there is federal involvement and under Section 10 when there is no federal involvement.

Magnuson-Stevens Fishery Conservation and Management Act. This Act (16 U.S.C. 1801 *et seq.*) sets forth a number of mandates for the NMFS, regional fishery management councils, and federal action agencies to identify and protect important marine and anadromous (migrating) fish habitat, with the goal of maintaining sustainable fisheries. Fisheries management councils, with assistance from NMFS, are required to delineate EFH in FMPS Plans or FMP amendments for all managed species. The POLB Inner and Outer Harbors are in an area designated as EFH for two FMPs: the Coastal Pelagics FMP; and the Pacific Groundfish FMP. This Act requires federal agencies to consult with the NMFS if their actions may adversely affect EFH.

Migratory Bird Treaty Act. The MBTA (16 U.S.C. Sections 703 *et seq.*) prohibits taking of migratory birds, which includes possession, pursuing, hunting, capturing, or killing migratory bird species, unless specifically authorized by a regulation implemented by the Secretary of the Interior, such as designated seasonal hunting. The Act also applies to removal of nests occupied by migratory birds during the breeding season. This regulation can constrain construction activities that have the potential to affect nesting birds, either through vegetation removal and land clearing, or through other construction- or operation-related disturbance. Under certain circumstances, a depredation permit can be issued to allow limited and specified take of migratory birds. The administering agency of the MBTA is the USFWS.

Marine Mammal Protection Act. The Marine Mammal Protection Act. (MMPA) (16 U.S.C. 1361 *et seq.*) sets up a management regime to reduce marine mammal mortalities and injuries in their interactions with fisheries (e.g., gear entanglement) and regulates scientific research in the wild. NMFS and the USFWS administer the MMPA. NMFS is responsible for the management and conservation of whales and dolphins (cetaceans) and pinnipeds other than the walrus. All of the marine mammal species found in and near Long Beach Harbor are under the jurisdiction of NMFS.

California Endangered Species Act. The California Endangered Species Act (CESA) (California Fish and Game Code 2050 *et seq.*) provides for the protection of rare, threatened, and endangered plants and animals, as recognized by the California Department of Fish and Wildlife (CDFW; formerly Department of Fish and Game), and prohibits the taking of such species without authorization. State lead agencies must consult with CDFW during the CEQA process if state-listed threatened or endangered species are present and could be affected by the proposed Project.

For projects that could affect species that are both federal- and state-listed, compliance with the federal ESA would satisfy CESA if CDFW determines that the federal incidental take authorization is consistent with the state Act under Fish and Game Code Section 2080.1.

Marine Invasive Species Act (MISA). This Act (California PRC 71200 *et seq*.) requires ballast water management practices for all vessels over 300 gross register tons, domestic and foreign, carrying ballast water into waters of the state after operating outside the Exclusive Economic Zone (EEZ) or from another port within the Pacific Coast Region. Specifically, the regulation prohibits ships from exchanging ballast water within port waters, and requires that exchange occur outside the EEZ in deep, open ocean waters. Alternatively, ships may retain water while in port, discharge to an approved reception facility, or implement other similar protective measures. Vessels also are required to report the ballast water management activities to the California State Lands Commission (CSLC). The CSLC sets fees for vessels entering California ports from outside California, has developed a Hull Husbandry Reporting Form to collect information on hull cleaning and vessel ports of call, and has set performance standards for ballast water discharges that went into effect starting in January 2009. The CSLC also prepared a report on the efficacy, availability, and environmental impact of current ballast water treatment technologies (December 2007).

The statewide compliance with ballast water reporting was greater than 98 percent for the period July 2008 to June 2010 (Takata et al. 2011). Of the vessels reporting, 84 percent indicated that they complied with the mandatory management requirements, either through retaining ballast water on board or by exchanging ballast water prior to discharge. The San Pedro Bay Ports collectively received the greatest percentage of the California ballast water reporting forms, leading the state in qualifying vessels (QVs), for both foreign and coastal arrivals (Takata et al. 2011). Rules for vessels originating within the Pacific Coast Region took effect in March 2006. All ships, even those only operating within the Pacific Coast Region, also are required to conduct ballast water exchange far offshore (at least 50 nautical miles) in waters at least 200 meters deep prior to discharge in California waters. Regulations currently under consideration for future years (2009-2022) would require phase-in of ballast water treatment performance standards, first for newly constructed ships and then for existing ships.

EO 13112, Invasive Species. This EO, signed in 1999, requires federal agencies to identify actions that may affect the status of invasive species and, to the extent feasible, prevent the introduction of such species. All federal agencies whose actions may affect the status of invasive species are also required to control and monitor populations of invasive species, restore native species and habitat conditions in ecosystems that have been invaded, conduct research on prevention of introduction and control of invasive species, and promote public education on those species. Federal agencies shall not fund, authorize, or carry out actions that would cause the introduction or spread of invasive species. As a result of this EO, an Invasive Species Council was established with the purpose of preparing a National Invasive Species Management Plan.

3.5.2 Impacts and Mitigation Measures

3.5.2.1 Significance Criteria

Criteria for determining the significance of impacts related to biota and habitats are based on the CEQA Guidelines *Appendix G* Environmental Checklist. A significant impact would occur if the Project would:

BIO-1: Substantially affect any rare, threatened, or endangered species or their habitat;

BIO-2: Interfere with migration or movement of fish or wildlife;

BIO-3: Result in a substantial loss or alteration of marine habitat;

BIO-4: Substantially affect a natural habitat or plant community, including wetlands; or

BIO-5: Substantially disrupt local biological communities.

3.5.2.2 Methodology

The impact analysis evaluates how proposed Project activities during construction and operations would affect biological resources and habitats. The analysis assesses the information from the environmental setting and proposed Project construction and operation activities in relation to literature about the responses of biological resources to disturbances and pollutants. Based on the information available, the analysis evaluates how proposed Project components interact with the environment and the effects of that interaction. The evaluation assumes that the following EC measure would be incorporated into the project:

BIO-1: Expanded VSRP – To reduce the potential for cumulatively significant accidental whale strikes, OGVs that call at the MCC terminal shall comply with the expanded VSRP of 12 knots from 40 nm. While this measure was developed as an air quality environmental control measure, it can have an additional benefit of reducing impacts to whale strikes and, therefore, is also being applied for this project to biological resources.

The determination of substantial effect is based on professional judgment and takes into account available recent data and the magnitude and duration of the impact and the commercial, recreational, scientific, or regulatory status of the affected resource.

3.5.2.3 Alternative 1 – Proposed Project

Construction Impacts

Impact BIO-1.1: Project construction activities would not substantially affect any rare, threatened, or endangered species or their habitat.

No impacts would occur to federally designated critical habitat since none is present in the Project vicinity. Site improvements and temporary construction effects (noise, vibration, and activity disturbance) would be unlikely to affect any special status species because of their distance from the Project site or transient occurrence in the vicinity.

Noise levels during pile driving would attenuate to less than 3 dBA above ambient conditions within 2,500 feet of the source (Section 3.8, Noise). The SEA nest site on Pier 400, which is used by the endangered California least tern and other MBTA covered species (e.g., black skimmer, terns, gulls), is more than 2 miles from the Project site. Thus, no substantial elevated noise levels would be expected at this nest site. No substantial elevated noise levels would be expected at the heron nesting rookery at Gull Park, which is more than 0.75 mile (>3,900 feet) from the Project site.

Peregrine falcon nesting and bat roosting sites on the Gerald Desmond Bridge are more than 1 mile from the Project site. The peregrine falcon feeds on other birds throughout the harbor. Bats forage at night over a variety of habitats. Localized project activities (construction and operations) would not substantially interfere with foraging, nesting, or roosting of either of these species.

Other nesting areas for MBTA covered species in the West Basin (herons, Brandt's cormorant), on the breakwater (black oystercatcher), or northwest of the bridge (double-crested cormorant) are more than 1.5 miles from the Project site. The Pier F and Southeast Basin Project area has not been documented as an important foraging area for birds. Most open-water foraging area within the West Basin is more than 0.5 mile from the Project site and would be minimally affected by construction noise levels. Most foraging activity for least terns occurs more than 2 miles from the Project in shallow water habitats in POLA. Black skimmers, other tern species, and brown pelican may forage in open waters throughout the Port Complex and offshore. Therefore, these species would be able to use other areas within the Port Complex if construction activities occurred when they were present and if the disturbances caused them to temporarily avoid the work area.

Construction activities would not adversely impact marine mammals. No substantial haul outs for marine mammals occur within the

Project area. Haul outs refer to land or structures (e.g., buoys, docks, rocks) where seals and sea lions rest out of the water. The occurrence of sea lions or seals within Basin Six and the Southeast Basin is low. Any seals or sea lions present, if disturbed, would be expected to move away from elevated noise levels or vibrations. No in-water construction would occur; therefore, underwater noise levels would not be affected.

Impact Determination

There would be no loss or adverse disturbance of individuals or habitat for rare, threatened, or endangered species from construction activities. Consequently, construction impacts on sensitive species or their habitat would be less than significant. Since impacts on sensitive species and their habitats would be less than significant, no mitigation is required.

Impact BIO-2.1: Project construction activities would not interfere with wildlife movement/ migration corridors.

The Project area is fully developed and within an industrial complex where natural terrestrial corridors are lacking. As such, any species present are adapted to an urbanized environment. Wildlife that may be temporarily disturbed during construction would be expected to reoccupy areas after disturbance or construction is completed.

Several migratory bird species seasonally occur within the Long Beach and Los Angeles Port Complex. Construction activities would not impede the movement of birds, which may fly over or around construction activities. The Project site is more than 2 miles east of the California least tern nesting site and east of their preferred foraging area; therefore, construction activities would not be expected to influence least tern movement patters to and from the nest site. It is unlikely that peregrine falcon movements between nesting and foraging locations would be influenced by construction activities, which would occur more than 1 mile from the nesting location. Similarly, most nesting birds within the Port Complex are not restricted in where they forage, and nesting sites are distant from the Project site.

There would be no impact to movements of fish or other aquatic resources since no in-water construction activities would occur.

Impact Determination

Construction would have little, if any, effect on wildlife movement or migration. Since impacts on wildlife movement would be less than significant, no mitigation is required.

Impact BIO-3.1: Project construction activities would not result in a substantial loss or alteration of marine habitat.

No in-water construction activities would occur with the proposed Project. Therefore, there would be no substantial alteration or loss of marine habitat from construction.

Impact Determination

Construction would have no impact on marine habitat.

Impact BIO-4.1: Project construction activities would not substantially affect a natural habitat or plant community.

The Project site is fully developed; therefore, no natural plant community would be impacted by construction activities. Construction on land would have no direct impact on aquatic habitats, EFH, wetlands, or eelgrass beds.

Impact Determination

Construction would have no impact on any natural habitat or plant community.

Impact BIO-5.1: Project construction activities would not substantially disrupt local biological communities.

The Project site is fully developed and no in-water construction activities would occur. Terrestrial animals and water-associated birds (e.g., gulls) that may be present in the vicinity would be expected to move from work areas to undisturbed locations within the Project area or vicinity. This effect would be temporary, with wildlife reoccupying areas after disturbance or construction is completed. Therefore, there would be no substantial disruption of local biological communities.

Runoff of pollutants or sediment from land-based construction would be minimized through use of project-specific SWPPP and BMPs (Section 3.4, Hydrology and Water Quality), and the low concentrations that may enter harbor waters would not substantially disrupt marine communities.

Accidental spills of fuel, lubricants, or hydraulic fluid from equipment used during construction are unlikely to occur, and would be cleaned up immediately (Sections 3.4, Hydrology and Water Quality, and 3.9, Hazards and Hazardous Materials), causing no substantial disruption of native resources or habitats.

Impact Determination

Construction would not directly impact natural habitats or biological communities. Runoff effects would be minimized and accidental spills, if any, would be immediately cleaned up, resulting in only localized, less than significant impacts. Since impacts on natural habitats and biological communities would be less than significant, no mitigation is required.

Operational Impacts

Impact BIO-1.2: Project operations would not substantially affect any endangered, threatened, or rare species or their habitat.

The Project site is fully developed and no sensitive terrestrial resources occur. Operations at the upgraded MCC terminal facilities would not adversely affect any federally or state listed, or special concern species occurring at the project site or elsewhere within the Port Complex. Nesting sites of the least tern, peregrine falcon, and MBTA covered species or potential bat roosting sites generally are more than 1 mile from the Project site. Those species that may currently use the area for foraging or resting could continue to do so because the increase in vessel trips (e.g., one additional vessel trip every five or six days) would not appreciably change baseline conditions.

An estimated 64 additional vessel calls per year above the baseline of 35 would result from the proposed Project (Table 1.7.1), which represents an increase of less than 1 percent in the total number of vessel calls to the Port. Underwater sound from the additional vessels and the tug boats used to maneuver them to the berth would add to the baseline vessel traffic noise in Basin Six. Underwater vessel noise would be temporary, since it is associated with vessel transit and docking. Although Project-related vessels would add to the number of noise events, the increase would not be significant when compared to baseline conditions. Thus, the proposed Project would not result in a significant change in overall underwater noise levels.

Adding 1 additional vessel transit in and out of Basin Six every 5 or 6 days is not expected to adversely affect marine mammals. No substantial haul outs occur in Basin Six and Southeast Basin, and only low occurrence of sea lions or seals would be expected to be present at any time (SAIC et al. 2010). Based on observations and studies, sea lions and harbor seals would be expected to avoid the slow moving vessels.

The increase in vessel traffic associated with the proposed project also would not be expected to substantially affect marine mammals at sea. A low percentage of vessel collisions with marine mammals generally occur in nearshore waters of southern California. In addition, the risk of collision or fatality of marine mammals from vessels transiting to or from the harbor may be lessened by the Port's VSRP within 20 to 40 nm of Point Fermin (**EC BIO-1**). Lastly, the incremental increase in vessel calls would not be expected to substantially change the remote potential to impact sea turtles, which do not normally occur in the Port Complex and have sparse occurrence offshore.

Impact Determination

Operational activities would not result in the loss of individuals or habitat for rare, threatened, or endangered species within the Port Complex. Underwater sound from proposed Project-related vessels would affect few, if any, marine mammals and would be below NOAA's (2013) acoustic threshold guidance for temporary harassment or permanent injury. An increase in vessel traffic could incrementally increase the potential for vessel collision with marine mammals or turtles. However, this impact would be less than significant because the collision risk is low off southern California due to the sparse occurrence of marine mammals and turtles, combined with the Port's VSRP. Accordingly, impacts from Project operations on sensitive species or their habitat would be less than significant. Since impacts on sensitive species and their habitat would be less than significant, no mitigation is required.

Impact BIO-2.2: Project operations would not interfere with wildlife movement or migration corridors.

The Project area is fully developed and within an industrial complex where natural terrestrial corridors are lacking. Birds may traverse the site, but operations would not raise any physical barriers to their movement. Some marine fish, seals, and sea lions move into and out of the harbor for spawning, nursery activities, or foraging. Several whale species migrate along the coast outside the harbor in low numbers. The increase in operations over baseline conditions and the incremental increase in vessel trips per year would not interfere with those activities.

Impact Determination

Operational activities associated with the proposed Project would have little, if any, effect on wildlife movement or migration. Since impacts on wildlife movement would be less than significant, no mitigation is required.

Impact BIO-3.2: Project operations would not substantially reduce or alter marine habitat.

No marine habitat would be lost or substantially altered as a result of proposed Project operations.

Impact Determination

Because operation of the proposed Project would not result in loss or alteration of marine habitat, no impacts would occur. As such, mitigation measures are not required.

Impact BIO-4.2: Project operations would not substantially affect a natural habitat or plant community.

The Project site is fully developed; therefore, no natural plant community would be impacted by operations of proposed Project facilities.

Operation of proposed Project facilities would not impact eelgrass beds, salt marsh, or freshwater wetlands since none occur in the area. Although these types of natural habitats and communities are located elsewhere in the Port Complex, they would not be affected due to a distance of more than 2 miles from the Project site.

Operations would have minimal effects on kelp beds. Kelp occurs at the entrance of the Southeast Basin and along part of Pier G, but is lacking within Basin Six. Although vessels transiting to and from the facility have the potential to temporarily increase turbidity from propeller wash, the increased vessel trips (e.g., 1 additional vessel trip every 5 or 6 days) would not be expected to substantially alter suspended sediment concentrations under baseline conditions.

Operation of proposed Project facilities would have minimal effects on EFH or managed FMP species. The increase in vessel traffic would not significantly increase overall noise, as described for **Impact BIO-1.2.** The addition of 1 vessel call every 5 or 6 days would not be expected to adversely impact FMP species, which are relatively uncommon within the harbor complex. Fish would be expected to temporarily move from disturbance. In addition, runoff from the facility upgrades would be similar to baseline conditions, and would not be expected to adversely affect EFH or managed fish species.

Impact Determination

Runoff from facility upgrades and the minimal increase in vessel traffic from Project operations would have less than significant impacts on aquatic habitats, EFH, or natural communities. Operations would have no impacts on natural habitat or communities, such as eelgrass beds, salt marsh, or freshwater wetlands since none occur in the Project area. Consequently, since impacts on natural habitats and plant communities would be less than significant, no mitigation is required.

Impact BIO-5.2: Project operations would not substantially disrupt local biological communities.

The increase in vessel traffic would not significantly increase overall noise or impacts on marine communities, as described for **Impact BIO-1.2.** The addition of 1 vessel call every 5 or 6 days would adversely affect some plankton, which may be damaged. Fish would be expected to temporarily move from areas of disturbance.

Most vessels would come from outside the EEZ, primarily from China, and would be subject to regulations to minimize the introduction of non-native species in ballast water, such as discharging to approved receivers and not exchanging ballast water within ports. All Project-related vessels would be unloading cargo and, thus, not discharging ballast water. Therefore, the potential for substantial introduction of non-native species at the MCC terminal from ballast water would be very low from vessels entering from or going outside the EEZ.

Non-native algal species and invertebrates can also be spread via vessel hulls and external machinery. Non-native algal species such as *Undaria pinnatifida* and *Sargassum filicinum* may be introduced or spread as result of hull fouling (marine growth) on vessels traveling between ports within the EEZ. However, vessel hulls are generally coated with antifouling paints and cleaned at intervals to reduce frictional drag from growths of organisms on the hull, which would reduce the potential for transport of exotic species.

The potential for introduction or spread of the invasive alga, *Caulerpa taxifolia*, as a result of proposed Project operations is very low because the species is most likely introduced from disposal of aquarium plants and water, and is spread by fragmentation rather than from ship hulls or ballast water. This species has not been detected in the Port Complex. Runoff from the facility upgrades would be similar to baseline conditions, and would not be expected to adversely affect local biological communities (i.e., fish, benthos, plankton).

Accidental spills of cement could occur during offloading, which would involve pneumatic (vacuum) pumping of the cement from vessel holds to shore facilities. Because the suction hose is in vacuum, in the unlikely event of a rupture, any release to water would be minimal (the vacuum would tend to keep most cement within the hose) and would occur in the narrow space between the vessel hull and the wharf. No disruption of marine biological communities would be expected because potential changes to water quality and sedimentation would be temporary and limited as immediate measures would be taken to halt pumping operations and limit the spill. Additionally, no natural terrestrial communities would be affected by an onshore cement release since the project area is paved.

Accidental spills of fuel or other vessel fluids during operations could occur as a result of vessel collision. However, the likelihood is considered remote because of requirements that vessels travel at slow speeds and use tugs to slowly guide vessels to and from berths. In addition, OGVs are required to have oil spill contingency plans and to train crews in their effective use. Furthermore, the Port's Risk Management Plan addresses the need to prepare and train personnel in appropriate responses to hazardous materials spills. In the unlikely event of a fuel or hazardous material spill, trained response resources are available for rapid response to minimize the adverse effects of a spill.

Impact Determination

Operation of the proposed Project facilities has the potential to result in the introduction of non-native species, via vessel hulls, into the Port Complex and potentially disrupt local biological communities. However, Project impacts would be less than significant because there would be only a limited increase in vessel calls above baseline conditions, no vessels would discharge ballast water, and the number of vessel calls would represent a very small percentage of the total vessel calls to the Port Complex. Runoff from facility upgrades and the minimal increase in vessel traffic would have less than a significant impact on local biological communities.

In the unlikely event of a hazardous materials spill, containment and clean up would be rapid and impacts on biological communities would be less than significant. Since impacts to biological communities would be less than significant, no mitigation is required.

3.5.2.4 Alternative 2 – Reduced Throughput Alternative

The Reduced Throughput Alternative would be the same as the proposed Project, except that only two cement silos would be constructed and only one additional truck lane would be constructed to permit loading beneath the two new silos. Construction would occur over a shorter time period, but would be comparable in all other respects to the proposed Project. Operations would be similar in nature, but with reduced throughput. As a result, impacts would be similar, but less than those described under **Impacts BIO-1 through BIO-5** for the Project due to the reduction in construction activity and reduced throughput during project operation. Similar to the Project, implementation of this alternative would result in less than significant impacts. Since impacts on biological resources and habitats would be less than significant, no mitigation is required.

3.5.2.5 Alternative 3 – No Project Alternative

The No Project Alternative would not include demolition, site preparation, construction of additional storage capacity, and wharf improvements. However, the MCC facility would generate operational impacts, including increases in throughput. The number of vessels calls per year would increase by 32 (from 35 to 67). No new unloaders would be installed or used and storage and truck loading facilities would not be upgraded. Operational impacts associated with the No Project Alternative would include vessel unloading, cement storage, and truck loading.

Since no new construction activities would occur under the No Project Alternative, **Impacts BIO-1.1 through BIO-5.1** would not occur. However, **Impacts BIO-1.2 through BIO-5.2** would be similar to, but less than, those described for the Project due to the reduced throughput and limited increase in vessel calls. Similar to the Project, implementation of this alternative would result in less than significant impacts biological resources and habitats. Since impacts on biological resources and habitats would be less than significant, no mitigation is required.

3.5.3 Cumulative Impacts

The region of influence for cumulative impacts on biological resources varies by resource. For marine biological resources and water-associated birds, the region of analysis is the Long Beach/Los Angeles Port Complex (Inner and Outer Harbor areas). Terrestrial biological resources, however, are limited to land portions of the harbor, and the region of analysis is limited to land areas at the Project site and extending approximately 1 mile in all directions. The cumulative impact analysis evaluates the potential for the proposed Project, together with other past, present, and reasonably foreseeable future projects, to make a cumulatively considerable contribution to a significant cumulative impact.

Past, present, and reasonably foreseeable future development that could contribute to cumulative impacts on aquatic resources are projects that include an in-water component. Aquatic organisms can be affected by activities such as dredging, filling, wharf demolition and construction, and vessel traffic. Marine birds can be affected by projects with either in-water or land disturbance elements. Developments that could contribute to cumulative impacts on terrestrial resources are those projects that involve ground disturbance such as grading, paving, construction or demolition of structures, landscaping, and related noise and traffic impacts.

Noise, traffic, stormwater runoff, vessel traffic, and other operational activities could contribute to cumulative impacts on biological resources. Vessel calls with the potential to introduce invasive species or accidental spills also could contribute to cumulative impacts on biological resources.

Present and foreseeable cumulative projects with the potential to affect the types of biological resources identified above could include: Middle Harbor Redevelopment Project, Piers G & J Redevelopment Project, Pier S Marine Terminal and Back Channel Improvements Project, Gerald Desmond Bridge Replacement Project, Channel Deepening Project, Pier 302-306 APL Container Terminal Improvements Project, Berths 212-224 YTI Container Terminal Improvements Project, Berths 121-131 Yang Ming Container Terminal Improvements Project, Al Larson Redevelopment Project, City Dock No. 1 Marine Research Institute, and Berths 136-147 Marine Terminal West Basin (Table 2.1-1 and Figure 2.1-1).

Construction and operations of the proposed Project would not contribute to a cumulatively considerable impact on any rare, threatened, or endangered species or their habitat within the harbor (**Cumulative Impact BIO-1**). No impact to critical habitat would occur since no critical habitat is present in the Project area. Port development has altered the configuration and amount of marine surface waters, but also has added lands and structures supporting nesting and resting by sensitive birds and haul outs by marine mammals. The proposed Project is more than 1 mile from nest areas used by the endangered California least tern, fully protected peregrine falcon, and California species of special concern. Additionally, no potential disturbance of open-water foraging habitat used by sensitive bird species would occur due to the lack of in-water construction activities.

While the proposed Project as well as other past, present, and foreseeable future projects would incrementally increase vessel traffic and associated underwater sound in the harbor, cumulative impacts on marine mammals would be expected to be less than significant. The frequency of vessel sound events would increase; however, the average underwater sound level would be expected to be below NOAA's (2013) acoustic threshold guidance for temporary harassment or permanent injury based on available data and would not be expected to affect the hearing or behavior of marine mammals. In addition, the number of vessels in transit at any one time within the Port Complex is controlled by the design capacity of the channels and basins, and vessel speeds are slow in the harbor. Marine mammals while underwater may move away from a vessel passing nearby; however, such movements would be temporary and would affect few animals (small numbers are present and no breeding rookeries occur in the harbor). In any event, the proposed Project's contribution to underwater sound from the increase in vessel traffic would be less than cumulatively considerable.

Whale strikes outside the Port as a result of an increase in vessel traffic are a possibility, and considered to be cumulatively significant. Vessel speed is a primary factor related to the severity of injury or mortality to whales. For example, to reduce the risk of serious injury NOAA recommends maritime vessel speed reduction in the range of 10 to 13 knots in areas where there is a higher risk of collision. While the potential for serious injury to whales is reduced by the Port's VSRP (**EC BIO-1**), there is no feasible mitigation to fully eliminate the risk of whale strikes outside the Port. Although the Project would result in only a small increase in vessel traffic, the incremental contribution of the Project's operations to the incidence of migrating whale strikes is considered potentially significant and unavoidable. Because sea turtles have a very low potential to occur within the Port Complex and are sparse offshore, no cumulatively significant impacts on sea turtles would be expected.

The proposed Project would not contribute to a cumulatively considerable impact on wildlife movement/migration corridors (**Cumulative Impact BIO-2**). No terrestrial or aquatic migration corridors occur within the harbor and birds could fly over or around construction activities. The potential for interference with offshore migrations of marine mammals is low because the area in which they migrate along the coast is large and maritime vessels use designated ship lanes.

The proposed Project would not involve in-water construction and therefore would not contribute to any cumulative loss or substantial alteration of marine habitat (**Cumulative Impact BIO-3**).

The proposed Project would not contribute to a cumulatively considerable impact on natural habitats or communities (**Cumulative Impact BIO-4**). The proposed project occurs in a paved industrial area without any natural communities. No natural aquatic habitats would be impacted during construction of the proposed Project since no in-water construction would occur.

The increase in vessel traffic from the proposed Project in combination with other cumulative projects would increase the risk of accidental leaks or spills. However, the probability of significant spills would remain low because vessels are required to travel at slow speeds and tugs are used to guide vessels to and from berths, both of which reduce the potential for vessel collisions. In the event of a spill, rapid containment and clean up would occur in compliance with permit conditions and Port requirements. Therefore, cumulative impacts on sensitive species or habitats from leaks or spills would be expected to be less than significant.

In any event, the proposed Project's small incremental contribution to this risk would be less than cumulatively considerable. The proposed Project would not contribute to a cumulatively substantial disruption of local biological communities (**Cumulative Impact BIO-5**). Most terrestrial lands are urbanized in the Port Complex and surrounding vicinity as a result of historical Port, industrial, and residential development. The proposed Project would occur in a paved area that lacks any natural terrestrial communities.

Temporary disturbances on land during construction of the proposed Project and other past, present, and foreseeable future projects could result in runoff to harbor waters; however, such inputs would be dispersed in time and space due to differences in construction schedules and locations. Cumulative impacts would be less than significant due, in part, to this dispersal and in part because runoff control measures, such as SWPPPs, would be implemented. Similarly, because of these factors the proposed Project's incremental contribution to this runoff would not be cumulatively considerable.

Increased vessel calls in the Port as a result of the cumulative projects have the potential to disrupt local biological communities through the introduction of non-native invasive species (**Cumulative Impact BIO-5**). Vessels have introduced non-native species into the Port Complex primarily through past ballast water discharges, and approximately 15 percent of the invertebrate species are estimated as being non-native or of uncertain origin.

Even with current ballast water regulations, the potential for introduction of invasive species, although reduced, is not entirely eliminated. The potential consequences of invasive species introductions are considered serious, as there is no feasible mitigation to fully prevent this risk. As such, this is considered to be a cumulatively significant impact. Since the Project would result in an increase in vessel traffic, the incremental contribution to the risk of invasive species introductions is considered cumulatively considerable.

Environmental control measures to reduce the potential for the introduction of invasive species are already in place through regulations under both federal and state laws such as the National Invasive Species Act and the California Ballast Water Management for Control of Nonindigenous Species Act. These laws require that ships entering federal or state waters comply with ballast water, marine biofouling, and sediment management requirements. The POLB additionally has rules and regulations in its tariffs prohibiting the discharge of bilge or fouled ballast waters. The implementation and adherence to these rules and regulations should reduce, but would not completely eliminate, the potential for the proposed Project to contribute to a cumulatively significant and unavoidable impact.

3.5.4 Mitigation Monitoring Program

No mitigation measures are required to address impacts of construction and operations on biota and habitats. Consequently, no mitigation monitoring program is required.

3.6 GROUND TRANSPORTATION

3.6.1 Environmental Setting

3.6.1.1 Area of Influence

The area of influence for ground transportation consists of the streets and intersections that could be affected by automobile or truck traffic to gain access to and from the Project site. The Project area includes Harbor Plaza and Pico Avenue to the north. In addition, a wider area was evaluated as part of the project traffic impact analyses conducted per the *2010 Congestion Management Program for Los Angeles County* (CMP) (Metro 2010).

3.6.1.2 Setting

Regional and Local Access

Primary regional access to the Project area is provided by Interstate 710 (I-710), east of the Project site, and by the Gerald Desmond Bridge and Ocean Boulevard/Seaside Avenue, north of the Project site. I-710 is a north-south freeway that extends from the Port area to north of Interstate (I-10) east of downtown Los Angeles. Seaside Avenue is designated as SR-47 east of the Terminal Island Freeway (SR-103). Ocean Boulevard is an extension of Seaside Avenue that extends through the Port into downtown Long Beach (Figure 3.6-1).

Caltrans data for 2006 show that the average daily traffic volume on I-710 south of Willow Street was approximately 159,500 vehicles and 13,300 vehicles on Ocean Boulevard approaching SR-103 on Terminal Island (2006 Traffic Volumes on California State Highways, Caltrans, accessed July 2012). Both of these highways provide ramps onto Pico Avenue. Upon completion of the Gerald Desmond Bridge Replacement Project, which is underway, I-710 will be extended from its current terminus near Pico Avenue to SR-47/SR-103. Following completion of construction, the Gerald Desmond Bridge will be designated as I-710.

The key access streets serving the Project site are Pier F Avenue, Harbor Plaza, Pico Avenue, Harbor Scenic Drive, and Ocean Boulevard.

Pier F Avenue runs the length of the Pier F peninsula and connects with Harbor Plaza; it has one lane in each direction with a separate queue lane.

Harbor Plaza runs east/west and connects Pier F Avenue with Pico Avenue/Pier G Avenue. It has one to two lanes in each direction, depending on location.

Pico Avenue is a north-south corridor with two lanes in each direction and provides direct access to I-710 as well as to Broadway, Pier E Street, and Pier D Street.

Harbor Scenic Drive provides access to the Project area. It connects the Project site and the Pier G-H-J portions of the harbor to I-710. It has from one to three lanes in each direction, depending on location.

Ocean Boulevard, the primary east-west corridor to the north of the Project site and, west of I-710, connects the study area to Terminal Island with three lanes in each direction.

<u>Baseline Traffic Volumes</u>

Baseline (2006) traffic volumes at the two intersections identified in Figure 3.6-1 were derived by obtaining intersection counts for each analyzed peak hour from the Middle Harbor Redevelopment Project Final EIR (SAIC 2009), collected in August 2005, and applying a one percent per year growth factor based on the general growth in the project vicinity. In order to accurately estimate the performance of roadways carrying a mixture of automobile and truck traffic, the 2005 data were adjusted for trucks to account for heavy trucks in the traffic stream. Consistent with Port policy, truck trips were converted to passenger-car equivalents (PCE) by applying a factor of 2.0 to tractor-trailer combinations (meaning that one truck occupies twice as much highway capacity as one passenger car) and a PCE factor of 1.1 to bobtail trucks (meaning that one bobtail truck requires capacity equal to 1.1 passenger cars).

<u>Level of Service Methodology</u>

Level of service (LOS) is a qualitative measure used to describe the condition of traffic flow, ranging from excellent “free-flow” conditions at LOS A to overloaded “stop-and-go” conditions at LOS F. Intersection capacity and LOS have been analyzed using the Highway Capacity Manual (HCM) and Intersection Capacity Utilization (ICU) methodologies described below.

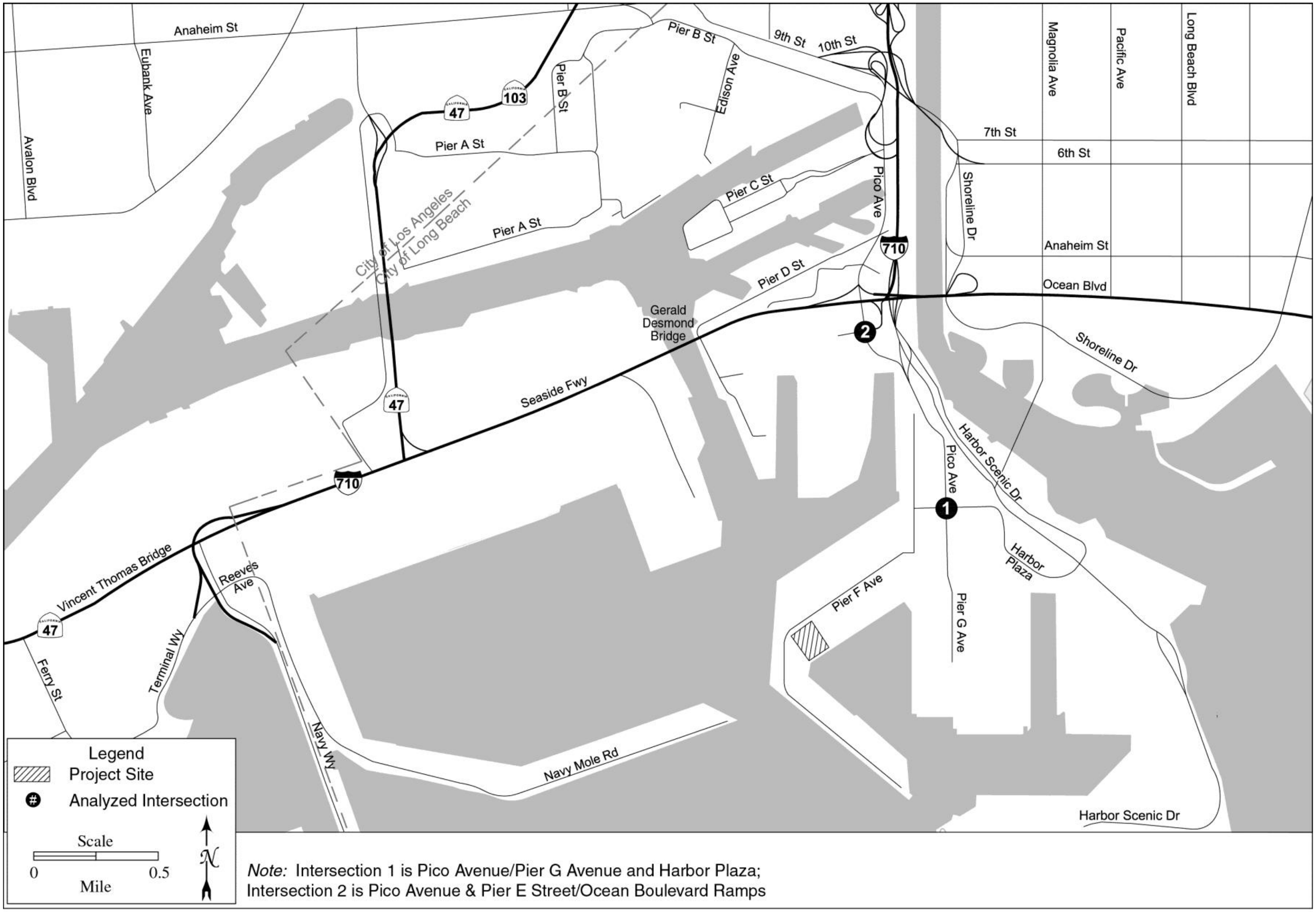


Figure 3.6-1. Mitsubishi Cement Facility Analyzed Intersections

Highway Capacity Manual

The existing capacity of unsignalized intersections was analyzed using the All-Way Stop method from the HCM (Transportation Research Board 2000). The method bases LOS on the average stop delay experienced per vehicle and was used to find the corresponding LOS listed in Table 3.6-1. The Traffix software package was used to generate the HCM and ICU results.

Table 3.6-1. Highway Capacity Manual Method Level of Service Definitions for Unsignalized Intersections

LOS	Intersection Control Delay (seconds)	Definition
A	0 – 10.0	Little to no congestion or delays.
B	10.1 – 15.0	Limited congestion. Short delays.
C	15.1 – 25.0	Some congestion with average delays.
D	25.1 – 35.0	Significant congestion and delays.
E	35.1 – 50.0	Severe congestion and delays.
F	> 50.0	Total breakdown with extreme delays.
A	0 – 10.0	Little to no congestion or delays.

Note: Control delay includes initial deceleration delay, queue move-up time, stopped delay, and acceleration delay.
Source: Highway Capacity Manual (Transportation Research Board 2000).

Intersection Capacity Utilization

The capacity of intersections that are currently unsignalized, but which will be signalized in the future, was analyzed using the ICU method to determine the intersection volume-to-capacity (V/C) ratio and corresponding LOS listed in Table 3.6-2 for the turning movements and intersection characteristics at the signalized intersections. The ICU value is determined by summing the V/C ratios of the critical movements, plus a factor for yellow signal time.

Baseline (Year 2006) Peak Hour Levels of Service

The intersections selected for weekday peak hour analyses were identified in consultation with Port staff as the locations most likely to be affected by the Project because they are situated along key access routes to and from the Project site:

- Pico Avenue & Pier G Street & Harbor Plaza (All-Way Stop); and
- Pico Avenue & Pier E Street/Ocean Boulevard Ramps (All-Way Stop).

Table 3.6-2. Intersection Capacity Utilization (ICU) Method Level of Service Definitions for Signalized Intersections

LOS	ICU	Definition
A	0.000-0.600	**EXCELLENT.** No vehicle waits longer than one red light and no approach phase is fully used.
B	0.601-0.700	**VERY GOOD.** An occasional approach phase is fully utilized; many drivers begin to feel somewhat restricted within groups of vehicles.
C	0.701-0.800	**GOOD.** Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	0.801-0.900	**FAIR.** Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
E	0.901-1.000	**POOR.** Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several signal cycles.
F	>1.000	**FAILURE.** Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tremendous delays with continuously increasing queue lengths.

Source: Adapted from Transportation Research Board

The three analyzed weekday peak hours have the highest one hour traffic volumes in the A.M. peak period (between 6:00 A.M. and 9:00 A.M.), the midday (M.D.) peak period (between 2:00 P.M. and 3:00 P.M.), and the afternoon/ evening peak period (between 3:00 P.M. and 6:00 P.M.). Table 3.6-3 summarizes the baseline (2006) weekday peak hour average stopped delay per vehicle on each approach and corresponding LOS at each of the two intersections evaluated. The results of this analysis indicate that both study intersections are operating at LOS C or better during the weekday A.M., M.D., and P.M. peak hours, which is considered acceptable.

Table 3.6-3. Baseline (2006) Intersection LOS

Intersection	Peak Hr	Delay	LOS
Pico Ave. & Pier G St. & Harbor Plaza	A.M.	14.2	B
	M.D.	22.4	C
	P.M.	14.8	B
Pico Ave. & Pier E St./ Ocean Blvd Ramps	A.M.	9.9	A
	M.D.	11.8	B
	P.M.	11.2	B

Note: Average stopped delay per vehicle on each approach, in seconds.
M.D. = midday

Rail

Regional rail access to and from the Project area is provided by two Class I rail carriers, Union Pacific Railroad (UPRR) and Burlington Northern Santa Fe Railway Company (BNSF). Additionally, the Port is served by Pacific Harbor Line (PHL), which is a third party rail operator supporting both UPRR and BNSF. PHL also provides services to individual terminal operators and performs maintenance on rail infrastructure owned by both ports. There are existing rail facilities in the vicinity of the project site on Pier F. However, the Project site does not have access to the nearby rail facilities and the facility does not use rail to transport cement from the Project facility. Therefore, no further analysis of the Project with respect to rail operations is provided.

Public Transit Services

Long Beach Transit (LBT) provides limited transit services to the Port area. The service is limited due to the non-typical nature of marine terminal work schedules. The only LBT public transit service in the Port area is LBT's Passport Route C, which primarily services visitors and connects downtown Long Beach to the waterfront attractions, such as the Queen Mary. In addition, the Los Angeles Department of Transportation (LADOT) has a public transit line (Commuter Express 142) that services the San Pedro area and crosses Terminal Island to downtown Long Beach. The LBT and LADOT routes do not serve the Project site. Therefore, no further analysis of the Project with respect to public transit service operations is provided.

3.6.1.3 Regulatory Setting

There are no federal or state statutes applicable to the analysis or regulation of ground transportation.

Local Regulations

Los Angeles County Congestion Management Program

The CMP (Metro 2010) requires that when an EIR is prepared for a project, traffic impact analyses must be conducted for select regional facilities based on the quantity of project traffic expected to use these facilities.

The CMP guidelines require that the first issue to be addressed is the determination of the geographic scope of the study area. The criteria for determining the study area for CMP arterial monitoring intersections and for freeway monitoring locations are:

- All CMP arterial monitoring intersections where the proposed project will add 50 or more trips per hour during either the A.M. or P.M. peak hours of adjacent street traffic.
- All CMP mainline freeway monitoring locations where the proposed project will add 150 or more trips per hour, in either direction, during either the A.M. or P.M. peak hours.

If these criteria are not met, then no further analysis is required.

3.6.1.4 Significance Criteria

Criteria for determining the significance of impacts on ground transportation are based on the City of Long Beach's threshold criteria. Because the project site is not served by public transit, and to provide a conservative analysis, all employees are assumed to travel by private automobile. Therefore, the analysis assumes the Project will not result in an increase in the demand for transit services beyond the supply of services currently available. Similarly, rail service would not be used by any of the project alternatives. Therefore, the analysis assumes the Project would not result in any increase in demand for rail services. Consequently, the ground transportation analysis is focused on significance criteria TRANS-1 and TRANS-2 described below.

A significant impact would occur if the Project would:

TRANS-1: Increase an intersection's V/C ratio or LOS in a manner that exceeds adopted performance standards.

Under criterion TRANS-1, an intersection would be significantly impacted with a:

- Project-related increase in V/C ratio equal to or greater than 0.020 (2 percent) for intersections operating at LOS E or F without the addition of project traffic;
- Decline in intersection LOS to LOS E or F with the addition of project traffic; and/or
- Project-related increase in delay of 2 percent or more at an unsignalized intersection operating at LOS E or F with the addition of project traffic.

TRANS-2: Increase a CMP monitoring location V/C ratio such that it violates the CMP standards.

Under criterion TRANS-2, the Project would violate the CMP if:

- Traffic demand on a CMP facility increases by 2 percent of capacity (V/C 0.02), causing LOS F (V/C > 1.00); or
- The facility is already at LOS F, and traffic demand on a CMP facility increases by 2 percent of capacity (V/C 0.02).

3.6.1.5 Methodology

This section describes how project trip generation, distribution, and assignment were developed, as well as how future traffic was projected.

A traffic study was conducted to analyze potential impacts of the proposed Project, Reduced Throughput Alternative, and the No Project Alternative. Impacts were assessed for construction and operational activities relative to the baseline (2006) and cumulative (2035) traffic conditions. The methods used to conduct the study, key findings, and conclusions are provided as Appendix B.

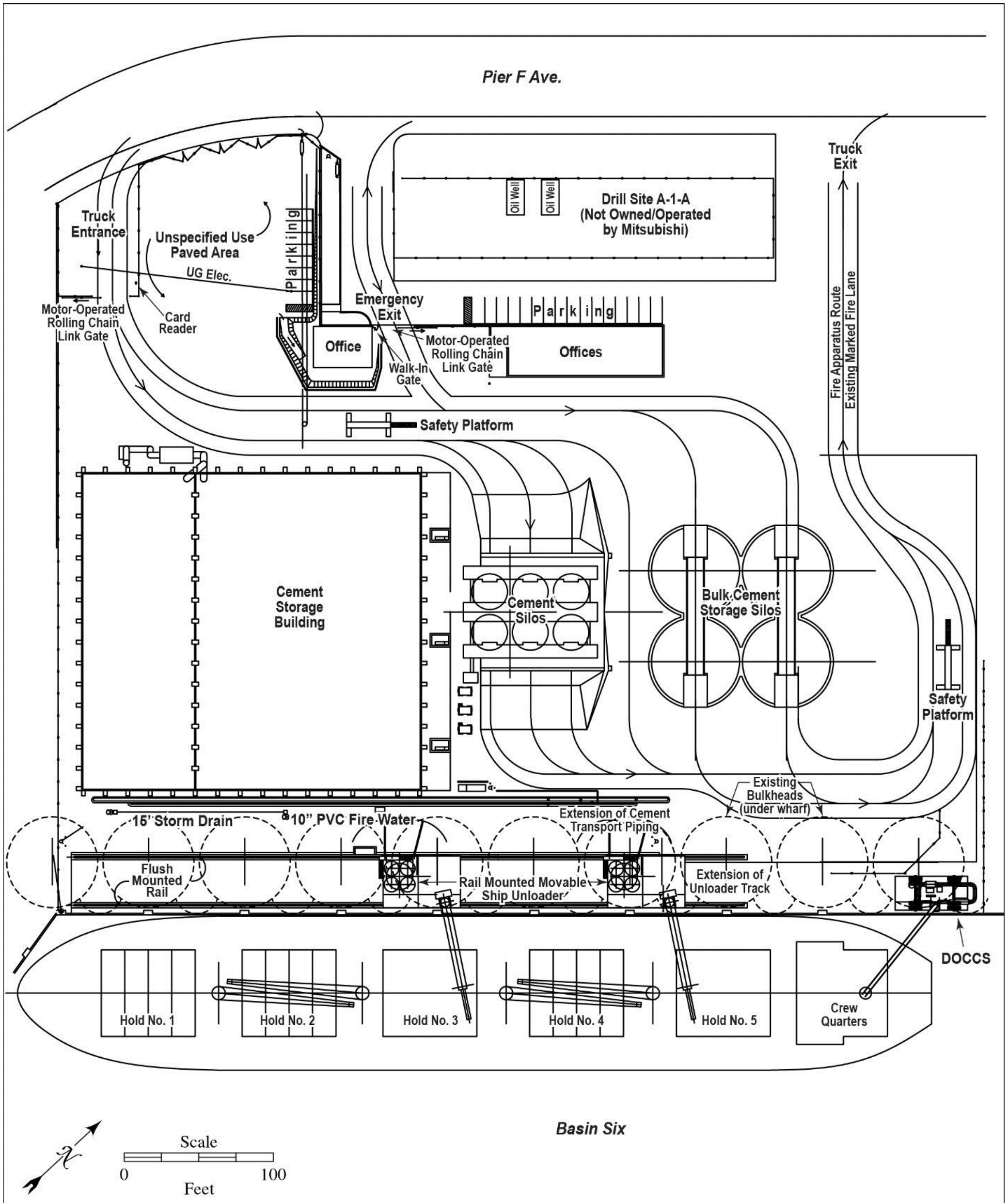
The assessment includes an evaluation of the key intersections that would be used by automobile and truck traffic for access between the Project site and the regional freeway system during both the construction phase and the operational phase. This assessment focused on two intersections, illustrated in Figure 3.6-1, that were identified in consultation with Port staff as the locations most likely to be affected by the Project because they are situated along key access routes to and from the Project site:

- Pico Avenue/Pier G Street & Harbor Plaza (All-Way Stop); and
- Pico Avenue & Pier E Street/Ocean Boulevard Ramps (All-Way Stop).

The assessment focused on traffic during weekday peak hours with the highest traffic volumes. The three analyzed weekday peak hours are the highest one hour in the A.M. peak period (between 6:00 A.M. and 9:00 A.M.), midday peak period (between 2:00 P.M. and 3:00 P.M.), and afternoon/ evening peak period (between 3:00 P.M. and 6:00 P.M.).

Trip Generation Estimates - Operation

Trip generation estimates were prepared for the future operating conditions of the Project based on information from MCC on the expected operation of the facility and using information in the "Section 3 Truck Loading Capacity" of the Mitsubishi Cement Terminal Capacity Analysis (AECOM 2012). The Project is expected to operate 52 weeks per year, 6 days a week from 3:00 A.M. Monday through 2:00 A.M. Sunday. Figure 3.6-2 shows the overall site layout and internal facility transportation flow. Each truck load would require two truck trips (one inbound and one outbound). Note that per information provided by MCC, the truck loading rates for the action alternatives (i.e., Alternatives 1 and 2) are different from those for the No Project Alternative. In addition, a PCE factor of 2.0 was applied to truck trips, which accounts for trucks taking up greater roadway capacity than passenger vehicles, as discussed in Section 3.6.1.2, Setting. The capacity analysis (AECOM 2012) did not account for these factors, whereas these adjustments are reflected in Table 3.6.4. Thus, values presented in the table are different from those in the capacity analysis.



Source: Environmental Audit, Inc. 2010

Figure 3.6-2. Proposed Site Layout and Traffic Plan

Table 3.6-4 summarizes the peak hour trip generation estimates for the Project. The table also provides this information for the Reduced Throughput Alternative and No Project Alternative that were developed using the assumptions described in Appendix B.

The proposed Project would generate 78 net new PCE trips (i.e., the difference between the project and baseline trips for trucks and passenger cars combined) in the A.M. peak hour (40 inbound, 38 outbound), 76 net new PCE trips (38 inbound, 38 outbound) during the midday peak hour, and 78 net new PCE trips in the P.M. peak hour (38 inbound, 40 outbound). The Reduced Throughput Alternative would generate 54 net new PCE trips in the A.M. peak hour (28 inbound, 26 outbound), 52 net new PCE trips (26 inbound, 26 outbound) during the midday peak hour, and 54 net new PCE trips in the P.M. peak hour (26 inbound, 28 outbound).

Under the No Project Alternative, no expansion would occur; however, the MCC facility could operate at a higher throughput without any expansion and generate operational impacts. Trips generated by the No Project Alternative were calculated based on the maximum number of trucks the current MCC facility could accommodate during the peak hour as defined in Appendix B. Therefore, the No Project Alternative would generate 16 net new PCE trips in each of the A.M. peak hour, midday peak hour, and P.M. peak hour (8 inbound, 8 outbound).

Trip Generation Estimates - Construction

Project construction-period impacts were determined by comparing the peak construction trip generation to baseline (2006) conditions, which consist of actual project operational traffic in 2006, plus all other 2006 traffic on the relevant streets. Construction of the proposed Project would occur in two phases. Two of the four new silos and one of the two new truck lanes would be constructed in Phase 1, and the last two silos and other truck lane would be constructed in Phase 2. Detailed trip generation estimates for each month of Phase 1 and of Phase 2 were prepared using

Table 3.6-4. Proposed Project and Alternatives Operations Trips (in PCEs)

	A.M. Peak Hr			**M.D. Peak Hr**			**P.M. Peak Hr**		
	In	*Out*	*Total*	*In*	*Out*	*Total*	*In*	*Out*	*Total*
Proposed Project									
Project Trips[a, c]	66	66	132	66	66	132	66	66	132
Baseline Trips[b, c]	28	28	56	28	28	56	28	28	56
Net New Trips[c]	38	38	76	38	38	76	38	38	76
Net New Employee Trips[d]	2	0	2	0	0	0	0	2	2
Total Net New Trips[c]	**40**	**38**	**78**	**38**	**38**	**76**	**38**	**40**	**78**
Reduced Throughput Alternative									
Reduced Throughput Alternative[e, c]	54	54	108	54	54	108	54	54	108
Baseline Trips[b, c]	28	28	56	28	28	56	28	28	56
Net New Trips[c]	26	26	52	26	26	52	26	26	52
Net New Employee Trips[d]	2	0	2	0	0	0	0	2	2
Total Net New Trips[c]	**28**	**26**	**54**	**26**	**26**	**52**	**26**	**28**	**54**
No Project Alternative									
No Project Alternative[a, c]	36	36	72	36	36	72	36	36	72
Baseline Trips[b, c]	28	28	56	28	28	56	28	28	56
Net New Trips[c]	8	8	16	8	8	16	8	8	16
Net New Employee Trips[d]	0	0	0	0	0	0	0	0	0
Total Net New Trips[c]	**8**	**8**	**16**	**8**	**8**	**16**	**8**	**8**	**16**

Notes:

a. *Source:* Mitsubishi Cement Terminal Capacity Analysis, AECOM, June 6, 2012.
b. Baseline represents the 95th percentile of hourly throughput in 2006 based on data provided by MCC. Trip generation is discussed further in Appendix B.
c. Trip generation was adjusted to account for heavy trucks in the traffic stream by applying a passenger equivalent (PCE) factor of 2.0. Each truckload of cement requires two truck trips (one inbound and one outbound).
d. Both the proposed Project and Reduced Throughput Alternative would require two additional workers.
M.D. = midday

information provided by MCC (see Chapter 5 of Appendix B), and potential traffic impacts during the most intense month of activity in both phases were analyzed.

Construction of the Project would begin with site preparation and, combined with Phase 1, would occur over a period of approximately 18 months. Phase 2 would occur when throughput and market demand for cement increases, at which time the full expansion would be completed with an additional year of construction. Construction activity would occur between 7:00 A.M. and 4:00 P.M., Monday through Friday, but could also occur on Saturdays as needed. No road closures are anticipated during construction, as construction activities would occur within the Project site on Pier F Avenue.

The peak month of construction for the Project would occur during the fourth month of second phase. On a typical day during that peak month of construction, the Project is estimated to generate an average of 76 worker one-way trips, 4 light truck one-way trips, and 20 heavy truck one-way trips. Applying the PCE factors described earlier, these 100 daily vehicle trips would equate to 120 daily PCE trips. Conservatively assuming that all workers arrive or depart during the A.M. and P.M. peak hours, and that the busiest hour of truck traffic may also occur during that hour, 54 PCE trips could occur in both the A.M. and P.M. peak hours (46 inbound and 8 outbound PCE trips in the A.M. peak hour and 8 inbound and 46 outbound PCE trips in the P.M. peak hour), and 16 PCE trips could occur in the midday peak hour (8 inbound and 8 outbound PCE trips).

Construction of the Reduced Throughput Alternative would occur during a single phase and involve two new silos and one new truck lane, similar to site preparation and Phase 1 of the proposed Project, but would not entail construction of a second new truck lane. All construction activity would occur within a single 14-month phase and the peak month would be the sixth month. The assumptions regarding construction worker trips and truck trips generation methodology, distribution, and assignment were the same as those described above for the proposed Project.

During the peak month of construction, the Reduced Throughput Alternative is estimated to generate an average of 66 worker one-way trips, 3 light truck one-way trips and 22 heavy truck one-way trips. Applying the PCE factors described earlier, these 91 daily vehicle trips would equate to 113 daily PCE trips. Conservatively assuming that all workers arrive or depart during the A.M. and P.M. peak hours, and that the busiest hour of truck traffic may also occur during that hour, 51 PCE trips could occur in both the A.M. and P.M. peak hours (42 inbound and 9 outbound PCE trips in the A.M. peak hour and 9 inbound and 42 outbound PCE trips in the P.M. peak hour), and 18 PCE trips could occur in the midday peak hour (9 inbound and 9 outbound PCE trips).

The No Project Alternative would not generate any trips during construction because it would not entail any changes to the existing facilities.

Project Operation

The baseline (2006) plus proposed Project and baseline plus Reduced Throughput Alternative peak hour traffic volumes (shown in Figures 3 and 5 in Appendix B) were analyzed to determine the projected operating conditions with the addition of Project-generated traffic.

Trip Distribution and Trip Assignment

During both construction and operation it is expected that approximately 20 percent of project truck trips would travel to/from the west over the Gerald Desmond Bridge and that approximately 80 percent would travel to/from the north on the I-710 freeway. This split in trip distribution is supported by a review of previous MCC customers, the location of known ready mix plants in the region, the potential market area for cement, and probable travel routes of these customer trucks to/from the MCC facility. Worker commute trips were assumed to be evenly distributed between the west and the north, relative to the major directions of approach to the Project site. Figure 3.6-3 illustrates the project trip distribution pattern used in this study.

CMP Monitoring Station Analysis

An analysis of potential project impacts on the regional transportation system was conducted in accordance with the transportation impact analysis procedures outlined in the CMP.

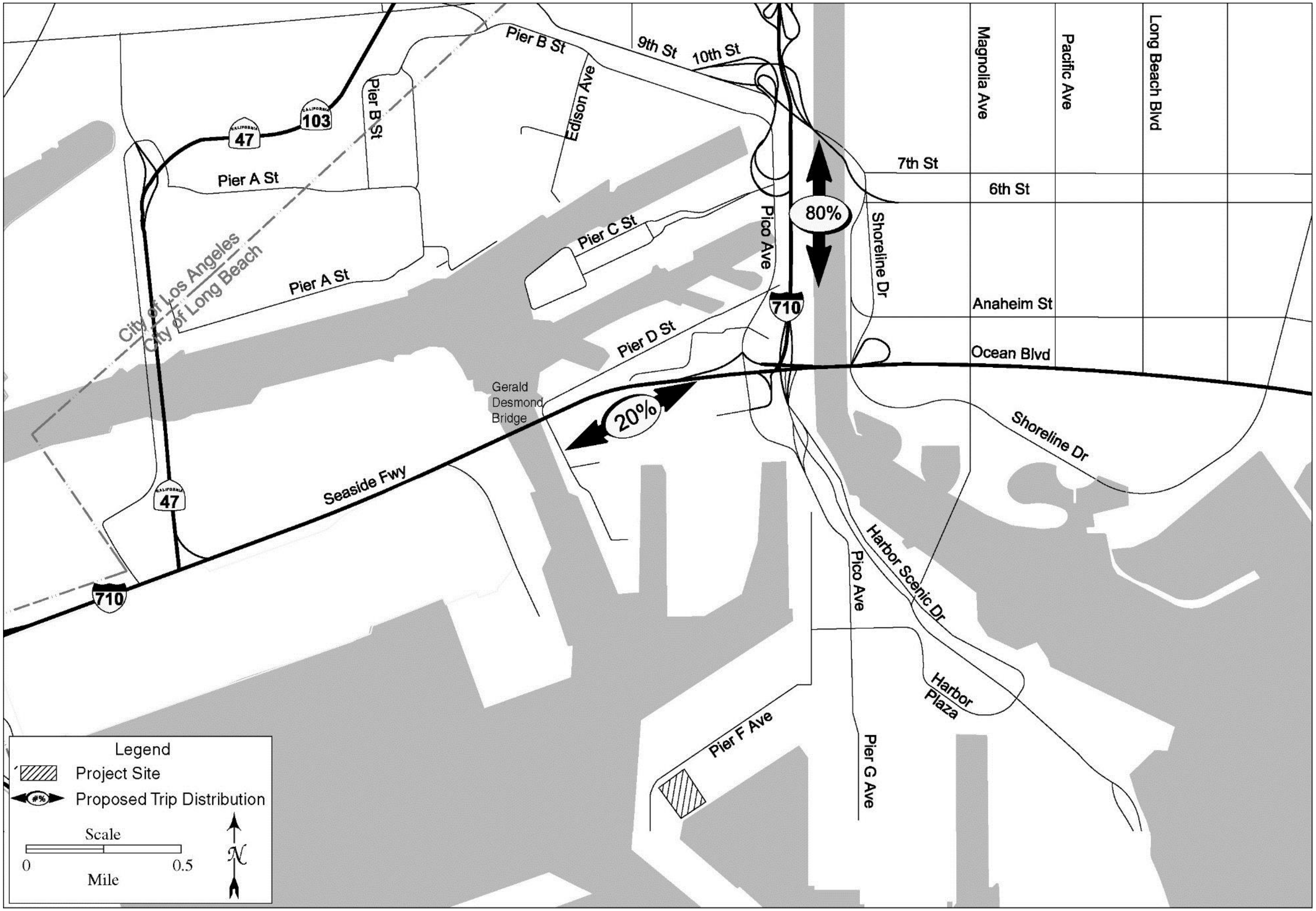


Figure 3.6-3. MCC Facility Trip Distribution

The CMP arterial monitoring stations nearest to the Project area are located 2 to 3 miles from the Project site:

- Pacific Coast Highway & Santa Fe Avenue; and
- Pacific Coast Highway & Alameda Street.

The CMP mainline freeway monitoring locations nearest to the Project site are:

- I-710 between Pacific Coast Highway and Willow Street
- I-710 between I-405 and south of Del Amo Boulevard; and
- I-110 between Wilmington Avenue and south of C Street.

According to the project trip generation estimates developed in Appendix B and the project-only traffic volumes illustrated in Figures 3 and 5 of that Appendix, the proposed Project is not expected to add sufficient new traffic to meet the freeway analysis criteria at these locations. Up to 16 additional 1-way truck trips would be added to the monitoring stations on I-710 and up to 4 1-way truck trips would be added to the monitoring station on I-110. Based on conversion of these truck trips to PCE trips and adding employee trips, up to 32 to 34 one-way PCE trips would be added to the monitoring stations on I-710 and up to 8 one-way PCE trips would be added to the monitoring station on I-110. Incremental project-related traffic in any direction during either peak hour is projected to be less than the minimum criterion of 150 vehicles per hour (vph).

Cumulative Traffic Conditions

The future baseline (cumulative 2035) traffic projections reflect the changes to baseline (2006) traffic conditions that can be expected from three primary sources, not including development of the proposed Project or alternatives. The first source is the area-wide growth in traffic, which reflects increases in traffic due to natural regional growth and development. The second source is traffic generated by specific development projects located within, or in the vicinity of, the Project area (also known as “related projects”). The third source is approved and funded roadway and intersection capacity improvements. The cumulative traffic forecasts were developed using a combination of the projection (or plan) method and the list method, as described below.

Areawide Traffic Growth

Forecast traffic volumes for the specified intersections in year 2035 were obtained from the Port’s travel demand forecasting model and were provided by Port staff. These forecasts include traffic growth for the Port and the local area expected to result from regional growth in employment, population, schools, and other activities, with the exception of the two related projects described in the next section that were not included in the model.

Related Cumulative Project Traffic

The traffic projections for cumulative 2035 conditions include volumes obtained from the Port’s travel demand forecasting model. The model accounts for trips due to regional growth and 56 approved and pending projects identified in Chapter 2, Related Projects and Relationship to Statutes and Plans. In addition, project-generated trips of the Eagle Rock aggregate terminal and concrete batch plant at Berth D-43 were added separately, since those two projects were not included in the model.

The Eagle Rock aggregate terminal, northwest of the Project site at 1925 Pier D Street, is planned for development. It would operate 52 weeks per year with two weekday shifts and one Saturday shift. It is expected to generate a maximum of 1,556 daily PCE trips, of which 128 PCE trips are expected to occur in the A.M. and P.M. peak hours (64 inbound, 64 outbound) and 136 PCE trips are expected to occur in the midday peak hour (68 inbound, 68 outbound).

A concrete batch plant in the Berth D-43 backlands area is currently planned for development adjacent to the Eagle Rock project. Normal operating hours for this facility would be 7:00 A.M. to 2:00 P.M. with two to three employees on site. It is expected to generate 125 to 140 truck round trips per day. A.M. and midday peak hour truck trip generation for this planned project was estimated to be 20 truck round trips, or 40 PCE trips inbound and 40 PCE trips outbound.

Capacity Improvements

Per information received from Port staff, although both study intersections are currently unsignalized, they will be signalized by cumulative year 2035 per mitigation measures required for the Middle Harbor Redevelopment Project. In addition, per mitigation measures required for the Gerald Desmond Bridge Replacement Project, the westbound approach at Pico Avenue and Pier E Street/Eastbound Ocean Boulevard ramps will be modified to provide one shared through/left-turn lane and one right-turn lane. These capacity improvements were considered as part of the year 2035 cumulative impacts analysis.

3.6.2 Impacts and Mitigation Measures

3.6.2.1 Alternative 1 – Proposed Project

Construction Impacts

During the peak month of construction (the fourth month of Phase 2), the Project would require 76 worker trips (38 workers in and 38 out) each day and is estimated to generate 4 daily light truck trips (2 in and 2 out) and 20 daily heavy truck trips (10 in and 10 out). Thus, it would generate a total of 100 daily vehicle trips (120 daily PCE trips), composed of 76 worker trips and 24 truck trips (44 PCE truck trips).

Based on the methodology described above, 54 PCE trips would occur in the A.M. and P.M. peak hours (46 inbound and 8 outbound PCE trips in the A.M. peak hour and 8 inbound and 46 outbound PCE trips in the P.M. peak hour), and 16 PCE trips would occur in the midday peak hour (8 inbound and 8 outbound PCE trips).

The data in Table 3.6-5 show that construction of the proposed Project would not result in significant traffic impacts.

Impact TRANS-1.1: Project construction activities would not increase an intersection's V/C ratio or LOS in a manner that exceeds adopted performance standards.

As shown in Table 3.6-5, construction related transportation impacts would be less than significant. Since impacts on traffic would be less than significant, no mitigation is required.

Impact TRANS-2.1: Project construction would not increase a CMP monitoring location V/C ratio such that it violates the CMP standards.

Since incremental project-related construction traffic in any direction during either peak hour is projected to be less than the minimum criteria of 150 vph, CMP freeway impacts would be less than significant. Since impacts on traffic would be less than significant, no mitigation is required.

Operational Impacts

The Project would require two additional employees, one longshoreman and one contract worker. Because the Project site is not served by public transit, and to provide a conservative analysis, all employees are assumed to travel by private automobile. No employee carpooling has been assumed, which is reflected as an average vehicle ridership of 1.0.

Table 3.6-4 summarizes the trip generation estimates for the Project operations using the assumptions described above. The modified facility would generate a maximum of 1,456 net new daily PCE trips, of which 78 net new PCE trips would be expected to occur in the A.M. peak hour (40 inbound, 38 outbound), 76 net new PCE trips (38 inbound, 38 outbound) would occur during the midday peak hour, and 78 net

Table 3.6-5. Proposed Project Construction Impacts

Proposed Project Intersection	Peak Hr	Baseline (Year 2006)			Baseline + Proposed Project			Significant Impact? [c]
		V/C[a]	*Delay*[b]	*LOS*	*V/C*[a]	*Delay*[b]	*LOS*	
Pico Ave./Pier G St. & Harbor Plaza	A.M.	0.643	14.2	B	0.671	15.0	B	No
	M.D.	0.871	22.4	C	0.891	23.6	C	No
	P.M.	0.666	14.8	B	0.762	17.5	C	No
Pico Ave. & Pier E St./ Ocean Blvd. Ramps	A.M.	0.289	9.9	A	0.291	10.0	B	No
	M.D.	0.423	11.8	B	0.423	11.8	B	No
	P.M.	0.313	11.2	B	0.316	11.4	B	No

Notes:
a. V/C values provided for informational purposes only.
b. Average stopped delay per vehicle on each approach, in seconds.
c. Unsignalized intersections would be considered significantly impacted with an increase in delay of 2 percent or more if under projected LOS E or F conditions.
M.D. = midday

new PCE trips would occur in the P.M. peak hour (38 inbound, 40 outbound).

The results of the analysis of Project operations related traffic are represented in Table 3.6-6. As indicated in the table, both study intersections

would continue to operate at LOS D or better during each analyzed peak hour under baseline (2006) plus Project traffic conditions.

Impact TRANS-1.2: Project operations would not increase an intersection's V/C ratio or LOS in a manner that exceeds adopted performance standards.

As shown in Table 3.6-6, operation related transportation impacts would be less than significant. Since impacts on traffic would be less than significant, no mitigation is required.

Impact TRANS-2.2: Project operations would not increase a CMP monitoring location V/C ratio such that it violates the CMP standards.

Incremental Project-related operations traffic in any direction during either peak hour is projected to be less than the minimum criteria of 150 vph. Therefore, CMP freeway impacts would be less than significant. Since impacts on traffic would be less than significant, no mitigation is required.

3.6.2.2 Alternative 2 – Reduced Throughput Alternative

Construction Impacts

During the peak month of construction, the Reduced Throughput Alternative would generate 66 worker trips (33 workers in and 33 out) each day and is expected to generate 3 daily light truck trips and 44 daily heavy truck trips (22 in and 22 out). Thus, it would generate a total of 91 daily vehicle trips (113 daily PCE trips), composed of 66 worker trips and 25 truck trips (47 PCE truck trips).

Based on the methodology described above, 51 PCE trips would occur in the A.M. and P.M. peak hours (42 inbound and 9 outbound PCE trips in the A.M. peak hour and 9 inbound and 42 outbound PCE trips in the P.M. peak hour), and 18 PCE trips would occur in the midday peak hour (9 inbound and 9 outbound PCE trips).

To determine whether significant impacts would occur during project construction, the baseline (2006) plus project construction traffic conditions were compared to the baseline (2006) operating conditions, which consist of actual project operational traffic in 2006, plus all other 2006 traffic on the relevant streets. As shown in Table 3.6-7, using the criteria described above for the determination of significant impacts, the Reduced Throughput Alternative would not result in significant traffic impacts during construction. Because no significant impacts have been identified, no mitigation would be necessary.

Impact TRANS-1.1: Alternative 2 construction activities would not increase an intersection's V/C ratio or LOS in a manner that exceeds adopted performance standards.

As shown in Table 3.6-7, construction related transportation impacts would be less than significant. Since impacts on traffic would be less than significant, no mitigation is required.

Table 3.6-6. Proposed Project Operational Impacts

Proposed Project Intersection	Peak Hr	Baseline (Year 2006)			Baseline + Proposed Project			Significant Impact?[c]
		V/C[a]	*Delay*[b]	*LOS*	*V/C*[a]	*Delay*[b]	*LOS*	
Pico Ave./Pier G St. & Harbor Plaza	A.M.	0.643	14.2	B	0.733	16.4	C	No
	M.D.	0.871	22.4	C	0.967	29.5	D	No
	P.M.	0.666	14.8	B	0.759	17.4	C	No
Pico Ave. & Pier E St./ Ocean Blvd. Ramps	A.M.	0.289	9.0	A	0.291	10.0	A	No
	M.D.	0.423	11.8	B	0.426	11.9	B	No
	P.M.	0.313	11.2	B	0.315	11.4	B	No

Notes:

a. V/C values provided for informational purposes only.

b. Average stopped delay per vehicle on each approach, in seconds.

c. Unsignalized intersections would be considered significantly impacted with an increase in delay of 2 percent or more if under projected LOS E or F conditions.

M.D. = midday

Table 3.6-7. Alternative 2 - Reduced Throughput Alternative Construction Impacts

Reduced Throughput Alternative Intersection	Peak Hr	Baseline (Year 2006)			Baseline + Reduced Throughput Alternative			Significant Impact?[c]
		V/C[a]	Delay[b]	LOS	V/C[a]	Delay[b]	LOS	
Pico Ave./Pier G St. & Harbor Plaza	A.M.	0.643	14.2	B	0.672	15.0	B	No
	M.D.	0.871	22.4	C	0.893	23.8	C	No
	P.M.	0.666	14.8	B	0.754	17.2	C	No
Pico Ave. & Pier E St./ Ocean Blvd. Ramps	A.M.	0.289	9.9	A	0.290	10.0	B	No
	M.D.	0.423	11.8	B	0.423	11.8	B	No
	P.M.	0.313	11.2	B	0.316	11.4	B	No

Notes:
a. V/C values provided for informational purposes only.
b. Average stopped delay per vehicle on each approach, in seconds.
c. Unsignalized intersections would be considered significantly impacted with an increase in delay of 2 percent or more if under projected LOS E or F conditions.
M.D. = midday

Impact TRANS-2.1: Alternative 2 construction would not increase a CMP monitoring location V/C ratio such that it violates the CMP standards.

Since incremental project-related traffic in any direction during either peak hour of construction of Alternative 2 is projected to be less than the minimum criteria of 150 vph, CMP freeway impacts would be less than significant. Since impacts on traffic would be less than significant, no mitigation is required.

Operational Impacts

The Reduced Throughput Alternative would generate an estimated 1,032 net daily vehicle trips. Of these, 54 net new PCE trips would be expected to occur in the A.M. peak hour (28 inbound, 26 outbound), 52 net new PCE trips (26 inbound, 26 outbound) would occur during the midday peak hour, and 54 net new PCE trips would occur in the P.M. peak hour (26 inbound, 28 outbound).

Impacts under the Reduced Throughput Alternative were determined by comparing the peak operational trip generation to baseline (2006) conditions, which consist of actual project operational traffic in 2006, plus all other 2006 traffic on the relevant streets. Only the increment above 2006 throughput traffic levels is considered, as shown in Table 3.6-8. As indicated, both study intersections would continue to operate at LOS D or better during each analyzed peak hour under baseline (2006) plus project traffic conditions.

Impact TRANS-1.2: Alternative 2 operations would not increase an intersection's V/C ratio or LOS in a manner that exceeds adopted performance standards.

As shown in Table 3.6-8, operation-related transportation impacts for Alternative 2 would be less than significant. Since operational impacts on traffic would be less than significant, no mitigation is required.

Table 3.6-8. Alternative 2 - Reduced Throughput Alternative Operational Impacts

Reduced Throughput Alternative Intersection	Peak Hr	Baseline (Year 2006)			Baseline + Reduced Throughput Alternative			Significant Impact?[c]
		V/C[a]	Delay[b]	LOS	V/C[a]	Delay[b]	LOS	
Pico Ave./Pier G St. & Harbor Plaza	A.M.	0.643	14.2	B	0.705	15.6	C	No
	M.D.	0.871	22.4	C	0.938	26.9	D	No
	P.M.	0.666	14.8	B	0.731	16.5	C	No
Pico Ave. & Pier E St./ Ocean Blvd. Ramps	A.M.	0.289	9.9	A	0.290	10.0	A	No
	M.D.	0.423	11.8	B	0.425	11.9	B	No
	P.M.	0.313	11.2	B	0.315	11.3	B	No

Notes:
a. V/C values provided for informational purposes only.
b. Average stopped delay per vehicle on each approach, in seconds.
c. Unsignalized intersections would be considered significantly impacted with an increase in delay of 2 percent or more if under projected LOS E or F conditions.
M.D. = midday

Impact TRANS-2.2: Alternative 2 operations would not increase a CMP monitoring location V/C ratio such that it violates the CMP standards.

Incremental project-related traffic in any direction during either peak hour of operation of Alternative 2 is projected to be less than the minimum criteria of 150 vph. Therefore, CMP freeway impacts would be less than significant. Since impacts on traffic would be less than significant, no mitigation is required.

3.6.2.3 Alternative 3 – No Project Alternative

Construction Impacts

The No Project Alternative would involve no construction.

Impact TRANS-1.1: Alternative 3 construction activities would not increase an intersection's V/C ratio or LOS in a manner that exceeds adopted performance standards.

No impacts to traffic would occur because the No Project Alternative would not involve construction.

Impact TRANS-2.1: Alternative 3 construction would not increase a CMP monitoring location V/C ratio such that it violates the CMP standards.

No impacts to traffic would occur because the No Project Alternative would not involve construction.

Operational Impacts

The No Project Alternative would generate 472 net daily vehicle trips, of which 16 net new PCE trips would be expected to occur in each of the A.M. peak hour, midday peak hour, and P.M. peak hour (8 inbound, 8 outbound). Table 3.6-9 summarizes new trips associated with the No Project Alternative.

No Project Alternative impacts were compared to the operational trip generation for baseline (2006) conditions, which consist of actual project operational traffic in 2006, plus all other 2006 traffic on the relevant streets. The results of this analysis are represented in Table 3.6-9. As indicated, both study intersections would continue to operate at LOS D or better during each analyzed peak hour under baseline (2006) plus No Project Alternative traffic conditions.

Impact TRANS-1.2: Alternative 3 operations would not increase an intersection's V/C ratio or LOS in a manner that exceeds adopted performance standards.

As shown in Table 3.6-9, transportation impacts related to operations would be less than significant for the No Project Alternative. In addition, this alternative does not require any discretionary action by an agency, so mitigation could not be imposed.

Impact TRANS-2.2: Alternative 3 operations would not increase a CMP monitoring location V/C ratio such that it violates the CMP standards.

Since incremental operations traffic in any direction during either peak hour of operation of Alternative 3 is projected to be less than the minimum criteria of 150 vph, CMP freeway impacts would be less than significant. Since impacts on traffic would be less than significant, no mitigation is required.

Table 3.6-9. Alternative 3 - No Project Alternative Operational Impacts

No Project Alternative Intersection	Peak Hr	Baseline (Year 2006)			Baseline + No Project Alternative			Significant Impact?[c]
		V/C[a]	*Delay*[b]	*LOS*	*V/C*[a]	*Delay*[b]	*LOS*	
Pico Ave./Pier G St. & Harbor Plaza	A.M.	0.643	14.2	B	0.662	14.6	B	No
	M.D.	0.871	22.4	C	0.891	23.6	C	No
	P.M.	0.666	14.8	B	0.685	15.3	C	No
Pico Ave. & Pier E St./ Ocean Blvd. Ramps	A.M.	0.289	9.9	A	0.289	9.9	A	No
	M.D.	0.423	11.8	B	0.423	11.8	B	No
	P.M.	0.313	11.2	B	0.314	11.3	B	No

Notes:

a. V/C values provided for informational purposes only.
b. Average stopped delay per vehicle on each approach, in seconds.
c. Unsignalized intersections would be considered significantly impacted with an increase in delay of 2 percent or more if under projected LOS E or F conditions.

M.D. = midday

3.6.3 Cumulative Impacts

3.6.3.1 Future Street Improvements

According to information received from Port staff, both study intersections will be signalized by cumulative year 2035, either as the result of capital improvement projects at the Port or as mitigation for approved projects in the vicinity. In addition, the westbound approach at Pico Avenue and Pier E Street/Eastbound Ocean Boulevard ramps will be modified to provide one shared through/left-turn lane and one right-turn lane.

3.6.3.2 Project Cumulative Impacts

Cumulative impacts were compared against projected future (2035) conditions. With the Project or the Reduced Throughput Alternative as shown in Table 3.6-10, using the criteria described for determination of significant impacts, the intersection of Pico Avenue & Pier E Street/ Ocean Blvd ramps is the only intersection projected to operate at LOS F. The incremental increase in V/C ratio at this intersection during the analyzed peak hours would not exceed 0.005 relative to the future conditions for either project alternative. Thus, the proposed Project impact is less than the impact significance threshold and would not represent a cumulatively considerable contribution to traffic impacts under future (2035) plus project conditions. Therefore, cumulative impacts would not be considered significant. Because no significant impacts are identified, no traffic mitigation would be required.

3.6.4 Mitigation Monitoring Program

Since no mitigation measures are required to address impacts on ground transportation, no mitigation monitoring program is required.

Table 3.6-10. Proposed Project Future (2035) Cumulative Impacts

Intersection	Peak Hr	Cumulative Baseline (Future 2035 Without Project)*		Baseline + Project		Project Increase	Significant Impact?
		V/C*	LOS	V/C*	LOS		
Proposed Project Alternative							
Pico Ave./Pier G St. & Harbor Plaza (Signalized)	A.M.	0.785	C	0.821	D	0.036	No
	M.D.	0.734	C	0.770	C	0.036	No
	P.M.	0.754	C	0.779	C	0.025	No
Pico Ave. & Pier E St./ Ocean Blvd. Ramps (Signalized)	A.M.	1.149	F	1.154	F	0.005	No
	M.D.	1.325	F	1.325	F	0.000	No
	P.M.	1.191	F	1.196	F	0.005	No
Reduced Throughput Alternative							
Pico Ave./Pier G St. & Harbor Plaza (signalized)	A.M.	0.785	C	0.821	D	0.025	No
	M.D.	0.734	C	0.770	C	0.024	No
	P.M.	0.754	C	0.779	C	0.018	No
Pico Ave. & Pier E St./ Ocean Blvd. Ramps (Signalized)	A.M.	1.149	F	1.154	F	0.004	No
	M.D.	1.325	F	1.325	F	0.000	No
	P.M.	1.191	F	1.196	F	0.004	No

Note: * Cumulative forecasts include site generated operational traffic associated with the No Project Alternative.
M.D. = midday

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3.7 VESSEL TRANSPORTATION

3.7.1 Environmental Setting

3.7.1.1 Area of Influence

The vessel transportation analysis covers the waters serving POLB, and the San Pedro Bay, which is shared with POLA. This analysis considers the shipping traffic, vessel movement controls, and safety features for both ports.

3.7.1.2 Setting

Commercial ship traffic generally approaches the POLB from the northwest, passing north of Catalina Island. Traffic from the south passes east of the island using established commercial shipping lanes. POLB/POLA navigational areas are protected by three breakwaters: the San Pedro Breakwater; Middle Breakwater; and Long Beach Breakwater. The openings between these breakwaters, known as Queens Gate and Angel's Gate, provide entry to the POLB and POLA, respectively (Figure 3.7-1).

3.7.1.3 Vessel Transportation Safety

Vessel traffic channels and numerous aids to navigation, operating rules, and regulations have been established in the Port. Vessel traffic levels are regulated by the U.S. Coast Guard (USCG) Captain of the Port (COTP) and the Marine Exchange of Southern California via the Vessel Traffic Service (VTS) to ensure the total number of vessels transiting the Port does not exceed the design capacity of the federal channel limits. Vessels are required to report their position prior to transiting through the Port to the COTP and the VTS. The VTS monitors the positions of all inbound and outbound vessels within the Precautionary Area and the approach corridor traffic lanes (Figure 3.7-2). In the event of scheduling conflicts and/or vessel occupancy within the Port being at capacity, vessels are required to anchor at the anchorages outside the breakwater until they receive COTP authorization to transit into the Port.

Marine Exchange of Southern California

The Marine Exchange of Southern California is a non-profit organization affiliated with the Los Angeles Chamber of Commerce and designated to enhance navigation safety in the Precautionary Area and harbor area of the San Pedro Bay ports. The organization is supported by subscriptions from Port-related organizations that recognize the need for such an organization and use its services. The Marine Exchange monitors vessel traffic within the Precautionary Area. The service consists of a coordinating office, specific reporting points, and radio communications with participating vessels. The Marine Exchange also operates Physical Oceanographic Real Time System (PORTS), which is described more fully below.

Vessel Transportation Service

The VTS is a service owned by the Marine Exchange and operated jointly by the Marine Exchange and the USCG under the oversight of the Office of Spill Prevention and Response (OSPR) of the California Department of Fish and Wildlife (CDFW) and the POLB/POLA Harbor Safety Committee. The VTS monitors traffic in the approach and departure lanes and inside the harbors. It uses radar, radio, and visual inputs to gather real time vessel traffic information and broadcast traffic advisories and summaries to assist mariners.

The system provides information on vessel traffic and ship locations so that vessels can avoid accidents in the approaches to the Los Angeles/Long Beach Harbor. The VTS assists in the safe navigation of vessels approaching POLB and POLA in the Precautionary Area.

Traffic Separation Schemes

A Traffic Separation Scheme (TSS) is an internationally recognized vessel routing designation that separates opposing flows of vessel traffic into lanes including an avoidance zone between lanes. Several TSSs have been designated to help direct offshore vessel traffic along portions of the California coastline, such as the Santa Barbara Channel. Vessels are not required to use any designated TSS, but failure to use one, if available, would be a major factor for determining liability in the event of a collision. TSS designations are proposed by the USCG, but must be approved by the IMO, which is part of the United Nations. Figure 3.7-2 identifies the TSSs nearest the POLB and POLA.

Figure 3.7-1. Location of Breakwaters, Entry Gates, and Anchorages within Long Beach Harbor

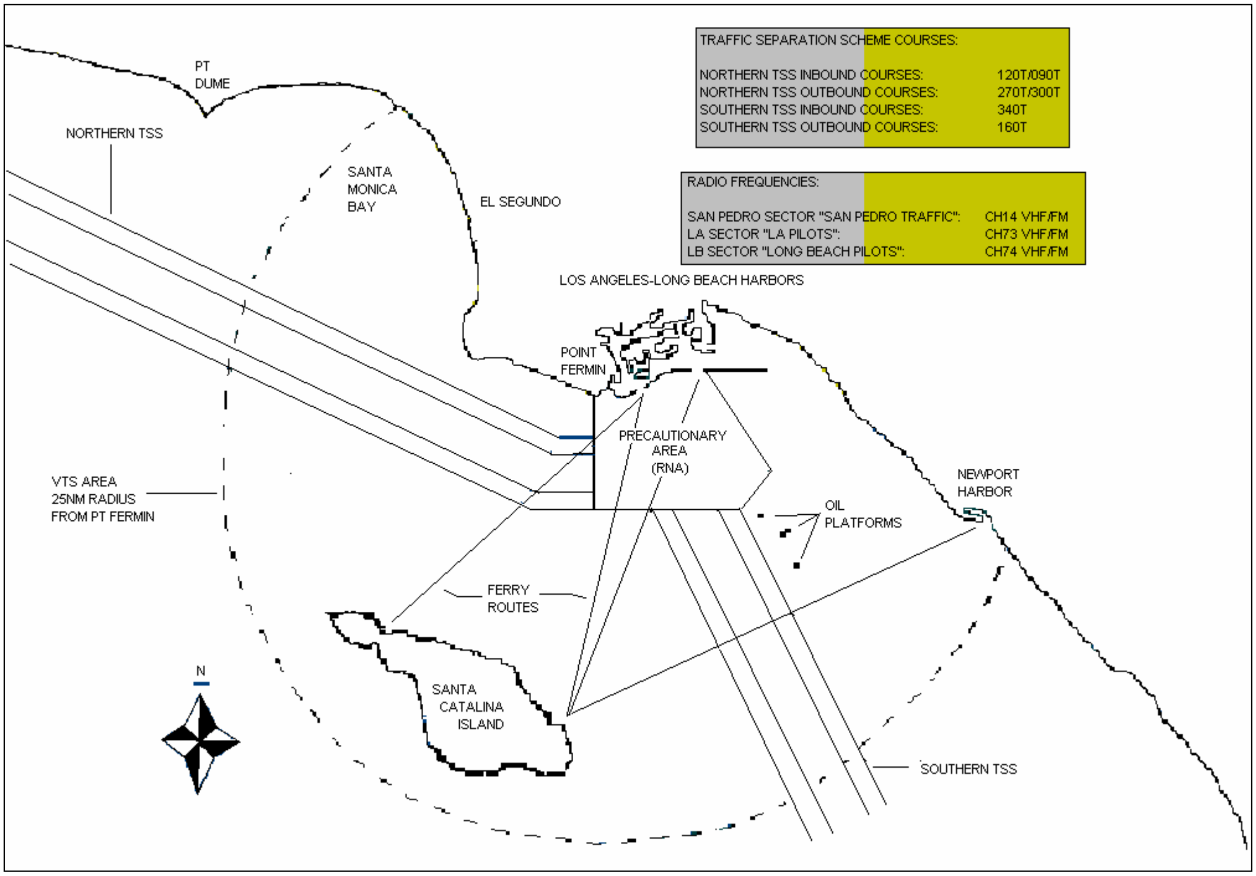

Figure 3.7-2. Vessel Navigation Safety Areas at Port of Long Beach and Port of Los Angeles

Safety Fairways

Offshore waters in high traffic areas are designated as safety fairways. USACE is prohibited from issuing permits for surface structures (e.g., oil platforms) within safety fairways, which are frequently located between a port and the entry into a TSS, to ensure safer navigation. The safety fairways for POLB and POLA are located within the designated Precautionary Area.

Precautionary and Regulated Navigation Areas

A Precautionary Area is designated in congested areas near the Los Angeles/Long Beach Harbor entrances to set speed limits or to establish other safety precautions for ships entering or departing the Harbor. A Regulated Navigation Area (RNA) is defined as a water area within a defined boundary for which federal regulations for vessels navigating within this area have been established under CFR 33 Part 165, Subsection 165.1109. In the case of the Los Angeles/Long Beach Harbor, RNA boundaries are within the designated Precautionary Area. CFR 33, Part 165, Subsection 165.1152, identifies portions of the Precautionary Area as RNA.

The Precautionary Area for POLB/POLA is defined by a line that extends south from Point Fermin for approximately 7 nm, continues due east approximately 7 nm, continues northeast for approximately 3 nm, and then heads back northwest to Queens Gate (Figure 3.7-2). Ships are required to cruise at speeds of 12 knots or less upon entering the Precautionary Area. A minimum vessel separation of 0.25 nm is also required in the Precautionary Area. The Marine Exchange of Southern California monitors vessel traffic within the Precautionary Area.

Pilotage

Use of a Port Pilot for transit in and out of the San Pedro Bay area and adjacent waterways is required for all vessels of foreign registry, and for those U.S. vessels enrolled as not having a federally licensed pilot onboard. Some U.S.-flag vessels have a trained and licensed pilot onboard who often is also the vessel master; those vessels are not required to take on a

Port Pilot for navigating through the Port. Jacobsen Pilot Service (JPS) and Los Angeles Harbor Pilots provide pilotage to POLB and POLA, respectively. Port Pilots receive special training that is instituted by the pilot companies and overseen by the Harbor Safety Committee.

For POLB, pilots typically board the vessels at the Queens Gate entrance, and then pilot the vessels to their destinations. Pilots normally leave the vessels after docking, and re-board the vessels to pilot them back to sea or to other destinations within the Ports. The pilot service also manages the harbor anchorages under an agreement with the USCG. In instances where a local pilot is not used, masters must have a local federal pilot license and receive approval by the USCG COTP prior to entering or departing the Port.

In addition, the Port Tariffs require vessels greater than 300 gross tons to use a federally-licensed pilot whenever navigating inside the breakwater. The Port Tariffs also require that a vessel notify the affected pilot station(s) in the rare instances when a pilot is not needed before entering, leaving, shifting, or moving between the ports. By Port Tariffs rule, pilots stay on outbound vessels until clear of the breakwater entrance. In bad weather, pilots who cannot disembark safely outside the breakwaters may disembark inside, once they assure the vessel's safe transit.

Tug Escort/Assist

"Tug Escort" refers to the deployment of tugs in the proximity of a vessel as it transits into port to provide immediate assistance should a steering or propulsion failure develop. "Tug Assist" refers to the positioning of tugs alongside a vessel and applying force to assist in making turns, reducing speed, providing propulsion, and docking. Most OGV are required to have tug assistance within the Los Angeles/Long Beach Harbor (Harbor Safety Committee 2006). However, some vessels have bow and stern thrusters that allow the vessel to maneuver without engaging the main engines and accomplish certain maneuvers with the same precision as a tug-assisted vessel. These ships are not required to have external tug assistance.

Physical Oceanographic Real Time System (PORTS)

In partnership with NOAA, National Ocean Service, California OSPR, USGS, and some businesses operating in the ports, the Marine Exchange operates PORTS as a service to those making operational decisions based on oceanographic and meteorological conditions in the vicinity of the ports. PORTS is a system of environmental sensors and supporting telemetry equipment that gathers and disseminates accurate "real time" information on tides, visibility, winds, currents, and sea swell to maritime users to assist in the safe and efficient transit of vessels in the Port area. PORTS is designed to provide crucial information in real-time to mariners, oil spill response teams, managers of coastal resources, and others about POLB and POLA water levels, currents, and winds.

The instruments that collect the information are deployed at strategic locations within the Harbor and allow "now-casting" and forecasting using a mathematical model of the harbor's oceanographic processes. Data from the sensors are fed into a central collection point; raw data from the sensors are integrated and synthesized into information and analysis products, including graphical displays of PORTS data.

3.7.1.4 Navigational Hazards

Port Pilots responsible for directing vessels through POLB and POLA know the fixed navigational hazards. These hazards, including breakwaters protecting the Outer Harbor, anchorage areas, and various wharfs and land masses, are well-lighted and are readily identified by radar. Four bridges cross the navigation channels of both ports. All have restricted vertical clearances, and two have restricted horizontal clearances as well. Within the POLB, overhead power lines also restrict vertical clearance in the Cerritos Channel.

Two fixed bridges (Vincent Thomas and Gerald Desmond) and two drawbridges (Commodore Heim highway bridge and adjacent Ford Avenue railroad bridge) span the navigable channels of the ports. The latter two, crossing Cerritos Channel, are the only drawbridges within the Port's geographical area. The narrow channel-width combined with restrictions on passing under the drawbridges limit traffic through Cerritos Channel to pleasure vessels, tugs without tows, and tugs with tows alongside or pushing ahead. However, tugs with bunker barges frequently pass under the bridges. Small size tankers occasionally pass, given appropriate weather, vessel draft, trim, and maximum beam (Harbor Safety Committee 2006). Project-related vessels would be unaffected by bridge limitations within the Port.

Vessels waiting to enter the Port and moor at a berth can anchor at the anchorages outside and inside the breakwaters (Figure 3.7-1). Vessels do not require tug assistance to anchor outside the breakwater. Currently POLB has the following anchorages available inside the breakwater: 12 in the “Bravo” area; 2 in the “Charlie” area; 9 in the “Delta” area; and 5 in the “Echo” area. Jacobsen Pilot Service manages and monitors these anchorages for the POLB. For safety reasons, VTS will not assign an anchorage in the first row of sites closest to the breakwater to tankers or vessels exceeding 656 feet in length.

Vessels are required by law to report failures of navigational equipment, propulsion, steering, or other vital systems as soon as possible to the USCG via the COTP office or the COTP representative at VTS. According to VTS, approximately 1 in 100 vessels calling at the Port and POLA experiences a mechanical failure during their inbound or outbound transit.

Although marine safety is thoroughly regulated and managed, various adverse events can occur during marine navigation. These conditions include vessel accidents, “close quarters,” and “near misses.” Brief descriptions of these events are provided below. The most significant historical incidents in the POLB/POLA areas include a potentially disastrous collision between two loaded tankers in 1981, and close calls such as a 1982 occurrence involving two passenger ships, a freighter, and a tanker.

Vessel Accidents

Marine vessel accidents include vessel collisions (between two moving vessels), allisions (between a moving vessel and a stationary object, including another vessel), and vessel groundings. Table 3.7-1 shows the number of vessel allisions, collisions, and groundings in POLB and POLA between 1997 and 2012. Each of the accidents referenced above was subject to a USCG marine casualty investigation and subsequent actions taken were targeted at preventing future occurrences.

During the time period covered in Table 3.7-2, the level of commercial traffic transits has remained fairly constant. There are no reliable, comparable data available on the number of recreational boating incidents in the ports.

Table 3.7-1. Allisions, Collisions, and Groundings – POLB/POLA (2002-2012)

Year	Number of Incidents			Total
	Allisions	*Collisions*	*Groundings*	
2002	0	5	6	11
2003	2	2	4	8
2004	2	4	6	12
2005	0	1	3	4
2006	4	0	5	9
2007	3	1	6	10
2008	1	1	1	3
2009	3	0	0	3
2010	1	0	0	1
2011	7	0	1	8
2012	6	0	1	7

Note: These commercial vessel accidents meet a reportable level defined in 46 CFR 4.05, but do not include commercial fishing vessel or recreational boating incidents.
Sources: Harbor Safety Committee 2011, 2013

Near Misses and Close Quarters

According to the POLB/POLA Harbor Safety Committee, a reportable “near miss” is:

> *“an incident in which a pilot, master or other person in charge of navigating a vessel successfully takes action of a ‘non-routine nature’ to avoid a collision with another vessel, structure, or aid to navigation, grounding of the vessel, or damage to the environment.”*

The most practical and readily available near miss data are obtained from VTS reports. The VTS documents, reports, and takes action on “close quarters” situations. Data on close quarters incidents is provided in Table 3.7-2.

Table 3.7-2. VTS-Recorded Close-Quarters Incidents (2002-2012)

Year	No. of Close Quarters
2002	6
2003	4
2004	0
2005	0
2006	0
2007	1
2008	1
2009	5
2010	7
2011	2
2012	3

Sources: Harbor Safety Committee 2011, 2013

VTS "close quarters" situations are described as vessels passing closer than 0.25 nm (500 yards). These incidents usually occur within the traffic Precautionary Area. No reliable data are available for close quarters incidents outside the VTS area.

Normal actions taken in response to close quarters situations include: initiating informal USCG investigation, sending Letters of Concern to owners and/or operators, having the involved vessel Master(s) visit VTS and review the incident, and USCG enforcement boardings.

3.7.1.5 Factors Affecting Vessel Traffic Safety

Fog

Fog is a well-known weather condition in Southern California. Harbor area fog occurs most frequently in April and from September through January, when visibility over the bay is below 0.5 mile for 7 to 10 days per month. Fog at the ports is mostly a land (radiation) type fog that drifts offshore and worsens in the late night and early morning. Smoke from nearby industrial areas often increases fog thickness and persistence. Along the shore, fog drops visibility to less than 0.5 mile on 3 to 8 days per month from August through April, and is generally at its worst in December (Harbor Safety Committee 2011).

Winds

Winds vary, particularly in fall and winter. They are strongest during this period, when the Santa Ana conditions are present. This offshore desert wind, although infrequent, can be violent. It occurs when a strong high-pressure system sits over the inland plateau region and generates a northeasterly to easterly flow over Southern California. The Santa Ana winds may come at any time of day and can be reinforced by an early morning land breeze or weakened by an afternoon sea breeze.

Winter storms produce strong winds over San Pedro Bay, particularly from southwesterly through northwesterly directions. Winds of 17 knots or greater occur about 1 to 2 percent of the time from November through May. Southwesterly through westerly winds begin to prevail in the spring and last into early fall.

Tides

The mean range of tide is 3.7 feet for the POLB and 3.8 feet for the POLA. The diurnal range is about 5.4 feet for both harbors and a range of 9 feet may occur at maximum tide. The time of tide is about the same for both harbors (Harbor Safety Committee 2011).

Currents

The tidal currents follow the axis of the channels and rarely exceed 1 knot. The POLB/POLA Harbor area is subject to seiche and surge, with the most persistent and conspicuous oscillation having about a 1-hour period. Near Reservation Point, the prominent hourly surge causes velocity variations as great as 1 knot. These variations often overcome the lesser tidal current, so that the current ebbs and flows at half-hour intervals. The more restricted channel usually causes the surge through the Back Channel to reach a greater velocity at the east end of Terminal Island, rather than west of Reservation Point. In the Back Channel, hourly variation may be 1.5 knots or more. At times the hourly surge, together with shorter, irregular oscillations, causes a very rapid change in water height and current direction/velocity, which may endanger vessels moored at the piers (Harbor Safety Committee 2011).

Water Depths

USACE maintains the Federal Channels in the POLB and POLA. All 77 deep-water berths in POLB are accessed via the 76-foot deep Main Channel. The Main Channel lets tankers up to 310,000-ton class (current maximum draft 64 feet) discharge their cargos. Dredging outside the Long Beach breakwater Entrance Channel has also provided a 76-foot depth.

POLB will continue to dredge throughout the Harbor District to maintain berth and channel depths. Periodic maintenance dredging maintains design depth and eliminates minor hazards caused by sediment deposition or vessel prop wash.

3.7.1.6 Vessel Traffic

Baseline Vessel Traffic Levels

Based on information in the Port's emission inventory, in 2006 there were 2,792 arrivals, 2,629 departures, and 1,462 shifts, equating to 6,882 vessel movements in the POLB. This results in an average of 19 vessel movements per day. By comparison, the Port's 2012 emission inventory shows 2,036 vessel calls to the POLB in 2012. The majority of ship movements to and from the berths are completed in two hours or less, and very few movements are greater than three hours in duration. The pilot service and tug assistance can routinely handle up to 25 ship movements per day and can handle peaks of 30 to 40 ship movements per day.

Future Vessel Traffic Levels

The demand for POLB cargo capacity is expected to increase in future years as international trade volumes continue to expand. The numbers of vessels calling at the Port will increase accordingly, but not in direct proportion to the increased tonnage of cargo since the trend is to use larger container ships, which in turn will result in more cargo per vessel calling at the Port. It is therefore not possible to accurately project vessel calls more than a few years ahead due to the inherent economic uncertainty of international trade flows and unpredictable progress in vessel design.

The ability of the POLB to handle increasing numbers of ships depends on primary and secondary factors that can limit vessel traffic. Primary factors are those features of the Port that cannot be changed, or can be changed or modified only with very high capital expenditure, such as the breakwater entrance, channel depth, channel geometry, and/or environmental conditions. Of the primary factors, the breakwater entrance is wide enough to accept two-way traffic and is unlikely to be a constraint on capacity. The water depth in the outer harbor is about 70 feet, and about 40 to 60 feet in the inner basins.

Secondary factors are those features of the Port that can be changed or modified at modest capital or operational expenditure, including pilotage and towage services. Therefore, the Port has control over key secondary factors that would permit safely managing increasing vessel traffic over time.

3.7.1.7 Regulatory Setting

Many laws and regulations are in place to regulate marine terminals, vessels calling at marine terminals, and emergency response/ contingency planning. Responsibilities for enforcing or executing these laws and regulations fall to various international, federal, state, and local agencies, and are summarized below.

International Maritime Organization

The agency governing the movement of goods at sea is the IMO. This is done through a series of international protocols. Individual countries must approve and adopt these protocols before they become effective. The International Convention for the Prevention of Pollution from Ships (MARPOL 73/78 and amendments) governs the movement of oil, and it specifies tanker construction standards and equipment requirements. Regulation 26 of Annex I of MARPOL 73/78 requires that every tanker of 150 gross tons and above shall carry on board a shipboard oil pollution emergency plan approved by IMO. The U.S. implemented MARPOL 73/78 with passage of the Act of 1980 to Prevent Pollution from Ships. The IMO issued "Guidelines for the Development of Shipboard Oil Pollution Emergency Plans" in 1992 to assist tanker owners in preparing plans that comply with the regulations and to assist governments in developing and enacting domestic laws that enforce the cited regulations. In 1990, the Oil Pollution Act (OPA 90) was passed and California passed the Lempert-Keene-Seastrand Oil Spill Prevention and Response Act (California SB 2040) to meet IMO requirements. TSSs must, as noted earlier, also be approved by the IMO. The TSS at the entrances to the Ports of Los Angeles and Long Beach has been approved by the IMO.

The IMO adopted an amendment to the International Convention for Safety of Life at Sea (SOLAS) with provisions entitled "Special Measures to Enhance Maritime Safety," which became effective in 1996. These provisions allow for operational testing during port examinations to ensure that masters and crews for both U.S. and international vessels are familiar with essential shipboard procedures relating to ship safety. The USCG Marine Safety Office conducts these examinations as part of their vessel inspection program.

Federal Authority

A number of federal laws regulate marine terminals and vessels. These laws address, among other matters, design and construction standards, operational standards, and spill prevention and cleanup. Regulations to implement these laws are contained primarily in Titles 33 (Navigation and Navigable Waters), 40 (Protection of Environment), and 46 (Shipping) of the CFR.

More detailed information on safety and safe navigation laws are summarized in Section 3.9, Hazards and Hazardous Materials.

United States Coast Guard

USCG, through Title 33 (Navigation and Navigable Waters) and Title 46 (Shipping) of the CFR, is the federal agency responsible for vessel inspection, marine terminal operations safety, coordination of federal responses to marine emergencies, enforcement of marine pollution statutes, marine safety (navigation aids), and operation of the National Response Corporation (NRC) for spill response. They are also the lead agency for offshore spill response. More detailed information on safety and safe navigation responsibilities of USCG are summarized in Section 3.9, Hazards and Hazardous Materials.

Department of Defense

DoD, through USACE, is responsible for reviewing all aspects of a project and/or spill response activities that could affect navigation. USACE has specialized equipment and personnel for maintaining navigation channels, removing navigation obstructions, and accomplishing structural repairs.

Since 1789, the federal government has authorized navigation channel improvement projects. In addition, the General Survey Act of 1824 established USACE's role as the agency responsible for the navigation system. The ports work in partnership with USACE to maintain waterside access to port facilities.

Other Organizations and Programs

Marine Exchange of Southern California

As discussed previously, the Marine Exchange is a non-profit organization affiliated with the Los Angeles Chamber of Commerce. This voluntary service is designated to enhance navigation safety in the Precautionary Area and harbor area of the ports. The Marine Exchange monitors vessel traffic within the Precautionary Area. The Marine Exchange also operates PORTS as a service to those making operational decisions based on oceanographic and meteorological conditions in the vicinity of the ports.

Harbor Safety Committee

POLB and POLA have a Harbor Safety Committee which is responsible for planning the safe navigation and operation of tankers, barges, and other vessels within San Pedro Bay and the approaches thereto. This Committee has been created under the authority of Government Code Section 8670.23(a), which requires the Administrator of the Office of Oil Spill Prevention and Response to create a Harbor Safety Committee for the Long Beach/Los Angeles/Harbor area. The Committee issued the original Harbor Safety Plan (HSP) in 1991, and has issued annual updates since. Major issues facing the Committee include questions regarding the need for escort tugs, required capabilities of escort tugs, and/or need for new or enhanced vessel traffic information systems to monitor and advise vessel traffic.

Harbor Safety Plan (HSP)

The POLB and POLA HSP contains procedures for vessels operating in the Port vicinity. The vessel operating procedures stipulated in the HSP are considered Good Marine Practice; some procedures are federal, state, or local regulations, while other guidelines are non-regulatory “Standards of Care.” The HSP provides specific rules for navigation of vessels in reduced visibility conditions, and establishes vessel speed limits (12 knots within the Precautionary Area or 6 knots within the harbor). These speed restrictions do not preclude the master or pilot from adjusting speeds to avoid or mitigate unsafe conditions.

Vessel Transportation Service

As described previously, VTS is a ship monitoring service that tracks vessel traffic in both approach and departure lanes, as well as internal movement within harbor areas. This system provides information on vessel traffic and ship locations so that vessels can avoid collisions, allisions, and groundings in the approaches to the Long Beach/Los Angeles Harbor. These services use radar, radio, and visual inputs to gather real time vessel traffic information and broadcast traffic advisories and summaries to assist mariners.

3.7.2 Impacts and Mitigation Measures

3.7.2.1 Significance Criteria

A significant impact on marine vessel transportation would occur if the Project would:

VT-1: Result in an increase in vessel traffic that results in congestion within the harbor, and/or if the ability for maritime commerce to operate efficiently and safely is exceeded.

3.7.2.2 Methodology

The analysis considers the specific type and number of vessels that would visit the POLB and pass by the Project area and evaluates the number and characteristics of vessels that would be calling at the MCC facility. The change in projected vessel calls at the MCC terminal is evaluated in the context of baseline and anticipated vessel movements within the Port.

3.7.2.3 Alternative 1 – Proposed Project

Construction Impacts

There is no in-water construction or need for supply barges or support vessels associated with the proposed Project. Therefore, no impacts on marine vessel transportation would occur during project construction.

Operational Impacts

Impact VT-1: Project operations would not result in an increase in vessel traffic that results in congestion within the harbor, nor would the ability for maritime commerce to operate efficiently and safely be exceeded.

The Project would increase the total number of vessels calling at the MCC terminal by 64 vessels per year (99 vessel calls per year compared to the baseline of 35 vessel calls per year). This represents an increase of 1 additional vessel call every 5 to 6 days, a change from 1 vessel call every 10 days to 1 vessel call every 3 to 4 days.

<u>Impact Determination</u>

Each vessel call would consist of two vessel movements (arrival and departure). An increase of 128 additional Project-related vessel movements per year would represent a change of 1.9 percent compared to baseline vessel movements (6,882 movements) for the entire Port. The 128 additional vessel movements per year would represent an average of less than 1 project-related vessel movement per day. As noted in Section 3.7.1.6, the baseline vessel traffic levels are 19 movements per day, and pilot service and tug assistance can routinely handle up to 25 ship movements per day, as well as peaks of 30 to 40 ship movements per day. Thus, the addition of less than one project-related vessel per day would be well within the capacity of the pilot services and tug assistance. Additionally, measures described in Section 3.7.1.3 are in place to ensure the safety of vessel navigation in the harbor area. Restricted navigation areas and routes have been designated to ensure safe vessel navigation. In the event of scheduling conflicts and/or vessel occupancy within the Port is operating at capacity, vessels are required to anchor at the commercial anchorages in the Outer Harbor or at anchorages outside the breakwater until mariners receive authorization from the Captain of the Port to initiate transit into the Port. Therefore, Project impacts on vessel transportation safety would not increase vessel traffic such that there would be congestion in the harbor or exceed the ability of maritime commerce to operate efficiently and safely. Vessel transportation impacts would be less than significant. Since impacts on vessel transportation would be less than significant, no mitigation is required.

3.7.2.4 Alternative 2 – Reduced Throughput Alternative

There is no in-water construction or need for barges or support vessels associated with the Reduced Throughput Alternative. Therefore, no construction impacts on vessel transportation would occur during construction.

Operations for the Reduced Throughput Alternative would be the same as the Project except only two cement silos and one additional truck lane would be constructed. Operations would be similar in nature, but with reduced throughput. The Reduced Throughput Alternative would add 44 vessel calls (or 88 vessel movements) at the MCC terminal over the baseline year (79 vessel calls per year versus the baseline of 35 vessel calls per year). As a result, impacts related to vessel transportation would be similar, but less than those described under Alternative 1, **Impact VT-1**. Similar to the

Project, implementation of this alternative would result in less than significant impacts. Since impacts on vessel transportation would be less than significant, no mitigation is required.

3.7.2.5 Alternative 3 – No Project Alternative

No in-water construction or requirements for barges or support vessels would occur under the No Project Alternative. Consequently, no construction-related impacts on vessel transportation would occur. The No Project Alternative would involve operational impacts.

The No Project Alternative would add 32 vessel calls at the MCC terminal over the baseline year (67 vessel calls per year versus the baseline of 35 vessel calls per year). This increase in vessel calls results from both anticipated improvements in the efficiency of unloading vessels as compared to the baseline year and also from the fact that some vessels could not be unloaded fully, meaning more vessels would need to call at the MCC terminal to provide an equivalent amount of cement. The additional vessel calls represent an increase of 1 vessel every 11 days, a change from 1 vessel every 10 days to 1 vessel every 5 to 6 days. The No Project Alternative would result in impacts that would be similar to, but less than those described under Alternative 1 **Impact VT-1** for the proposed Project. Therefore, implementation of the No Project Alternative would result in less than significant impacts on vessel transportation. Since impacts on vessel transportation would be less than significant, no mitigation is required.

3.7.3 Cumulative Impacts

Import volumes at the Port and POLA are expected to increase substantially in future years as trade dependent on transoceanic shipping continues to grow. Future trade volumes are difficult to predict. However, the trend toward larger vessel size, especially for container ships, indicates that the absolute increase in vessels would most likely be less than the absolute increase in cargo tonnage since more containers would be carried by the larger vessels in the future.

All vessels incremental to baseline levels would increase the demand for Port facilities and services. However, it is not expected that the total future vessel traffic would result in congestion within the Harbor and/or any reduction in the ability for maritime commerce to operate efficiently and safely due to the capacity of services, such as pilots and tugs, and the navigational safety systems that are currently in place. As noted in Section 3.7.1.6, Vessel Traffic, the Port has control over key secondary factors, including pilotage and towage services that would permit safely managing increasing vessel traffic over time.

The proposed expansion of the MCC facility would result in 64 total additional vessel calls per year over the baseline. Each vessel call would consist of two vessel movements (arrival and departure), an increase of 128 additional Project-related vessel movements. This represents a change of 1.9 percent compared to baseline vessel movements (6,882 movements) and would be a smaller fraction of total vessel movements in future years given the expectation of increasing vessel calls in the future.

The Piers G & J Terminal Redevelopment project and Chemoil Marine Terminal projects are in the Southeast Basin and would possibly involve additional vessel activity in the immediate vicinity of the Project site. However, vessel management via the COTP and Marine Exchange via the VTS would prevent conflicts among vessels to these destinations. Therefore, the contribution of the Project to cumulative vessel traffic impacts would not be cumulatively considerable.

3.7.4 Mitigation Monitoring Program

Since no mitigation measures are required to address impacts on vessel transportation, no mitigation monitoring program is required.

3.8 NOISE

3.8.1 Environmental Setting

3.8.1.1 Area of Influence

The Project site is located on Pier F within the Port's heavy industrial use area. This area is surrounded by other Port industrial uses and not directly adjacent to noise-sensitive receptors such as residential areas or schools. For the purposes of noise impact analysis, the area of influence includes sensitive receptors closest to the Project site, as well as those that potentially would be affected by the Project, such as by noise from cement truck traffic.

3.8.1.2 Setting

Noise Characteristics

Noise can be defined as unwanted sound that is objectionable because it is disturbing or annoying. The objectionable nature of sound can be caused by its pitch or loudness. Pitch is the height or depth of a tone or sound, representing the relative rapidity (frequency) of the vibrations by which it is produced. Because the human ear is not equally sensitive to all frequencies, higher pitched signals tend to sound louder to humans than sounds with a lower pitch but the same energy content. Loudness is the amplitude of sound waves combined with the reception characteristics of the ear. Amplitude may be compared to the height of an ocean wave with higher waves sounding louder. Technical acoustical terms used in this section are defined in Table 3.8-1.

Sound Level and Frequency

Several noise measurement scales are used to describe noise. The decibel (dB) is a unit of measurement that indicates the relative amplitude of a sound. Zero on the decibel scale is based on the lowest sound pressure that a healthy, unimpaired human ear can detect. Sound levels in dB are calculated on a logarithmic basis, such that an increase of 10 dB represents a 10-fold increase in acoustic energy. For example, 20 dB sounds are 100 times (10 × 10) more intense, and 30 dB is 1,000 times (10 × 10 × 10) more intense.

There is also a relationship between the subjective loudness of a sound and its level. Each 10 dB increase in sound level is perceived as approximately a doubling of loudness over a wide range of amplitudes. Since decibels are logarithmic units, noise levels are not added arithmetically. When two sounds of equal sound pressure level are added, the result is a noise level that is 3 dB higher than either source alone. For example, if a sound level is 70 dB when 100 cars pass by, it would be 73 dB when 200 cars pass the observer in the same time period. Doubling the amount of energy would result in a 3 dB increase to the sound level.

Table 3.8-1. Definitions of Acoustical Terms

Term	Definition
Decibel (dB)	A dB is a unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for sound in air is 20 micro Pascals.
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in micro Pascals (or micro Newtons per square meter), where one Pascal is the pressure resulting from a force of one Newton exerted over an area of one square meter. The sound pressure level is expressed in dB as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e.g., 20 micro Pascals in air). Sound pressure level is the quantity that is directly measured by a sound level meter.
Frequency (Hz)	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz and 20,000 Hz. Infrasonic sounds are below 20 Hz and ultrasonic sounds are above 20,000 Hz.
A-Weighted Sound Level (dBA)	The sound pressure level in dB as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Equivalent Noise Level (L_{eq})	The average A-weighted noise level during the measurement period. The hourly L_{eq} used for this report is denoted as dBA $L_{eq[h]}$.
Ambient Noise Level	The ambient noise level is the composite of noise from all sources near and far, and represents the normal or existing level of environmental noise at a given location.

Frequency relates to the number of pressure oscillations per second, or Hertz (Hz). The range of sound frequencies that can be heard by healthy human ears is from about 20 Hz at the low end of the frequency spectrum (base) to 20,000 Hz at the high end (treble).

There are several methods for characterizing sound. The most common is the dBA. This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. The A-weighted level is closely correlated with annoyance caused by noise sources such as traffic and construction activity. Table 3.8-2 shows typical A-weighted noise levels that occur in various indoor and outdoor environments.

Noise Descriptors

Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations is employed. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This energy-equivalent sound/noise descriptor is called the *equivalent noise level* or L_{eq}. A common averaging period is hourly, but L_{eq} can describe any series of noise events of arbitrary duration. The scientific instrument used to measure noise is the sound level meter. Sound level meters can accurately measure environmental noise levels to within approximately plus or minus 1 dBA.

Human Response to Noise

Under controlled conditions in an acoustics laboratory, a healthy human ear is able to discern changes in sound levels of 1 dBA. It is widely accepted that sound level changes of 3 dBA are just noticeable to most people, while a change of 5 dBA is readily perceptible. Therefore, a level of 3 dBA is generally accepted in the acoustic analysis community as the appropriate threshold level at which the normal healthy human ear would perceive a change in noise level (FHWA 2006).

Geometric Spreading

Sound from a single source (i.e., a "point" source) radiates uniformly outward in a spherical pattern as it travels away from the source. The sound level attenuates (or drops off) at a

Table 3.8-2. Typical Noise Levels in the Environment

Common Outdoor Noise Source	Noise Level (dBA)	Common Indoor Noise Source
	120	
Jet fly-over at 1,000 feet		
	110	Rock concert
Pile driver at 50 feet	100	
		Night club with live music
	90	
Large truck pass-by at 50 feet		
	80	Noisy restaurant
Gas lawn mower at 50 feet		
	70	Vacuum cleaner at 10 feet
Commercial/Urban area daytime		Normal speech at 3 feet
	60	
Suburban daytime		Active office environment
	50	
Urban area nighttime		Quiet office environment
	40	
Suburban nighttime		
Quiet rural areas	30	Library
		Quiet bedroom at night
Wilderness area	20	
	10	Quiet recording studio
Threshold of human hearing	0	Threshold of human hearing

rate of 6 dBA for each doubling of distance. In comparison, highway noise is not a single stationary point source of sound. The movement of vehicles on a highway makes the source of the sound appear to emanate from a line represented by the stream of vehicles passing on a road (i.e., a “line” source) rather than from a point. This results in cylindrical spreading rather than the spherical spreading from a point source. The change in sound level from a line source is 3 dBA per doubling of distance.

Ground Absorption

Usually the noise path between the source and the observer is very close to the ground. Noise attenuation from ground absorption and reflective wave canceling adds to the natural attenuation of geometric spreading. Traditionally, the excess attenuation has also been expressed in terms of additional attenuation per doubling of distance. For acoustically “hard” sites (i.e., sites with a reflective surface, such as a parking lot or a smooth body of water between the source and the sensitive receptor), no excess ground attenuation is assumed. For acoustically absorptive or “soft” sites (i.e., sites with an absorptive ground surface, such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 dBA per doubling of distance is normally assumed.

Atmospheric Effects

Atmospheric conditions can have a major effect on noise levels. Wind is the single most important meteorological factor within approximately 500 feet whereas vertical air temperature gradients are more important over longer distances. Other factors, such as air temperature, humidity, and turbulence, also have an effect.

Shielding

A large object or barrier, whether natural or man-made, in the path between a noise source and a sensitive receptor can substantially attenuate noise levels at the sensitive receptor location. The amount of attenuation provided by this shielding depends on the size of the object and the frequency content of the noise source. Natural terrain and man-made buildings and walls often serve as effective noise barriers. Typical attenuation from intervening structures is 10 dB or more.

Health Effects

A number of studies have linked increases in noise exposure with health effects, including hearing impairment, sleep disturbance, cardiovascular effects, psychophysiological effects, and potential impacts on fetal development (Babisch 2006). Potential health effects appear to be caused by both short and long term exposure to very loud noises and long term exposure to lower levels of sound (chronic exposure). Acute exposure to sounds at 120 dB can cause mechanical damage to hair cells of the cochlea (the auditory portion of the inner ear) and hearing impairment (Babisch 2005). As noted in Table 3.8-2, 110-115 dB is the noise level associated with a rock concert or a jet plane flying overhead at 1,000 feet.

The World Health Organization (WHO) and EPA consider L_{eq} = 70 dBA to be a safe daily average noise level. However, even this “ear-safe” level may cause disturbance to sleep and concentration and may be linked to chronic health impacts such as hypertension and heart disease (Babisch 2006). A number of studies have looked at the potential health effects from the sound of chronic lower noise levels, such as traffic, especially as these noise levels affect children. In a study of school children in Germany, blood pressure was found to be 10 millimeters of mercury (mmHg) higher in a group of students exposed to road traffic noise from high traffic transit routes (Babisch 2006).

A meta-analysis of 43 epidemiological studies of the association between noise exposure and blood pressure and ischemic heart disease (IHD) (van Kempen et al. 2002) found no statistically significant correlation between community exposure and heart disease, although small but statistically significant correlations were found for occupational exposures. This analysis found a positive correlation between high blood pressure and elevated noise exposure in the workplace. It was not, however, able to identify a threshold above which significant health effects could be expected to occur in the general population. Meta-analysis of epidemiological studies concludes that “epidemiological evidence on noise exposure, blood pressure, and IHDs is still limited” (van Kempen et al. 2002). Babisch (2006) concluded that evidence of health effects related to hypertension and IHDs has increased in recent years, although other health effects have not been clearly demonstrated.

In conclusion, there appears to be a relationship between exposure to higher than normal noise levels and some health effects, although the evidence is inconsistent at this time. Recent research has not unequivocally identified community noise levels above which specific health effects may occur. In the absence of more definitive research, a level of 120 dBA may be a suitable threshold above which acute exposure would be health threatening. Similarly, chronic exposures above the 70 dBA threshold used by the WHO and EPA may potentially be health threatening.

Noise Environment in the Project Region

Ambient 24 hour noise data for the closest sensitive receptor are unavailable for the Project area in 2006 because the Residence Inn had not been constructed. Consequently, a noise survey in the vicinity of the Project site was conducted over a 24-hour period between September 22nd and September 23rd, 2011 to quantify ambient noise levels at two long term and three short term sites. These sites are identified in Table 3.8-3 and illustrated in Figure 3.8-1. Activity in the Port declined between 2006 and 2011 as a result of the economic downturn, thereby likely lowering the overall noise generating activity within the Port. Specifically, there was an approximately 16 percent decline in overall Port activity as represented by TEU throughput (7.3 million TEUs in 2006 versus 6.1 million in 2011 [POLB 2012c]), which is the dominant cargo mode in the Port. This reduction in activity levels would result in a corresponding reduction in overall noise of less than 1 dB from Port operations. Therefore, while the noise levels measured in 2011 could be slightly lower than those in 2006, the difference would be virtually inaudible and within the margin of error for standard measurement equipment. For these reasons, noise measurements in 2011 are considered reasonably representative of 2006 ambient conditions.

At the long-term noise monitoring sites (LT-1 and LT-2), noise levels were monitored continuously in consecutive hourly intervals over a 24 hour period. At short-term sites (ST-1, ST-2, and ST-3), noise levels were monitored for 15 minute periods at various times during this 24 hour monitoring period. All noise levels were monitored using Larson Davis Model 820 Integrating Sound Level Meters (SLM) set at “slow” response. The sound level meters were equipped with G.R.A.S. Type 40 AQ1/2 – inch random incidence microphones fitted with windscreens. The sound level meters were calibrated prior to the noise measurements using a Larson Davis Model CAL200 acoustical calibration. The response of the system was checked after each measurement session and was within 0.2 dBA. At the completion of monitoring, the measured interval noise level data were obtained from the SLM using the Larson Davis SLM utility software program. All instrumentation met the requirements of the American National Standards Institute (ANSI) SI 4-1983 for Type I use.

The results of the noise measurements are shown in Tables 3.8-4 and 3.8-5 as Leq values. The daily trend in noise levels at the long-term measurement sites is also shown in Figures 3.8-2 and 3.8-3 and Appendix C.

Table 3.8-3. Noise Measurement Sites

Site	Location	Comment
LT-1	Residence Inn Long Beach Downtown 600 Queensway Drive, at the Southwest corner of the roof of the Building	The site is associated with long-term monitoring at the nearest residential use to the project site.
LT-2	70 feet from the centerline of Pico Avenue north of Harbor Plaza	The site is associated with long-term monitoring, and is representative of existing traffic noise exposures along Pico Avenue.
ST-1	At the end of West Hill Street at the property line of homes closest to the freeway and existing soundwall	The site is associated with short-term monitoring, and is representative of existing traffic noise exposures in a residential neighborhood along I-710 north of Hwy 1.
ST-2	At the end of 32nd Street at the property line of homes closest to the freeway and existing soundwall	The site is associated with short-term monitoring, and is representative of existing traffic noise exposures in a residential neighborhood along I-710 south of I-405.
ST-3	Beneath measurement location LT-1, at an open window of a 7th floor room of the Residence Inn Long Beach Downtown	The site is associated with short-term monitoring, and is representative of existing traffic noise exposures at guest rooms in a residential neighborhood nearest to the project site.

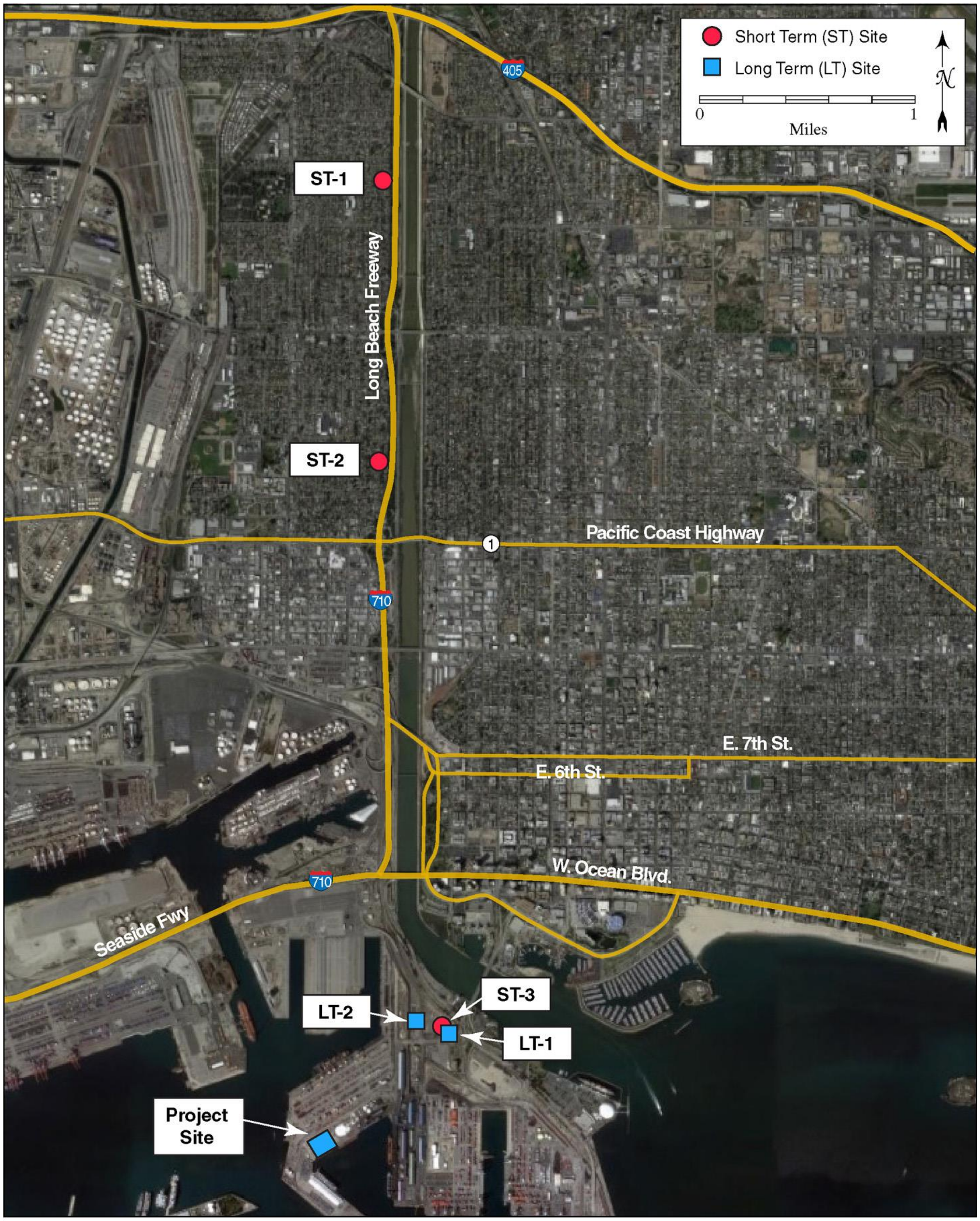

Figure 3.8-1. Noise Measurement Locations

Table 3.8-4. Noise Levels Measured at Long-Term Monitoring Sites				
Start Time	**Site LT-1 Residence Inn Long Beach Downtown Hotel, Roof**		**Site LT-2 70 feet from Pico Avenue centerline**	
	Hourly L_{eq} (dBA)		***Hourly L_{eq} (dBA)***	
	9/22/11	**9/23/11**	**9/22/11**	**9/23/11**
00:00	-	71	-	67
01:00	-	70	-	66
02:00	-	70	-	65
03:00	-	67	-	57
04:00	-	64	-	58
05:00	-	67	-	60
06:00	-	71	-	63
07:00	-	72	-	66
08:00	-	74	-	67
09:00	-	73	-	69
10:00	-	74	-	69
11:00	-	74	-	70
12:00	73	-	69	-
13:00	73	-	69	-
14:00	73	-	69	-
15:00	73	-	68	-
16:00	73	-	68	-
17:00	70	-	66	-
18:00	71	-	68	-
19:00	72	-	68	-
20:00	71	-	68	-
21:00	71	-	68	-
22:00	70	-	66	-
23:00	71	-	67	-

Table 3.8-5. Noise Survey Results for Short-Term Monitoring Sites			
Site	**Location**	**Start Date, Time of Measurement**	**$L_{eq\ (15\ min)}$ (dBA)**
ST-1	End of West Hill Street at residential setback from I-710	9/22/12, 14:45	66
		9/22/12, 18:15	66
		9/23/12, 08:20	68
ST-2	End of 32nd Street at residential setback from I-710	9/22/12, 15:05	66
		9/22/12, 18:35	66
		9/23/12, 08:05	66
ST-3	7th floor guest room of the Residence Inn Long Beach Downtown	9/22/12, 16:50	66
		9/22/12, 21:00	66
		9/23/12, 07:30	65
		9/23/12, 11:05	68
Source: Appendix C			

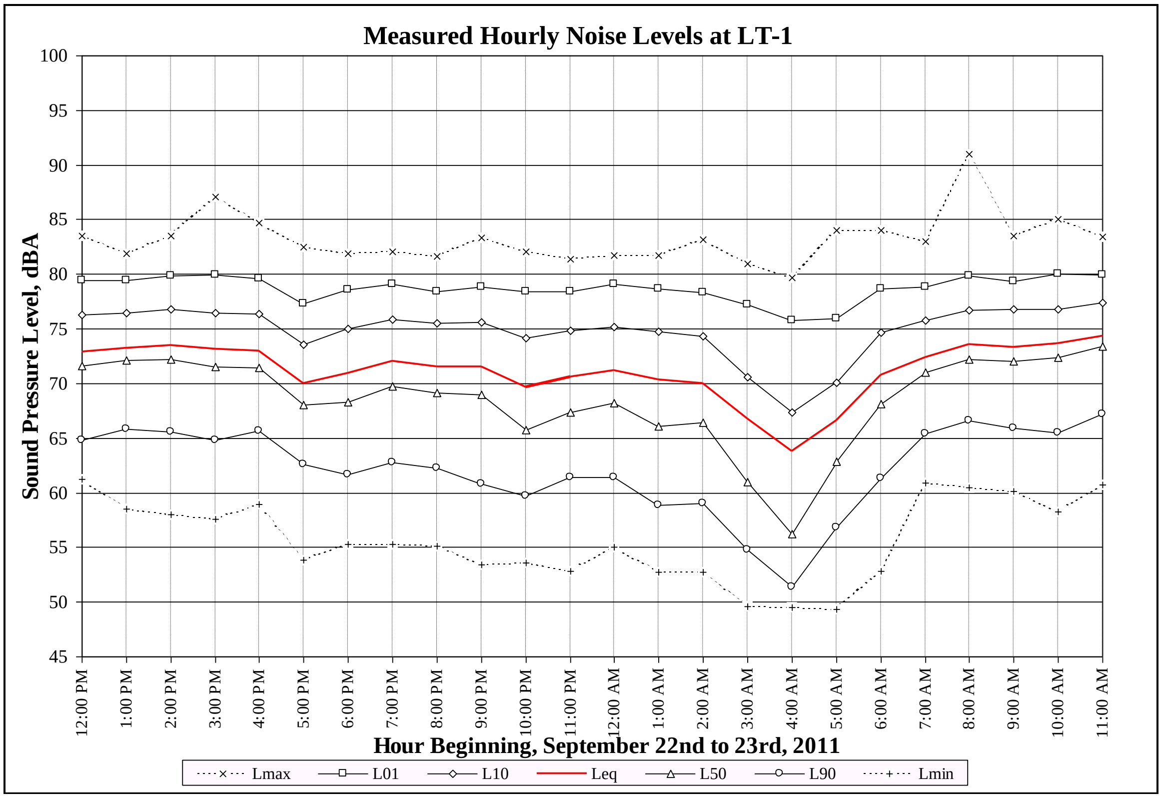

Figure 3.8-2. LT-1 Measurement Results

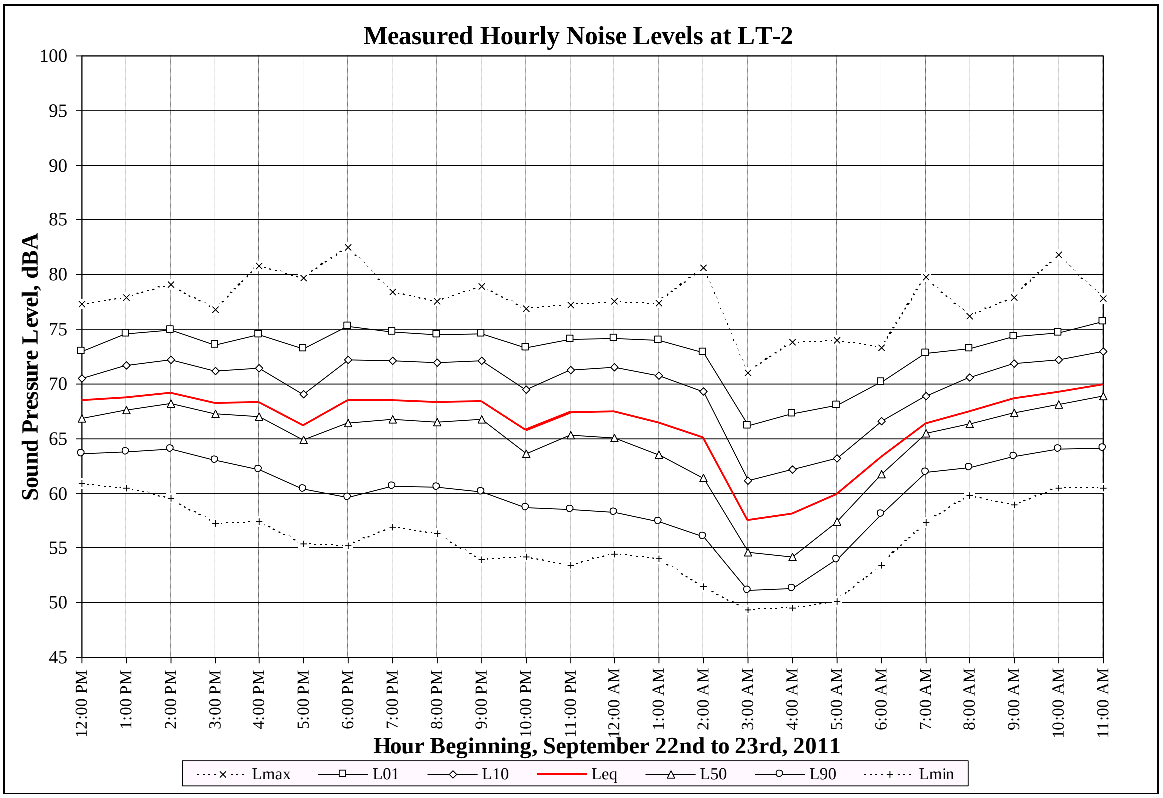

Figure 3.8-3. LT-2 Measurement Results

Residence Inn Long Beach Downtown (Site LT-1)

This hotel is located on Queensway Drive, north of the Queensway Bridge, east of Queensway and S. Harbor Scenic Drives, and is the closest sensitive use to the Project site where people reside overnight (i.e. "sleeping quarters"). A rooftop monitoring location was selected for the most unobstructed line-of-sight to the Port and the surrounding streets. Short-term noise measurements at location ST-3 were conducted simultaneously with this measurement at various times during the 24 hour monitoring period to assess noise levels at the exterior of mid-height guestrooms (Table 3.8-5).

Car and truck movements on the Queensway Bridge, Queensway Drive, and S. Harbor Scenic Drive were the largest contributors to noise levels in this location day and night, with additional short-duration noise contributions from cars, vans, and buses around the parking lot and perimeter road of the hotel.

Pico Avenue (LT-2)

This measurement was made at a distance of 70 feet from the centerline of Pico Avenue north of Harbor Plaza and south of the S. Harbor Scenic cut-off. Noise levels at this site represented the existing traffic noise exposure on Pico Avenue between Harbor Plaza and I-710. Truck movements on Pico Avenue contributed to noise levels in this location day and night, with additional contributions from automobiles and other lighter vehicles.

3.8.1.3 Regulatory Setting

Long Beach Municipal Code

Section 8 of the LBMC prescribes exterior noise level limits as shown in Table 3.8-6. These limits apply to noise sources that persist for a cumulative total of more than 30 minutes in any hour.

In the event that the noise source contains a steady audible tone such as a whine, screech, or hum, or is a repetitive noise such as hammering or riveting, Section 8.80.160 of the LBMC requires that the exterior noise limits presented in Table 3.8-6 be reduced (made more stringent) by 5 dB. This 5 dB penalty for tonal/impulsive noise would apply to many construction activities, such as pile-driving.

In receptor locations where the existing ambient noise level exceeds the permissible noise limit within any of the first four Land Use categories, the LBMC allows the noise exposure standard to be increased in 5 dB increments as necessary to encompass or reflect the ambient noise level.

The LBMC Section 8.80.202 imposes additional regulations on construction activity noise. However, these additional regulations do not apply to construction activities within the Long Beach Harbor District.

The LBMC specifies noise level limits for the LUD, as presented in Table 3.8-6. With respect to the noise monitoring sites discussed in Section 3.8.1.2, Site LT-1 is located in LUD Three, and site LT-2 is located on the Port side of the border between LUDs Three and Four. Noise levels at site LT-1 were above the anytime limits for LUD Three (at or above 70 dB except in the early morning hours), while those at site LT-2 were above the anytime noise limit for LUD Three but at or below the anytime limit for LUD Four (between 60 dBA and 70 dBA except early morning). Ambient noise levels at short term sites ST-1 and ST-2 exceeded the maximum daytime noise limits prescribed by the LBMC for LUD One by a substantial margin, while those at ST-3 also exceeded the LUD Three anytime limits, but by a lesser amount.

Table 3.8-6. LBMC Exterior Noise Limits

Land Use District	Land Uses within District	Maximum Noise Levels (dBA) L_{eq}		
		DAYTIME[A]	NIGHTTIME[B]	ANYTIME
One	Predominantly residential	50	45	—
Two	Predominantly commercial	60	55	—
Three	Predominantly industrial	—	—	65[c]
Four	Predominantly industrial	—	—	70[c]
Five	Airports, freeways, and waterways	Regulated by other agencies and laws		

Notes:
a. 7:00 A.M. to 10:00 P.M.
b. 10:00 P.M. to 7:00 A.M.
c. Limits for Districts Three and Four are intended primarily for use at their boundaries rather than for noise control within those districts.

Source: Long Beach Municipal Code, Section 8.80.150

Federal Highway Administration Noise Standards

The Federal Highway Administration (FHWA) has adopted standards, regulations, and policies related to traffic noise. While these standards apply only to Type 1 federally-funded highway improvement projects, they do identify Noise Abatement Criteria, which are another useful measure of the potential noise impacts of the Project. The noise abatement criteria, both interior and exterior, established by the FHWA for various land uses are shown in Table 3.8-7.

3.8.2 Impacts and Mitigation Measures

The Project site is well removed from most sensitive receptors. However, airborne noise can propagate for relatively long distances. Vibration effects typically propagate over much shorter distances (typically 500 to less than 1,500 feet). Since there are no sensitive vibration receptors within 5,000 feet of the facility, no vibration impact assessment was conducted.

3.8.2.1 Significance Criteria

Criteria for determining the significance of impacts related to noise are based on the CEQA Guidelines *Appendix G* Environmental Checklist. A significant impact would occur if the Project would result in:

NOI-1: Ambient noise levels would be increased by 3 dBA; or

NOI-2: Maximum noise levels allowed by the LBMC would be exceeded.

3.8.2.2 Methodology

Assessment of the significance of noise impacts resulting from the construction and operation of the Project was conducted as follows:

1) Receptor locations were selected to represent sensitive uses in the Project area;
2) Noise measurements were made at the selected sensitive receptor sites to establish baseline noise conditions;
3) Noise levels for the proposed construction activities were estimated from typical construction equipment noise levels (Table 3.8-8) and published sources for the most noise-intensive phase of the Project (calculations were based on worst-case estimates of the equipment to be utilized in the various activities involved in this work); and
4) Operational noise impacts were determined by comparing ambient measurements to projected Project-generated traffic, which included future truck volumes on the street segments that would affect a sensitive receptor site. Traffic noise was modeled based on projected traffic volumes described in Section 3.6, Ground Transportation. Noise from other operational activities, such as the unloaders and on-site equipment, is expected to be comparable to baseline noise levels and would not result in an audible incremental increase above baseline conditions.

Overall noise levels were determined by considering the combined effect of noise contributions from the various types of activities

Table 3.8-7. Federal Noise Abatement Criteria

Activity Category	Noise Abatement Criterion (dBA) $L_{eq[h]}$	Description of Activity Category
A	57 (Exterior)	This category corresponds to lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to serve its intended purpose.
B	67 (Exterior)	This category corresponds to picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (Exterior)	This category corresponds to developed lands, properties, or activities not included in Categories A or B above.
D	--	This category corresponds to undeveloped lands.
E	52 (Interior)	This category corresponds to residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.
Note: *Noisiest hour expressed as the energy-average of the A-weighted noise level occurring during a one-hour period or $L_{eq[h]}$		

and equipment in use at a given time. Hourly average L_{eq} noise levels were estimated based on the types and numbers of equipment anticipated to be on site, and typical utilization factors that would result in the highest noise levels. The highest L_{eq} associated with construction would be approximately 101 dBA during pile driving.

The assessment of construction noise assumed implementation of the following EC measures, which are standard POLB best management practices (BMPs) to lessen noise impacts from construction equipment. These BMPs have been designated as environmental controls in order to facilitate the monitoring and compliance of the noise BMPs:

NOI-1: **Construction Equipment** - All construction equipment powered by internal combustion engines shall be properly muffled and maintained;

NOI-2: **Idling Prohibitions -** Unnecessary idling of internal combustion engines near noise sensitive areas shall be prohibited; and

NOI-3: **Equipment Location -** All stationary noise-generating construction equipment, such as air compressors and portable power generators, shall be located as far as practical from existing noise sensitive land uses.

3.8.2.3 Alternative 1 – Proposed Project

Construction Impacts

Impact NOI-1.1: Project construction activities would not increase ambient noise levels by 3 dBA.

The minimum ambient daytime hourly L_{eq} noise level recorded at the closest sensitive long-term receptor site (site LT-1) was 70 dBA. Based on the difference in simultaneous noise levels at sites LT-1 and ST-3 (see Tables 3.8-4 and 3.8-5), the minimum ambient hourly noise levels at the closest short term sensitive site ST-3 are expected to be between 65 and 68 dBA. Both sites LT-1 and ST-3 are approximately 4,500 feet from the Project site and there are a number of large structures between these monitoring sites and the Project site. While pile driving can produce noise levels up to 101 dBA at 50 feet from the source, attenuation from the intervening structures would be at least 10 dBA, and attenuation due to geometric spreading would account for an approximate reduction in noise levels of another 39 dBA. Based on these attenuation rates, noise levels due to pile driving would be between 51 and 56 dBA at sites LT-1 and ST-3. While persons at site LT-1 and ST-3 would probably detect pile driving noise, the level would not exceed ambient levels by 3 dBA or more.

Table 3.8-8. Estimated Construction Equipment Noise Levels

Equipment	Estimated Noise at 50-feet
AC Paver	77
Air Compressor	78
Auger	84
Backhoe	78
Concrete Mixer Truck	79
Concrete Pump	81
Concrete Saw	90
Crane	81
Dozer	82
Excavator	81
Impact Pile Driver	101
Loader	79
Roller	80
Sandblaster/compressor	96
Scrapers	84
Trencher	83
Truck	76
Vibratory Hammer & Power Pack	101

Sources: FHWA 2006

Chavez Elementary and Edison Elementary are the closest schools to the Project site. They are in the City of Long Beach east of the Los Angeles River Channel. Chavez Elementary School is approximately 8,500 feet from the Project site. Edison Elementary School is approximately 9,800 feet from the Project site. Construction noise levels would be attenuated at 8,500 feet by over 55 dB due to distance and shielding from intervening structures, and noise levels would be attenuated by a comparatively greater amount at 9,800 feet. Noise produced by pile driving, the loudest of the construction activities, would be between 35 and 45 dBA at the Chavez Elementary School and less than this at the Edison Elementary School. Construction noise would therefore be essentially inaudible at both schools due to sound attenuation resulting from the distance and intervening structures and would not exceed ambient levels by 3 dBA or more.

Impact Determination

Construction activities would not expose noise sensitive land uses to an increase in noise of 3 dBA or more above the ambient noise level and impacts would be less than significant. Since impacts on noise would be less than significant, no mitigation is required.

Impact NOI-2.1: Project construction activities would not exceed City of Long Beach Municipal Code maximum noise levels

The maximum noise level allowed by the LBMC for sensitive receptors in the Project region is 65 dBA (L_{eq}, one-hour) (Table 3.8-6). However, many of the construction activities would invoke the 5 dBA penalty for impulsive/tonal noise character, which would reduce the maximum allowable noise level at this location to 60 dBA. Calculated hourly average construction noise levels would be between 51 and 56 dBA and would not exceed 60 dBA at sensitive receptor sites.

The maximum daytime exterior noise level allowed by LBMC at Chavez and Edison Elementary Schools is 50 dBA (L_{eq}, 1 hour) (Table 3.8-6). Ambient daytime noise in the vicinity of Chavez Park, not far from Chavez Elementary School, was measured for the Middle Harbor EIR/EIS in April 2006 between 57 and 68 dBA (Table 3.9-5, Middle Harbor EIR/EIS).

While peak Project construction noise may be discernable at the schools during periods of low background noise, average construction noise levels between 35 and 45 dBA at the schools would not contribute to a measurable increase in ambient noise at the nearest school. While the ambient noise levels at the schools exceed LBMC limits, the incremental average construction noise from the proposed Project would essentially be inaudible over ambient noise levels.

Impact Determination

Project construction activities would not result in noise that exceeds LBMC maximum noise levels at receptor sites and impacts would be less than significant. Since impacts on noise would be less than significant, no mitigation is required.

Operational Impacts

Impact NOI-1.2: Project operations would not generate noise that would increase ambient noise levels by 3 dBA.

Project operations that would generate noise include truck traffic on Pico Avenue and other surface streets and freeways. Noise sources associated with Project bulk terminal operations would include ships, assist tugs, cement unloaders, and cement haul trucks. Since the nearest sensitive receptors are outside Port property, shielded from noise by intervening structures providing a minimum attenuation of at least 10 dB, and located a substantial distance from the Project providing another 39 dB attenuation, the increase in noise levels relative to baseline conditions from project operations is expected to be less than 3 dB at sensitive land uses in the area.

Project-related traffic would generate noise adjacent to sensitive receptor sites on local surface streets and the Port's perimeter roadways, including the I-710 freeway, Harbor Scenic Drive, Pico Avenue, and Pacific Coast Highway. Increases in road traffic noise on Pico Avenue north of Harbor Plaza were calculated from modeled traffic volume data for the baseline year (2006) and future year 2035. Calculated traffic noise level increases relative to the 2006 baseline are provided in Table 3.8-9.

Traffic noise levels associated with Project operations would increase by 0.3 dBA during the mid-day and evening peak hours and by

0.4 dBA during the morning peak hour (Table 3.8-9). The incremental noise from the Project operations traffic would not increase ambient noise levels at Chavez and Edison Elementary Schools by more than 3 dBA. In areas farther out on the roadway network from the Project site, the effects of Project traffic relative to background traffic and other noise sources would be more limited because Project traffic would disperse on the roadway network and contribute even less to overall noise levels. The overall increase in noise level attributable to the Project is not expected to approach or exceed 3 dBA.

Impact Determination

Operational activities would not expose noise sensitive land uses to an increase in noise that is 3 dBA or more above the ambient noise level. Therefore, this impact would be less than significant. Since impacts on noise would be less than significant, no mitigation is required.

Impact NOI-2.2: Project operations would not exceed City of Long Beach Municipal Code maximum noise levels.

Project operational noise-generating activity (e.g. vessel maneuvering, tug assist, unloading) is expected to be comparable to the baseline and would not result in a noticeable increase in noise generation from those sources. However, truck traffic will increase. Table 3.8-9 shows that, while changes in traffic noise levels resulting from Project operational activities are predicted to occur, these increases would be less than 0.5 dB and would not significantly increase ambient noise levels. In general, traffic noise level increases would occur with or without the Project.

In areas farther out on the roadway network from the Project site, the effects of Project traffic relative to background traffic and other noise sources would diminish because traffic would disperse on the roadway network and contribute even less to overall noise levels. Based on Table 3.8-9, Project-generated traffic noise is not expected to exceed LBMC noise thresholds.

Impact Determination

Future increases in traffic noise levels would not be significantly influenced by the Project. Table 3.8-9 demonstrates that the proposed Project contributes, at most, 0.3 dBA to future traffic noise levels. Therefore, Project-related traffic would not result in noise levels that would exceed the maximum thresholds allowed by the LBMC and noise impacts would be less than significant. Since impacts on noise would be less than significant, no mitigation is required.

3.8.2.4 Alternative 2 – Reduced Throughput Alternative

The Reduced Throughput Alternative would involve the same construction and operational noise-producing activities as the proposed Project. Construction activities for a two-silo facility would involve the same construction equipment and sequence of construction as the proposed Project, but would take correspondingly shorter time since only two silos would be constructed rather than four. However, peak noise levels are expected to be similar. Operational activities would be the same as for the proposed Project except at a reduced throughput level and a corresponding reduction in truck trips.

Table 3.8-9. Predicted Traffic Noise Increases (dBA) Relative to Existing and Future Baselines

Scenario	Total Daily Traffic	Time of Day		
		Morning (AM) Peak Hour	Mid Day Peak Hour	Evening (PM) Peak Hour
Baseline Plus Proposed Project Alternative	0.4	0.4	0.3	0.3
Baseline Plus Reduced Project (Alternative 2)	0.3	0.2	0.2	0.2
Baseline Plus No Project (Alternative 3)	0.1	0.1	0.1	0.1
Future Baseline (2035) vs Baseline	1.8	1.8	0.4	1.2
Future Plus Proposed Project	2.1	2.0	0.7	1.4
Proposed Project Contribution to Future Noise	0.3	0.2	0.3	0.2
Future Plus Reduced Project (Alternative 2)	2.0	2.0	0.6	1.4
Alternative 2 Contribution to Future Noise	0.2	0.2	0.2	0.2

During construction, impacts on noise would be similar to those described under **Impacts NOI-1.1** and **NOI-2** for the proposed Project because the extent of construction activity causing short-term impacts would be comparable. Increases in traffic noise levels predicted for the Reduced Throughput Alternative would be slightly lower than those associated with the proposed Project. Therefore, operational noise impacts for the Reduced Throughput Alternative would be comparable to those described under **Impacts NOI-2.1** and **NOI-2.2** for the proposed Project. Since impacts on noise would be less than significant, no mitigation is required.

3.8.2.5 Alternative 3 – No Project Alternative

The No Project Alternative would not include construction of any improvements. However, forecasted increases in cement deliveries would still occur under this alternative. Operational noise would be generated at levels comparable to baseline conditions as a result of the following activities: bulk cargo ships would call at the MCC terminal and existing terminal equipment would unload cement from vessels and load cement to trucks. There would be no increase in the number of employees and a modest increase in truck trips associated with somewhat higher throughput than occurred in 2006.

Since noise generating activity levels associated with continued operations would be less than the proposed Project, the No Project Alternative would not result in a substantial increase in noise levels at sensitive receptor locations. Noise levels from the No Project Alternative would be somewhat higher than baseline conditions due to modestly greater truck and vessel activity at the berth, but less than for the proposed Project. Therefore, noise impacts would be less than significant. Since impacts on noise would be less than significant, no mitigation is required.

3.8.3 Cumulative Impacts

All of the projects listed in Table 2.1-1 would have some potential for construction noise impacts, with the exception of the Berths 206-209 Ports America Container Terminal Project and Ultramar Lease Renewal Project in the POLA, which would involve no construction. Where project construction schedules overlap, there is the potential for cumulative construction noise impacts because multiple sources could jointly contribute to increases in ambient noise at one or more locations. This would occur only if the construction projects are reasonably close to one another. Nevertheless, the intervening structures within POLB between the proposed Project and sensitive receptor locations would attenuate noise sufficiently such that the Project’s contribution to noise levels would be less than cumulatively considerable.

All reasonably foreseeable projects listed in Table 2.1-1 would have the potential to generate operational noise impacts, such as increased noise from vehicular traffic. As indicated in Table 3.8-9, the proposed Project’s contribution to cumulative vehicular traffic noise would be 0.3 dB or less and substantially inaudible. Future baseline traffic noise levels are expected to increase by 1.8 dBA by 2035. The increased noise levels would affect Chavez and Edison Elementary Schools, which are both approximately 1,500 feet from the I-710 freeway. However, as indicated in Table 3.8-9, these increases would not be substantially influenced by the Project. Therefore, the Project’s contribution to cumulative noise impacts from operations would not be cumulatively considerable.

3.8.4 Mitigation Monitoring Program

Since no mitigation measures are required to address impacts on noise, no mitigation monitoring program is required.

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3.9 HAZARDS AND HAZARDOUS MATERIALS

3.9.1 Environmental Setting

The proposed Project would involve construction activities and increased throughput during operations that could increase the potential for spills or leaks of petroleum products and cement, which is a dry powder but becomes highly alkaline in solution with water. The proposed Project would not involve risk of fire or explosion hazards from sources such as tanker vessels, oil tanks, or refineries. Therefore, in accordance with the POLB Risk Management Program (RMP), this section does not include a risk of upset analysis and associated hazard footprint analysis.

3.9.1.1 Area of Influence

The area of influence for hazards associated with releases of hazardous materials (e.g., spills and leaks) and existing soil and groundwater contamination would include the Project site and adjacent harbor waters. Refer to Section 3.1, Geology, Groundwater, and Soils, and Section 3.4, Hydrology and Water Quality, for a description of the area of influence for those resources.

3.9.1.2 Setting

Cement

Cement is a solid, grey, off-white, or white, odorless powder that is not combustible or explosive in and of itself. Cement may contain trace amounts of calcium oxide (also known as free lime or quick lime), free magnesium oxide, potassium and sodium sulfate compounds, chromium compounds, nickel compounds, and other trace compounds (Lafarge North America, Inc. 2011). Cement is made from materials mined from the earth and is processed using high heat in cement kilns. Cement manufacturing is not proposed as part of the proposed Project.

Material Safety Data Sheets for Portland cement (e.g., Lafarge North America, Inc. 2011) indicate that cement is not considered a hazardous substance under CERCLA, RCRA, the Superfund Amendments and Reauthorization Act (SARA), or the Toxic Substances Control Act. Similarly, the U.S. Department of Transportation does not classify cement as a hazardous material. However, cement is considered by the Occupational Safety and Health Administration (OSHA)/Mine Safety and Health Administration to be a hazardous chemical.

A single, short-term exposure to the dry powder presents little or no hazard. However, because cement becomes highly alkaline when mixed with water, exposure of sufficient duration to wet cement, or to dry cement on moist areas of the body, can cause serious, potentially irreversible, tissue (i.e., skin, eye, respiratory tract) damage due to chemical (caustic) burns, including third degree burns (Lafarge North America, Inc. 2011).

Hazardous Materials

Hazardous materials are the raw materials for a product or process or waste products that may be classified as toxic, flammable, corrosive, or reactive. Hazardous materials related to the proposed Project include PCBs and asbestos containing materials (ACMs).

<u>Polychlorinated Biphenyls</u>

Historically, PCBs were widely used as a fire retardant and insulator in the manufacture of transformers and capacitors, due to their ability to withstand exceptionally high temperatures. Fluid-filled electrical transformers, capacitors, and circuit breakers manufactured prior to June 1979 may contain PCBs. Similarly, natural gas pipelines constructed prior to 1981 may contain PCBs. Use of this substance was banned in 1979 based on its identification as a human carcinogen.

PCBs may be present in pre-1979 electrical equipment. Any electrical equipment, including but not limited to transformers that contain PCBs at concentrations greater than or equal to 50 parts per million (ppm), is considered PCB-contaminated electrical equipment. Any transformer that contains PCB concentrations greater than or equal to 500 ppm is considered a PCB transformer. Discovery of PCB-contaminated electrical equipment or PCB transformers requires EPA notification, removal of such equipment or transformers, and sampling and characterization of adjacent soils. Natural gas pipelines containing less than 500 ppm PCB must be drained of fluids and either abandoned in-place or disposed of in a non-RCRA landfill, scrap metal recovery oven/smelter, or EPA-permitted PCB disposal facility. Pipelines containing greater than 500 ppm PCB must either be incinerated or disposed in a PCB-regulated landfill.

Asbestos Containing Materials

ACMs were used in building materials and utilities until the 1960s. Buildings that were constructed prior to 1970 may contain such materials. It is now recognized that ACMs may be harmful if inhaled or ingested. This occurs most commonly if the materials are disturbed, such as during demolition activities. The EPA has classified ACMs as a hazardous air pollutant, in accordance with Section 112 of the CAA.

ACMs may be present in old utility lines to be demolished as part of the Project. Surveys for ACMs are required by 40 CFR 61.145 prior to demolition of structures and associated infrastructure.

Oil Production Facilities

The Project site is located within the Wilmington Oil Field, the third largest oil field in the U.S. Several oil wells are located in a fenced area, which is not owned or operated by MCC, immediately north of the Project site (Figure 1.5-1). Associated buried pipelines (oil, gas, and water) connect the wells to oil separation facilities, including storage tanks, immediately east of the Project site, along Pier F Avenue.

Improperly abandoned oil wells can potentially result in gas migration to the surface, which in turn could create a health hazard. Information pertaining to potential soil and groundwater contamination associated with adjacent oil field operations is discussed in Section 3.1, Geology, Groundwater, and Soils.

Past Accidents and Spills

The California Office of Emergency Services (OES) maintains the Response Information Management System (RIMS) database that includes detailed information on all reported hazardous material spills in California. All spills that occur within the Port, both hazardous and non-hazardous, are reported to the OES and entered into the RIMS database. This database includes spills that may not result in a risk to the public, but could still be considered an environmental hazard.

During 2010, 2011, and 2012, there were 94, 55, and 31 incidents, respectively, in the Port that resulted in investigations (POLB 2013). Past spills ranged in size and type of materials spilled, including both nonhazardous petroleum and hazardous substances. The causes of these spills were extremely varied and included incidents such as: 1) recreational boats pumping oil from their bilge; 2) incidental spills of hazardous materials used in boat maintenance; 3) fuel dock and bunkering accidents; 4) incidental spills from onshore vehicles; 5) pipeline spills; 6) container spills; and 7) large commercial vessels discharging oil-contaminated ballast water. The LBFD typically completes 100 to 250 spill responses annually; however, many of these are small enough for immediate cleanup and are too small to warrant an incident investigation (Los Angeles/Long Beach Harbor Safety Committee 2013).

Fire Protection and Emergency Response

The proposed Project site is served by seven LBFD stations. The closest fire station is Station #15, which is located at 202 Pier F Avenue, less than 1 mile from the Project site. Other organizations that provide emergency assistance include the LBPD, USCG, Department of Homeland Security, United States Customs, the Federal Bureau of Investigation, and the CDFW. Public services are discussed in Section 3.0.4.7, Public Services.

3.9.1.3 Regulatory Setting

The Project would be subject to numerous federal, state, and local laws and regulations as a result of storage and use of small quantities of maintenance-related hazardous materials and hazardous waste. Regulations applicable to the Project are designed to regulate hazardous materials and hazardous wastes. These regulations also are designed to limit the risk of upset during the use, transport, handling, storage, and disposal of hazardous materials.

Resource Conservation and Recovery Act of 1976 (42 U.S.C. Section 6901-6987)

The goal of RCRA, a federal statute passed in 1976, is the protection of human health and the environment, reduction of waste, conservation of energy and natural resources, and elimination of hazardous waste generation as expeditiously as possible. The Hazardous and Solid Waste Amendments (HSWA) of 1984 significantly expanded the scope of RCRA by adding new corrective action requirements, land disposal restrictions, and technical requirements. The corresponding regulations in 40 CFR 260-299 provide the general framework for managing hazardous waste, including requirements for entities that generate, store, transport, treat, and dispose of hazardous waste.

Hazardous Waste Control Law (California Health and Safety Code, Chapter 6.5)

As noted previously, small quantities of hazardous materials and petroleum products would be used during Project demolition and construction activities. The Hazardous Waste Control Law implements the federal RCRA cradle-to-grave waste management system in California and is the basic hazardous waste law for California. California hazardous waste regulations are in Title 22, Division 4.5, Environmental Health Standards for the Management of Hazardous Wastes. The program is administered by the DTSC.

Emergency Planning and Community Right-To-Know Act (42 U.S.C. 11001 et seq.)

Project operations would require the delivery and storage of up to 500 gallons of urea solution which would be subject to community right to know regulations. Also known as Title III of the Superfund Amendments and Reauthorization Act (SARA), the Emergency Planning and Community Right-To-Know Act (EPCRA) was enacted by Congress as the national legislation on community safety. This law was designated to help local communities protect public health, safety and the environment from chemical hazards. To implement EPCRA, Congress required each state to appoint a State Emergency Response Commission (SERC). The SERCs were required to divide their states into Emergency Planning Districts and to name a Local Emergency Planning Committee (LEPC) for each district. EPCRA provides requirements for emergency release notification, chemical inventory reporting, and toxic release inventories for facilities that handle chemicals.

Hazardous Material Release Response Plans and Inventory Law (California Health and Safety Code, Chapter 6.95)

As noted above, small quantities of hazardous materials and petroleum products would be used during Project demolition, construction, and operational activities. This state right-to-know law requires businesses to develop a Hazardous Material Management Plan or a “business plan” for hazardous materials emergencies if they handle more than 500 pounds, 55 gallons, or 200 cubic feet of hazardous materials. The business plan includes an inventory of all hazardous materials stored or handled at the facility above these thresholds. This law is designed to reduce the occurrence and severity of hazardous materials releases.

The Hazardous Materials Management Plan or business plan must be submitted to the Long Beach Certified Unified Program Agency (CUPA), which administers hazardous materials management programs of the Department of Health and Human Services and the LBFD, Fire Prevention Division. The state has integrated the federal EPCRA reporting requirements into this law; once a facility is in compliance with the local administering agency requirements, submittals to other agencies are not required.

Other Requirements

As discussed below in **Impact HAZ-2**, the proposed facilities are not expected to store, handle, or transport substantial quantities of hazardous materials or petroleum products in significant quantities, and spill impacts would be localized and readily remediated. Therefore, due to the small quantities involved, the provisions of the Port’s Risk Management Plan would not be applicable to the Project.

3.9.2 Impacts and Mitigation Measures

3.9.2.1 Significance Criteria

Criteria for determining the significance of impacts related to hazards and hazardous waste are based on the CEQA Guidelines *Appendix G* Environmental Checklist. A significant impact would occur if the Project would:

HAZ-1: Result in an accidental release hazardous materials that would adversely affect the health and safety of the general public or workers; or

HAZ-2: Result in inconsistency with the Risk Management Program.

3.9.2.2 Methodology

Hazards and hazardous materials impacts were evaluated primarily by evaluating the potential for spills during construction and operations. Impacts would be considered significant if the Project meets any of the significance criteria identified above.

The assessment of impacts is based on the assumption that an individual NPDES permit would be prepared for storm water discharges or coverage would be obtained under the General Construction Activity Storm Water Permit, in order to contain construction- and operationally-induced stormwater runoff.

3.9.2.3 Alternative 1 – Proposed Project

Construction Impacts

Impact HAZ-1.1: Project construction would not result in an accidental release of hazardous materials that would adversely affect the health and safety of the general public or workers.

Project construction would include demolition of utilities remaining from the Pacific Banana facility, grading, soil excavation, and new facilities construction. Small quantities of hazardous materials and petroleum products would be used during Project demolition and construction activities. Demolition and construction equipment could spill oil, gasoline, or other fluids during normal usage or during refueling. However, because of the small volumes typically involved with construction equipment, any spills would be short term and localized. Construction would be subject to the General Construction Activity Storm Water Permit, which establishes procedures to contain stormwater runoff. A construction SWPPP would be completed in association with the NPDES permit.

NPDES permit-mandated BMPs would govern spill containment during demolition and construction activities, in accordance with City Planning and Building Department BMP guidelines (City of Long Beach 2012). Applicable BMPs include, but are not limited to, temporary spill containment booms and berms for vehicle and equipment fueling and maintenance; appropriate solid and hazardous waste management practices; and contaminated soil management. Project plans and specifications would be reviewed by the LBFD for conformance to the Long Beach Municipal Fire Code as a standard practice.

ACMs may be present in old utility lines proposed for demolition as part of the Project. Similarly, PCBs may be present in pre-1979 electrical equipment and natural gas pipelines. Disturbance of such materials would be harmful if inhaled or ingested during demolition and disposal activities.

Where required, ACM and PCB surveys would be completed in accordance with federal and state regulations. In the event that hazardous levels of ACMs and PCBs were detected, a contractor licensed to handle such materials would properly remove and dispose of these materials offsite. Implementation of standard health and safety protocol during potential remediation activities (refer to Section 3.1, Geology Groundwater, and Soils), such as respiratory and skin protection, would prevent health and safety impacts to onsite personnel.

Project demolition and construction activities would be required to comply with all existing hazardous waste laws and regulations, including the federal RCRA and CERCLA, and CCR Title 22 and Title 26. The Project would comply with these laws and regulations, ensuring that potential hazardous materials handling would occur in an acceptable manner.

<u>Impact Determination</u>

Implementation of standard BMPs, proper use and storage of hazardous materials and petroleum products, and proper removal of ACMs and PCBs, in accordance with applicable federal, state, and local regulations, would result in less than significant impacts related to accidental release of hazards and hazardous materials. Since impacts from hazards and hazardous materials would be less than significant, no mitigation is required.

Operational Impacts

Impact HAZ-1.2: Project operations would not result in an accidental release of hazardous materials that would adversely affect the health and safety of the general public or workers.

The MCC facility is a bulk terminal for unloading cement (including Portland cement and related materials such as blast furnace slag, pozzolans, and fly ash) at Berth F208 from bulk cargo vessels. MCC stores the product in a warehouse and loading silos and loads the product onto customer trucks via three truck loading racks. The Project would include construction of additional storage capacity, upgrades to ship unloading equipment, and lease of the adjacent lot (former Pacific Banana site) for additional cement storage silos and wharf access.

Cement dust is abrasive and causes erosion of conveyance systems, such as hoses and pipes. To prevent spillage of abrasive cement, the unloading facilities are fully enclosed in rubber and steel pipes. Rubber hoses are used to transport the cement from the ship unloader to the loading manifolds and from there, via steel pipes, to the warehouse. Every bend in the steel pipes of the truck loading facility contains a cowl, which acts as secondary containment in the event of primary pipe failure due to the abrasive cement.

As previously indicated, prolonged exposure to wet cement, or to dry cement on moist areas of the body, can cause serious, potentially irreversible tissue (i.e., skin, eye, respiratory tract) damage due to chemical (caustic) burns, including third degree burns.

All handling of cement by personnel would be conducted in accordance with OSHA requirements.

Project operations would also require the delivery and storage of urea solution, which is injected into the SCR system upstream of the catalyst, where it reacts under heat to produce ammonia and facilitate NO_x removal. A small amount of ammonia is emitted from the stack in the form of “ammonia slip” (Section 3.2.2.3, Impact AQ-6). The DoCCS has a storage capacity of 500 gallons of urea. The Material Safety Data Sheets for urea indicates that urea is hazardous in the event of skin contact (irritant), eye contact (irritant), ingestion, or inhalation. In addition, urea may be combustible at high temperature. Similar to cement, all handling of urea by personnel would be conducted in accordance with OSHA requirements.

An outdoor, small quantity hazardous materials storage area, including 5 to 55 gallon containers on containment pallets and covered with heavy duty plastic, would be used during future operations as it has been in the past. Forklifts would be fueled onsite via fuel trucks. Fuel storage tanks would not be permanently located on-site. Small quantities of paint would also be stored in a maintenance building (URS Greiner Woodward Clyde 2009).

Impact Determination

Hazardous substances and petroleum products could potentially be spilled or exposed during Project operations, resulting in health and safety impacts to onsite personnel and/or the environment. However, use of the robust cement containment infrastructure and implementation of standard BMPs, established in a site-specific SWPPP, would reduce these short-term impacts.

The existing SWPPP (URS Greiner Woodward Clyde 2009) would be updated in association with the NPDES permit to reflect post-construction, operational conditions. Spill prevention and control measures are detailed in the SWPPP. Implementation of the SWPPP, in combination with proper use and storage of hazardous materials and petroleum products, would result in less than significant impacts related to hazards and hazardous materials. Since impacts from hazards and hazardous materials would be less than significant, no mitigation is required.

Impact HAZ-2: Project operations would not result in inconsistency with the Risk Management Program.

As previously discussed, the Port RMP (POLA and POLB 1981), which includes the Risk Management Plan (POLB 1981), is an amendment to the certified Port Master Plan. The RMP was required by the CCC as a means for judiciously managing, controlling, and directing proposed developments in order to prevent, insure, protect against, and minimize the risks of loss or significant adverse impacts, due to potential hazards within and surrounding the POLB. The RMP is primarily concerned with the transfer, handling, storage, and transport of hazardous liquid bulk cargoes. Because the Project does not include the transfer, handling, storage, and transport of hazardous liquid bulk cargoes, the RMP does not apply to the Project. Similar to baseline Project site operations, hazardous materials and petroleum product storage and use would generally be limited to less than 450 gallons, stored in multiple 5 to 55 gallon containers (URS Greiner Woodward Clyde 2009).

Impact Determination

Because the proposed facilities are not expected to store, handle, or transport substantial quantities of hazardous materials or petroleum products, and spill impacts would be localized and readily remediated, the risk associated with the Project would be minimal. Also, the Project would not be subject to the RMP due to the minimal quantities of hazardous materials that would be handled during operations. Therefore, the Project would not result in inconsistency with the RMP and no impacts would occur.

3.9.2.4 Alternative 2 – Reduced Throughput Alternative

The Reduced Throughput Alternative would be the same as the proposed Project except that only two cement silos and only one additional truck lane would be constructed to permit loading beneath the two new silos. Impacts related to hazards and hazardous materials would be similar to but less than those described under **Impact HAZ-1.1** for the Project because the extent of construction activity causing short-term impacts would be reduced.

The MCC facility would generate operational impacts including: unloading cement from ships, handling and storing cement, and loading trucks to transport the cement product to outlying distribution facilities. The facility would store and handle small quantities of hazardous materials and petroleum products similar to baseline conditions. Under this alternative, operations would require the same number of personnel as the proposed Project, but throughput would be reduced. Therefore, operational impacts would be similar to but less than those described for **Impact HAZ-1.2**. As with the Project, implementation of this alternative would result in less than significant impacts. Since impacts from hazards and hazardous materials would be less than significant, no mitigation is required.

Also similar to the proposed Project, this alternative would result in no impacts with respect to **Impact HAZ-2**, since the RMP would not be applicable to this alternative due to the minimal quantities of hazardous materials that would be handled during operations.

3.9.2.5 Alternative 3 - No Project Alternative

Under the No Project Alternative, no new construction would occur; therefore, construction related **Impact HAZ-1.1** would not occur. The MCC facility would generate operational impacts including: unloading cement from ships; handling and storing cement; and loading trucks to transport the cement product to outlying distribution facilities. The existing facility would store and handle small quantities of hazardous materials and petroleum products similar to baseline conditions. MCC facility throughput would be limited by the truck loading capacity of the existing three truck loading lanes. As a result, operational impacts would be similar to but less than those described for **Impact HAZ-1.2**.

Similar to the proposed Project, **Impact HAZ-2** would not occur, since the RMP does not apply to the No Project Alternative based on the minimal amounts of hazardous materials that would be handled during operations. Similar to the proposed Project, implementation of this alternative would result in less than significant impacts. Since impacts from hazards and hazardous materials would be less than significant, no mitigation is required.

3.9.3 Cumulative Impacts

The proposed Project, along with other related projects proposed in the POLB and POLA, would increase the potential for impacts with respect to minor spills of hazardous materials and petroleum products, during both construction and operations. Spill-related impacts at the Project site would be localized and not expected to reach navigable waters of the Port. The probability and potential extent of spills of other related projects would vary, depending on the type and volume of hazardous materials involved.

The LACFD has developed a risk criticality matrix, based on accidental spill or release probability and severity of consequences to people or property, in order to identify the operational risk criticality. Because the MCC facility is not expected to store, handle, or transport substantial quantities of hazardous materials or petroleum products, the risk criticality matrix is not applicable to the proposed Project. This matrix would apply to a limited number of other related projects, especially those that transport and store large volumes of petroleum products or hazardous materials, such as the proposed tank installation at the Chemoil Marine Terminal. The risk criticality analysis would identify which mitigation measures are necessary to reduce impacts to less than significant for applicable projects.

Related projects within the Project area are predominantly berth and terminal expansion, such as the Middle Harbor Redevelopment Project, Piers G & J Terminal Redevelopment project, and the Pier S Marine Terminal and Back Channel Improvements Project or traffic circulation improvements undertaken by the POLB and POLA, such as the Terminal Island Rail Projects, Pier B On-Dock Rail Support Facility, the Gerald Desmond Bridge Replacement Project, and the I-710 (Long Beach Freeway) Major Corridor Study. Projects unrelated to cargo handling in the ports include the POLA Charter School, Port Police Headquarters (San Pedro), and the San Pedro Waterfront Enhancement Projects, none of which would be expected to handle significant amounts of hazardous materials.

In general, each POLB and POLA project is subject to regulatory standards that must be achieved during construction and operation. All projects individually undergo rigorous safety, fire preparedness, and environmental (NEPA/CEQA) reviews. As a result, any potential hazards or risks are evaluated and measures to minimize those risks are implemented. Mitigation measures for future projects would be expected to be consistent with applicable standards, regulations, and permits required, thus reducing potential impacts from hazards and hazardous materials. For example, construction SWPPPs would be required in association with an NPDES permit for all future projects.

Future project demolition, construction, and operations would be required to comply with all existing hazardous waste laws and regulations, including the federal RCRA and CERCLA, CCR Title 22, CCR Title 26, and other hazards and hazardous waste related regulations described in Section 3.9.1.3, Regulatory Setting. Compliance with these laws and regulations in other projects would be expected to reduce impacts to the extent feasible.

In summary, the proposed Project would contribute minimally to cumulative impacts from hazards and hazardous materials from other projects. Compliance with applicable federal, state, and local laws and regulations governing packing, labeling, and transporting and manifesting hazardous materials, along with emergency response to hazardous materials spills, would minimize the potential for adverse public safety impacts associated with all cumulative projects. The proposed Project’s construction and operation would not contribute to cumulatively significant hazards and hazardous material impacts. Therefore, the proposed Project’s contribution to cumulative impacts would be less than cumulatively considerable.

3.9.4 Mitigation Monitoring Program

Since impacts on hazards and hazardous materials would not occur, no mitigation measures are necessary. Thus, no mitigation monitoring program is required.

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3.10 UTILITIES AND SERVICE SYSTEMS

3.10.1 Environmental Setting

3.10.1.1 Area of Influence

The area of influence for utilities and service systems includes existing utility corridors containing electric, telephone, sewer, water, wastewater, and stormwater within the Project vicinity. In addition to these systems, the capacities of regional services such as landfill waste disposal, wastewater treatment, and potable water are considered.

3.10.1.2 Setting

Existing utility systems include several municipal services provided by the City of Long Beach as well as other utility providers.

Water Services

Water service is provided to the POLB and the Project area by the City of Long Beach Water Department (LBWD). The LBWD is responsible for supplying, treating, and distributing water, as well as treating sewage for the City of Long Beach. The two sources of potable (drinking) water utilized by the LBWD are: 1) groundwater; and 2) water purchased from Metropolitan Water District of Southern California (MWD). Approximately half of the City's water supply comes from groundwater wells located within the City. Groundwater is pumped from 26 wells and is then sent to a groundwater treatment plant. The other portion of the City's potable water comes from MWD. Metered water consumption at the MCC facility for calendar year 2006 was 119 hundred cubic feet (approximately 7.1 acre-feet).

The Long Beach Conjunctive Use Project was designed to improve water supply and storage in Long Beach by maximizing use of the City's underlying groundwater basin. The installation of four new Aquifer Storage and Recovery wells has given the City the ability to store and extract up to 13,000 acre-feet of imported water. This project is a partnership between the MWD, the Water Replenishment District of Southern California, and the California Department of Water Resources.

The LBWD is also in the construction planning phase of another conjunctive use project. The project is called the Long Beach/Lakewood Conjunctive Use Project, and is a partnership between the City of Long Beach, the City of Lakewood, and MWD. This project would allow for storage of up to 3,600 acre-feet of imported water, which would increase potential supply during drought or other emergency conditions (LBWD 2007).

Wastewater

The LBWD operates and maintains nearly 765 miles of sanitary sewer line that delivers over 40 million gallons per day (MGD) to Los Angeles County Sanitation Districts (LACSD) facilities located on the north and south sides of the City of Long Beach. Treated wastewater from these facilities is used in one of three ways: 1) irrigating parks, golf courses, cemeteries, and athletic fields; 2) groundwater basin recharge; or 3) discharge into the Pacific Ocean.

The majority of the City's wastewater is delivered to and treated at the Joint Water Pollution Control Plant (JWPCP) of the LACSD. The JWPCP is the largest of the LACSD treatment plants and provides advanced primary and partial secondary treatment for 350 MGD, serving most of the residents of the City of Long Beach. The existing sewer system serving the Project area is linked to the LACSD sewer system.

The remaining portion of the City's wastewater is sent to the Long Beach Water Reclamation Plant of the LACSD for treatment. This reclamation plant provides primary, secondary, and tertiary treatment for 25 MGD.

Sewer discharges from the MCC facility in 2006 are unknown, but likely were a substantial fraction of the facility's water consumption since much of the water was flushed or washed down the drain, which connects to the LACSD sewer system. The 119 hundred cubic feet of consumption recorded at MCC in 2006 is equivalent to approximately 89,000 gallons. Therefore, the MCC facility operations in 2006 likely resulted in sewer discharges of less than 0.1 million gallons.

Storm Drainage

The existing storm drainage on the Project site directs runoff to the Long Beach Harbor. The storm drainage system, including storm drains of various sizes and catch basins must meet the Port-wide NPDES Phase II requirements for stormwater pollution control. This includes a facility-specific Storm Water Pollution Prevention Plan (SWPPP). Some surface drainage facilities would be altered by plant modifications, but the drainage system would continue to comply with Port requirements.

Solid Waste

The facility is and would continue to be subject to federal, state, and local regulations and codes pertaining to solid waste disposal. Codes include Chapter 8.6 of the LBMC, Solid Waste, Recycling, and Litter Prevention. The solid waste disposal quantities from the MCC facility are not expected to change appreciably in the future. Spent catalysts and the urea injection fluid for the DoCCS would be handled at the facility and these are described in Section 3.9, Hazards and Hazardous Materials.

Power and Natural Gas

Southern California Edison (SCE) provides electricity to the Port. SCE maintains a network of power stations that supply electricity throughout southern California and the Port. The annual metered electrical consumption for the MCC facility in 2006 was 13,115 megawatt hours (MWh). The Long Beach Gas and Oil Department provides natural gas to the Port; however, the MCC facility did not use natural gas in 2006.

Regulatory Setting

Each public utility agency and private utility provider, including the LBWD, Southern California Gas Company, SCE, and the LACSD, is directed by internal standards and policies that guide the provision of service to their customers. Specific to the SCE and Southern California Gas Company, the California Public Utilities Commission regulates privately owned electric and natural gas utilities as well as communications, water, and some transportation utilities within the state. In addition, the California Energy Commission licenses thermal generator plants in excess of 50 Mw.

California Urban Water Management Act

The California Urban Water Management Planning Act requires urban water suppliers to initiate planning strategies to ensure the appropriate level of reliability in its water service sufficient to meet the needs of various categories of customers during normal, dry, and multiple dry-water years. The Act requires water suppliers to develop water management plans every 5 years.

Long Beach Water Department Urban Water Management Plan

The LBWD is the water supplier for the Project. As such, the Project would fall under the jurisdiction of the LBWD Urban Water Management Plan (UWMP), prepared pursuant to the California Urban Water Management Planning Act. The UWMP describes how water resources are used and strategies to meet the City’s current and future water needs. This Plan focuses primarily on water supply reliability and water use efficiency measures. The latest UWMP update was prepared for 2010.

California Solid Waste Reuse and Recycling Access Act

The California Solid Waste Reuse and Recycling Access Act of 1991 requires each jurisdiction to adopt an ordinance by September 1, 1994, requiring any “development project” for which an application for a building permit is submitted to provide an adequate storage area for collection and removal of recyclable materials. The MCC facility currently complies with this requirement. Further, material reuse would continue to be consistent with the Port’s Import Soil-Material Quality Requirements (dated March 29, 2006). Pursuant to the City of Long Beach ordinance, recyclable waste materials (i.e., concrete and asphalt) shall be processed for reuse. Asphalt and concrete shall be recycled and other recyclable waste shall be taken to accredited recycling centers, thereby diverting waste from landfills. Materials shall be separated on-site for reuse, recycling, or proper disposal. During construction, separate bins for recycling of construction materials shall be provided.

Assembly Bill 939: California Integrated Waste Management Act

AB 939 focuses on source reduction, recycling and composting, and environmentally safe landfilling and transformation activities. The Act requires cities and counties to divert 25 percent of all solid waste from landfills and transformation facilities by 1995, and 50 percent by year 2000.

3.10.2 Impacts and Mitigation Measures

3.10.2.1 Significance Criteria

Criteria for determining the significance of impacts related to utilities and service systems are based on the CEQA Guidelines *Appendix G* Environmental Checklist. A significant impact on utilities and service systems would occur if the Project would:

UTIL-1: Result in the construction or expansion of water, wastewater, storm drains, natural gas, or electrical utility lines or distribution infrastructure; or

UTIL-2: Exhaust or exceed existing water, wastewater, or landfill capacities.

3.10.2.2 Methodology

Available sources of information from utility service providers, including recent environmental documents prepared for POLB, were consulted regarding existing and projected service capacity. Quantifications of water, wastewater (sewer), electricity, and natural gas usage required for Project operations were based on utility demands developed for this analysis, as shown in Table 3.10-1 and described below.

Utility demands for Project construction were not quantified since they are expected to be minimal (e.g., water for dust control and minor increase in electricity use for power tools). Primary energy demand for construction would be attributable to fuel consumption for heavy equipment.

Water Services

Water supply impacts from Project operations were evaluated by estimating the additional consumption associated with two more workers. Based on 2006 data, each worker accounted for 2,023 gallons per year or 0.0062 acre-feet. Two additional workers would result in approximately 4,000 additional gallons of demand per year or 0.012 acre-feet.

Wastewater

The estimate for wastewater generation assumes most water would be used for personal purposes by employees and that much of it would become wastewater. Therefore, the amount of consumption was conservatively converted to discharge in units of millions of gallons per year. Approximately 4,000 additional gallons (0.0004 MG) per year was assumed to be attributable to the two additional workers.

Solid Waste

Solid waste from demolition and construction would need to be disposed of. These quantities would be minimal and the time period during which disposal would occur would be short (less than 2 years and intermittent during that time). Solid waste associated with operations is not expected to change appreciably for the proposed Project, the Reduced Throughput Alternative, or the No Project Alternative. Therefore, it was assumed that there would be no substantial change in the amount of solid waste disposal from the baseline level.

Electricity

Electricity demand (expressed in MWh) from baseline operations is based on actual electricity consumption at the MCC facility during 2006. Baseline electricity demand included cold ironing for 66 percent of vessel during time at berth. This is based on actual cold ironing data provided by MCC. Electricity demand for the proposed Project, Reduced Throughput Alternative, and

Table 3.10-1. Annual Utility Demand

	2006 Baseline	Proposed Project	Reduced Throughput Alternative	No Project Alternative
Domestic water use (acre-feet)[a]	0.27	0.28	0.28	0.27
Wastewater discharge (million gallons)[b]	0.09	0.09	0.09	0.09
Electricity demand (MWh)[c]	13,115	24,109	19,432	22,526
Natural gas demand (MSCF)[d]	0	18.4	18.4	0

Notes:

a. Based on 2006 use adjusted by number of additional employees for each alternative.
b. Based on 2006 use assuming use becomes wastewater.
c. Based on 2006 use adjusted by projected cement throughput for each alternative.
d. Based on estimates of fuel gas consumption of DoCCS from air quality emissions calculations at 24 hrs/day, 365 days/yr.

No Project Alternative is based on the horsepower of the equipment required to transfer cement from 1) the vessel through the warehouse to the three existing silos or 2) from the vessel to the new direct loading silos.

Natural Gas

The MCC facility did not use natural gas during 2006. However, the proposed Project and Reduced Throughput Alternative would use natural gas to maintain stack temperature in the DoCCS. Natural gas consumption (expressed in standard cubic feet per year) was estimated using the air quality emission calculations for utility gas required for the DoCCS. Since the stack temperature would be maintained on a continuous basis (i.e., 24 hours per day, 365 days per year), the proposed Project and the Reduced Throughput Alternative would consume the same amount of natural gas.

3.10.2.3 Alternative 1 – Proposed Project

Construction Impacts

Impact UTIL-1.1: Project construction activities would not result in expansion of water, wastewater, storm drains, natural gas, or electrical utility lines or distribution infrastructure.

Project construction activities would not include new connections or upgrades to existing water supply infrastructure. Minor modifications (tie-ins) to existing wastewater and electrical infrastructure would be required. However, new natural gas supply lines would need to be connected to the local gas supply pipeline network. Long Beach Gas and Oil Department gas lines would be extended to the Project site with connections to the DoCCS, but no expansion of existing utility distribution systems would occur. New drainage infrastructure also would be constructed on the Project site. Construction of new gas utility lines and drainage infrastructure would be in conformance with current design standards and would adequately accommodate Project demands, but would not require adding to the distribution capacity of the utility.

Impact Determination

Construction related utility impacts would be less than significant. Since impacts on utilities and service systems would be less than significant, no mitigation is required.

Impact UTIL-2.1: Project construction activities would not exhaust or exceed existing water, wastewater, or landfill capacities.

Water would be used, as necessary, to control fugitive dust and to wash streets as a supplement to street sweeping.

Construction workers would use existing water and wastewater facilities. This demand would not likely exceed operational usage in 2006. Therefore, Project construction worker activities would not substantially contribute to impacts on the supply or capacities of these utilities and service systems.

Construction and demolition activities would generate debris that would require disposal in a landfill. Construction debris is one of the largest individual contributors to solid waste capacity consumption. While demolition of existing structures would be required to accommodate Project site improvements, the amount of demolition debris would be minimal. The Pacific Banana building has already been demolished, so site improvements would involve only limited removal of semi-permeable pavement.

Waste materials from demolition of existing Project site structures would be salvaged and hauled to an offsite construction waste recycling facility, either within or outside the Port. Non-recyclable material generated during the demolition activities would be transported to an appropriate disposal site (i.e., SERRF). The volume of waste associated with proposed Project construction would be reduced with implementation of the City of Long Beach's waste reduction measures (Section 3.10.1.2), though the amount of reduction is not quantifiable.

Impact Determination

The proposed Project construction activities would result in minimal demands on municipal utilities and service systems, including water services, wastewater, and solid waste. Therefore, impacts on utilities and service systems would be less than significant. Since impacts on utilities and service systems would be less than significant, no mitigation is required.

Operational Impacts

Impact UTIL-1.2: Project operations would not result in expansion of water, wastewater, storm drains, natural gas, or electrical utility lines or distribution infrastructure.

Project operations, including the employment of two additional workers, would create minimal additional demands for water, wastewater, and electrical services. Existing utility lines and infrastructure would accommodate these additional utility demands.

Impact Determination

The minimal increase in the number of new workers would result in a negligible increase to water consumption and sewer discharges. Electricity consumption would increase with the additional facility throughput, consistent with the need to continue cold ironing in the future. Natural gas would be required to fuel the DoCCS burner as indicated in Table 3.10-1. The increased electrical and natural gas demand would not be substantial relative to the existing and projected regional electrical and natural gas supplies. Therefore, impacts on utilities and service systems would be less than significant. Since impacts on utilities and service systems would be less than significant, no mitigation is required.

Impact UTIL-2.2: Project operations would not exhaust or exceed existing water supply, wastewater, or landfill capacities.

Project operations would generate negligible increases in demands for water services and wastewater treatment and modest additional demands for electricity and natural gas. Project operations would primarily consist of administrative and maintenance activities that would not generate substantial demands on wastewater treatment services. Proposed Project operations would generate approximately 0.09 million gallons per year of wastewater, which is a very small fraction of the existing flow. The minimal amount of wastewater generated by the Project would not significantly affect existing or future capacity at the JWPCP and/or exceed the capacity of the sewer trunk lines in the Project area.

The Project would comply with federal, state, and local regulations and codes pertaining to solid waste disposal. Solid waste would largely be composed of paper products and personal waste. Other waste, such as oil-coated rags and miscellaneous non-hazardous trash would be collected on-site in containers and transported from the site periodically by approved methods (refer to Section 3.9, Hazards and Hazardous Materials for additional information). Project operations would primarily consist of administrative and maintenance activities that would not generate substantial amounts of solid waste requiring disposal in a landfill.

Impact Determination

Project operations would represent minimal increases in demands on water supply, wastewater treatment, and solid waste disposal as compared to baseline conditions. The Project would increase the demand for water by less than 0.01 acre-feet per year over baseline conditions. Additionally, wastewater generation would increase by 0.004 MGD, and solid waste generation would not be expected to increase appreciably over the baseline levels. Because these increases are nominal, impacts on utilities and service systems would be less than significant. Since impacts on utilities and service systems would be less than significant, no mitigation is required.

3.10.2.4 Alternative 2 – Reduced Throughput Alternative

The Reduced Throughput Alternative would be the same as the proposed Project, except that only two cement silos and only one additional truck lane would be constructed to permit loading beneath the two new silos. Both silos would be constructed at the same time in one phase. Construction would occur over an 18-month period and anticipated to be completed in 2015 (i.e., build-out year). Similar to the proposed Project, this alternative would include demolition of existing subsurface utilities and construction of new utility mains and lines; installation of the DoCCS; upgrades to the cement unloading equipment (including the addition of a new 800 metric ton per hour unloader); and construction of backland support facilities and infrastructure. Two additional workers would be required to support operations.

Similar to the proposed Project, the Reduced Throughput Alternative would be expected to operate 24 hours a day, 6 days a week.

Construction activities associated with Alternative 2 would be similar to, but less than, those for the proposed Project, since fewer improvements would be constructed. As a consequence, construction impacts on utilities and service systems would be similar, but slightly less than those described under **Impacts UTIL-1.1** and **UTIL-2.1** for the Project. Since impacts on utilities and service systems would be less than significant, no mitigation is required.

Under the Reduced Throughput Alternative operations, demands for water, wastewater, and solid waste would be similar to the proposed Project, but would still represent minimal increases over the baseline. Electricity consumption would increase with the additional facility throughput, consistent with the need to continue cold ironing in the future. Natural gas would be required to fuel the DoCCS burner as indicated in Table 3.10-1. The increase in consumption for both electricity and natural gas would be less than for the proposed Project. Thus, **Impacts UTIL-1.2** and **UTIL-2.2** would be similar to those described for the proposed Project and less than significant. Since impacts on utilities and service systems would be less than significant, no mitigation is required.

3.10.2.5 Alternative 3 – No Project Alternative

Under the No Project Alternative, no construction and, consequently, no construction-related impacts, would occur. The DoCCS system would not be constructed and, therefore, there would be no demand for natural gas. The MCC facility would generate operational impacts from the following activities: ship would perform unloading activities; facility equipment would handle bulk cement; and trucks would transport the cement product to outlying distribution facilities. Facility throughput would be limited by truck loading capacity, since it would be confined to the existing three truck loading lanes.

Under the No Project Alternative, there would be no construction-related impacts on utilities/ service systems under **Impacts UTIL-1.1** and **UTIL-2.1** because no construction would occur.

Operational impacts of the No Project Alternative on utilities and service systems would be lower than for the proposed Project, but greater than the baseline. This is due in part to the fact that electricity consumption would increase with the additional facility throughput, consistent with the need to continue cold ironing in the future. Because the DoCCS would not be installed or operated, there would be no natural gas consumption associated with No Project Alternative operations. There would also be no increase in the number of employees, so there would be no impacts associated with increased employment related to water consumption and sewer disposal, either on-site or in the region.

Impacts UTIL-1.2 and **UTIL-2.2** would be similar but slightly less than those for the proposed Project for operational water and solid waste demands, although higher than baseline levels. Implementation of this alternative would result in less than significant impacts on utilities and service systems. As such, no mitigation is required.

3.10.3 Cumulative Impacts

Cumulative utilities and service systems impacts would result from the demands from the proposed Project in combination with those of related projects in the vicinity. As shown in Table 2.1-1, 23 projects could result in a significant increase in demand on utilities and service systems.

Many cumulative projects involve the relocation or modification of existing facilities within the POLB and POLA but they do not involve substantial expansion of operations. Therefore, these project would not result in increased demand on utilities. Other projects, such as the Shoreline Gateway Project, would increase public visitation to the POLB, thereby increasing demands on utilities and service systems. Due to the number of related projects that would place additional demands on utilities and service systems, especially electricity, cumulative impacts on utilities and service systems of the existing and foreseeable projects would potentially be significant. However, the proposed Project's contribution to these cumulative impacts would be minimal and the proposed Project would not contribute to a cumulative need to expand utility systems or alter demand such that it would exceed the supply of any service. Therefore, impacts of the proposed Project would be less than cumulatively considerable.

3.10.4 Mitigation Monitoring Program

Since the proposed project and its alternatives do not have the potential to create significant impacts to utilities, no mitigation measures are required. Therefore, no mitigation monitoring program is required.

CHAPTER 4
ALTERNATIVES COMPARISON

4.1 INTRODUCTION

CEQA requires that an EIR present a range of reasonable alternatives to the proposed Project. CEQA Guidelines Section 15126.6(a) also requires an evaluation of "the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation." An EIR is not required to consider alternatives that are infeasible, such as those described in Section 1.7.1, Alternatives Considered but Not Carried Forward for Analysis.

CEQA Guidelines Section 15126.6(e) stipulates that an EIR alternatives analysis is required to include analysis of the "No Project" Alternative, assuming the reasonable future use of the project parcel if the proposed project is not approved. If the environmentally superior alternative is the No Project Alternative, the EIR must identify an environmentally superior choice among the other project alternatives.

Three alternatives, including the proposed Project, have been analyzed to provide a reasonable range of alternatives and sufficient information about the environmental effects of potential alternatives such that informed decision-making can occur. The alternatives are described in Section 1.7, Project Alternatives. The three alternatives that were evaluated in detail in Chapter 3, Environmental Setting and Project Impacts, include:

- Alternative 1 – The proposed Project;
- Alternative 2 – Reduced Throughput Alternative; and
- Alternative 3 – No Project Alternative.

Also, several alternatives were considered but eliminated from further analysis (refer to Section 1.7.1, Alternatives Considered but Not Carried Forward for Analysis, for detailed descriptions).

The range of reasonable alternatives was identified by evaluating their ability to meet the Project's objectives. To be considered reasonable, an alternative must meet the following objectives:

- Upgrade existing facilities to improve operational efficiency and provide 40,000 metric tons of additional storage capacity to meet future cement demand in the Los Angeles region;
- Install an emission control system (DoCCS) to reduce at-berth NO_x emissions from ship auxiliary generator engines when vessels are not cold-ironing; and
- Modify the SCAQMD air permit for Bulk Cement Ship Unloading, which currently requires shore-to-ship power (cold-ironing) for ships at berth, to allow either cold ironing or venting on-vessel generators to NO_x emission control equipment.

Alternatives considered are described below.

4.2 ALTERNATIVES

4.2.1 Alternative 1 – Proposed Project

The proposed Project involves constructing a total of four cement silos and two new truck lanes (one under each pair of silos). Construction would occur in phases. Although the timing of full build-out would depend on market demand, this EIR assumes that full build-out would occur in 2015 following completion of site preparation. A slight delay in the timing of full build-out would not alter the findings of the impact analyses presented in this EIR. Construction of the proposed Project would include:

- Demolition or relocation of existing subsurface utilities and construction of new utility mains and lines;
- Site preparation including pouring a construction matt prior to silo construction;
- Installation of the DoCCS;
- Upgrades to the cement unloading equipment (including the addition of a new 800 metric ton per hour unloader); and
- Construction of support facilities and infrastructure.

The Project would involve the addition of two employees (a longshoreman and a contract technician) to operate the additional truck loading lanes and DoCCS.

The Project would operate 24 hours a day, 6 days a week. As discussed in Section 1.6, Project Operations, the MCC facility at full build-out would be able to accommodate a maximum throughput of approximately 4.58 million short tons (4.16 million metric tons) of cement. The maximum permitted limit for truck loading under MCC's SCAQMD permit is 3.8 million short tons. MCC does not propose to change this permit limit. However, to provide a conservative analysis the maximum capacity throughput of 4.6 million short tons is used as the basis for the environmental impact analyses for the Project.

Additionally, the Project would install four 10,000 metric ton silos that would provide 40,000 metric tons of additional cement storage capacity. The additional storage capacity would alleviate delays in unloading ships during periods when the existing warehouse capacity is insufficient to accommodate the cement load from an arriving ship. Consequently, on average, ships could be unloaded with fewer potential delays, spend less time at berth, and move more efficiently through the Port.

Proposed operations would result in a maximum of 99 vessel calls per year. The annual truck trips to and from the MCC facility would increase to 166,400, with an estimated 132 peak hour passenger car equivalent (PCE) trips.

4.2.2 Alternative 2 – Reduced Throughput Alternative

The Reduced Throughput Alternative would be the same as the proposed Project except that only two cement silos and one additional truck lane (to accommodate loading beneath the two new silos) would be constructed. Both silos would be constructed at the same time in one phase. Construction would occur over an 18-month period and is anticipated to be completed in 2015 (i.e., build-out year).

Similar to the proposed Project, this alternative would include:

- Demolition of existing subsurface utilities and construction of new utility mains and lines;
- Site preparation including pouring a construction matt prior to silo construction;
- Installation of the DoCCS;
- Upgrades to the cement unloading equipment (including the addition of a new 800 metric ton per hour unloader); and
- Construction of backland support facilities and infrastructure.

Similar to the proposed Project, an additional longshoreman and one contractor would be required to operate the additional truck loading lane and DoCCS.

Similar to the proposed Project, the Reduced Throughput Alternative is expected to operate 24 hours a day, 6 days a week. When at maximum capacity (anticipated approximately in 2015), the MCC facility would handle approximately 3.6 million short tons (3.3 million metric tons) of cement per year (Table 1.7-1). The Reduced Throughput Alternative would install two silos that would provide only 20,000 metric tons of additional cement storage capacity. Operations would result in 79 vessel calls per year. Under this alternative, the annual truck trips to and from the MCC facility would increase to 133,120, with an estimated 108 peak hour PCE trips.

4.2.3 Alternative 3 – No Project Alternative

The No Project Alternative considers what could occur on the Project site if the proposed Project was not approved. Under this alternative no construction and, consequently, no construction-related impacts, would occur. There would be no reinforcement of the wharf or extension of the rails for the unloader. The equipment would not be upgraded, no new unloader would be installed, no additional silos would be constructed, and the DoCCS would not be installed. Cement storage capacity at the MCC facility would not be increased. The MCC facility would generate operational impacts associated with the following activities:

- Ships would perform unloading activities;
- Facility equipment would handle bulk cement; and
- Trucks would transport cement product to outlying distribution facilities.

Facility throughput would be limited by truck loading capacity being confined to the existing three truck loading lanes.

This alternative assumes the existing SCAQMD permit for Bulk Cement Ship Unloading would not be modified and MCC's Stipulated Order for Abatement from the SCAQMD would not be extended. Therefore, all vessels would be required to cold iron while unloading in order to comply with existing SCAQMD permit conditions. Many vessels are unable to unload completely while cold-ironing because the payloader cannot be lowered into the hold without the vessel's auxiliary generators running to operate the ship's crane. Those vessels would need to be diverted to another cement terminal to complete unloading. For the purposes of analysis, it is assumed that vessels would, on average, be unable to unload the final 20 percent of their cargo at the MCC facility and would have to move to another cement terminal to complete unloading. Therefore, each nominal 42,000 metric ton vessel would only be able to unload approximately 33,600 metric tons at the MCC facility, with the balance being unloaded elsewhere.

Under this assumption, vessels calling at the MCC facility could be unloaded more rapidly since the most efficient aspect of unloading (the pneumatic removal of easily accessible cement using one 800 metric ton per hour and one 120 metric ton per hour unloader) would be accomplished at the MCC facility, and the least efficient aspects (payloader and manual unloading) would occur elsewhere in most cases. Therefore, the time involved in each vessel unloading would be considerably shorter than during baseline operations.

Once the vessels leave the terminal, it is not known where they would go to finish unloading. However, final unloading would involve de-berthing the vessel, moving it to another terminal, berthing at that terminal, and unloading the vessel hold (i.e., remaining cement) completely. Additional emissions would occur from the extra vessel movements and unloading operations. Also, truck trips associated with the cement that could not be unloaded at the MCC facility would still occur, but at different locations.

Under this alternative, it is assumed that the MCC facility would have a maximum throughput capacity of approximately 2.5 million short tons per year (2.2 million metric tons per year). Approximately 67 vessel calls per year would occur under this alternative (Table 1.7-2), taking into account the assumed 20 percent of cargo, on average, that could not be unloaded at the MCC facility because of the cold ironing requirement. Annual truck trips would be 89,856, and operations would result in an estimated 72 peak hour PCE trips.

4.3 ALTERNATIVES COMPARISON

Table 4.3-1 summarizes the results of the CEQA significance analysis for all alternatives in each resource area, as discussed in detail in Chapter 3, Environmental Setting and Project Impacts. Table 4.3-2 shows the comparison of the impacts of the alternatives indicating

Table 4.3-1. Comparison of Impact Significance by Alternative

Environmental Resource Area	Proposed Project (Alternative 1)	Reduced Throughput Alternative (Alternative 2)	No Project Alternative (Alternative 3)
Geology, Groundwater, and Soils	Less than significant	Less than significant	Less than significant
Air Quality and Health Risk	Significant and unavoidable	Significant and unavoidable	Significant and unavoidable
Global Climate Change	Significant and unavoidable	Significant and unavoidable	Less than significant
Hydrology and Water Quality	Less than significant	Less than significant	Less than significant
Biological Resources and Habitats	Cumulatively significant and unavoidable	Cumulatively significant and unavoidable	Cumulatively significant and unavoidable
Ground Transportation	Less than significant	Less than significant	Less than significant
Marine Transportation	Less than significant	Less than significant	Less than significant
Noise	Less than significant	Less than significant	Less than significant
Hazards and Hazardous Materials	Less than significant	Less than significant	Less than significant
Utilities and Service Systems	Less than significant	Less than significant	Less than significant

Table 4.3-2. Comparison to the Proposed Project of the Estimated Impact Magnitude			
Environmental Resource Area	**Proposed Project (Alternative 1)**	**Reduced Throughput Alternative (Alternative 2)**	**No Project Alternative (Alternative 3)**
Geology, Groundwater, and Soils	Less than significant	Approximately the same	Less than
Air Quality and Health Risk	Significant and unavoidable	Less than	Less than
Global Climate Change	Significant and unavoidable	Less than	Less than
Hydrology and Water Quality	Less than significant	Approximately the same	Less than
Biological Resources and Habitats	Cumulatively significant and unavoidable	Less than	Less than
Ground Transportation	Less than significant	Less than	Less than
Marine Transportation	Less than significant	Less than	Less than
Noise	Less than significant	Less than	Less than
Hazards and Hazardous Materials	Less than significant	Approximately the same	Less than
Utilities and Service Systems	Less than significant	Less than	Less than

whether the impact associated with the alternative is less than, approximately the same as, or greater than the impact associated with the proposed Project.

4.3.1 Environmentally Superior Alternative

For all issue areas, the No Project Alternative results in lower overall environmental impacts when compared to the proposed Project and the Reduced Throughput Alternative, even though air quality impacts would still be significant. However, the analysis herein could not fully account for all air pollutant emissions associated with the No Project Alternative. This is because pollutant emissions associated with unloading vessels that cannot cold iron and be unloaded completely at the MCC terminal would occur somewhere else. These emissions could not be estimated since the distance the vessel would need to be moved and the characteristics of the receiving terminal could not be identified. Nevertheless, it is likely that, due to the lower overall number of vessels associated with the No Project Alternative, total emissions of air pollutants would be less than for the proposed Project and Reduced Throughput Alternative.

Similarly, impacts on biological resources would be cumulatively significant and unavoidable for all of the alternatives due to increases in vessel traffic. The magnitude of the potential impacts would be proportional to the increase in vessel traffic. Thus, the proposed Project would be expected to have comparatively greater impacts than the Reduced Throughput and No Project Alternatives.

The amount by which the No Project Alternative would have lower impacts is small, but the lower throughput and smaller scale of the No Project Alternative would result in lower overall impacts. Therefore, the No Project Alternative would be the environmentally superior alternative when compared to the proposed Project and Reduced Throughput Alternative. However, the No Project Alternative does not meet the project objectives because it does not allow installation of the DoCCS system and it does not provide additional cement storage capacity.

CEQA Guidelines Section 15126.6(e)(2) requires that in cases where the No Project Alternative is determined to be the environmentally superior alternative, another alternative must be identified as environmentally superior. In this case, the Reduced Throughput Alternative has been identified as the environmentally superior alternative, as discussed below.

The Reduced Throughput Alternative would involve the installation of the DoCCS and would reduce average daily and peak daily air pollutant emissions from baseline levels for all pollutants to lower levels than the proposed Project, although impacts would still be significant and unavoidable. Further, the contribution of the Reduced Throughput Alternative to overall global climate change would be less than the proposed Project. Biological impacts associated with the Reduced Throughput Alternative would be lower because it would involve fewer vessel calls. In most other respects, the Reduced Throughput Alternative, by virtue of lower throughput and build-out, would have fewer and less substantial adverse environmental impacts than the proposed Project, although the magnitude of the differences between the two alternatives in impacts is small. However, the Reduced Throughput Alternative does not meet all of the project objectives because it would provide for only 20,000 metric tons of the additional 40,000 metric ton storage capacity needed for efficiently unloading arriving ships and managing cement throughput at the facility.

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CHAPTER 5
OTHER REQUIRED SECTIONS

5.1 UNAVOIDABLE SIGNIFICANT IMPACTS

Project development would result in significant and unavoidable impacts on the following resources, as described below.

Air Quality: Emissions from project operations would result in exceedances of the following SCAQMD significance thresholds: 1) daily NO_x emissions due to average daily emissions; 2) ambient 1-hour NO_2; 3) ambient 24-hr PM_{10}; 4) ambient 24-hr $PM_{2.5}$; and 5) ambient annual PM_{10}. Implementation of **Mitigation Measures AQ-2 and AQ-3** would reduce the magnitude of these impacts, but not to below the level of significance. **Mitigation Measures AQ-5** and **AQ-6** would evaluate alternative technologies that may contribute to reductions in future emissions at the MCC facility. However, the applicability and potential effectiveness of alternative technologies cannot be quantified at this time. There are no feasible mitigation measures identified at this time that would further reduce proposed Project mitigated impacts of NO_x, NO_2, PM_{10}, and $PM_{2.5}$. Therefore, operation-related air quality impacts for NO_x, NO_2, PM_{10}, and $PM_{2.5}$ would be significant and unavoidable.

Due to ongoing nonattainment conditions for criteria pollutants within the Project region, proposed Project construction would produce cumulatively considerable and cumulatively significant and unavoidable air quality impacts under **Impacts AQ-1** and **AQ-2**. Further, pollutant emissions from operation of the Project would result in cumulatively considerable impacts to regional pollutant levels that would cause cumulatively significant and unavoidable air quality impacts under **Impact AQ-3**. Operation of the Project also would produce cumulatively considerable impacts to localized pollutant levels that would cause cumulatively significant and unavoidable air quality impacts under **Impact AQ-4**. Implementation of **Mitigation Measures AQ-1 through AQ-6** would reduce the magnitude of criteria pollutant impacts, but not to below the level of significance. There are no additional feasible measures that would further reduce mitigated Project cumulative contributions to criteria pollutants levels. Consequently, cumulative **Impacts AQ-1 through AQ-4** would remain significant and unavoidable.

Global Climate Change: Project construction and operation activities would produce GHG emissions above the SCAQMD's annualized California GHG interim significance threshold of 10,000 metric tons of CO_2e emissions per year. Implementation of **Mitigation Measures GCC-1 through GCC-3** would reduce GHG emissions from the Project. However, the net increase in Project mitigated GHG emissions compared to baseline levels would remain above the SCAQMD interim significance threshold. Therefore, project-related GHG emissions, as well as cumulative impacts on GHGs, would remain significant and unavoidable.

Biological Resources: Increased vessel calls associated with the Project could increase the risk of introducing non-native invasive species via vessel hulls. Federal and state regulations reduce the risk of invasive species, however, treatment system technologies have yet to be proven 100 percent effective. No feasible mitigation is currently available to completely prevent introduction of invasive species. Consequently, it is not possible to ensure that no non-native species are introduced to the harbor environment, nor is it possible to ensure that introduced species are not invasive. Therefore, the Project would contribute to a cumulatively significant impact related to the introduction of non-native and potentially invasive species.

Whale strikes outside the Port as a result of project-related increases in vessel traffic are a possibility, and considered to be cumulatively significant. While the potential for serious injury to whales is reduced by the Port's VSRP (EC Bio-1), there is no feasible mitigation to fully eliminate the risk of whale strikes outside the Port. Although the Project would result in only a small increase in vessel traffic, the incremental contribution of the Project's operations to the incidence of migrating whale strikes is considered potentially significant and unavoidable.

5.2 SIGNIFICANT IRREVERSIBLE IMPACTS

Pursuant to CEQA Guidelines Section 15126.2(c), an EIR must consider any significant irreversible environmental changes that would be caused by the Project should it be implemented. CEQA Guidelines Section 15126.2(c) states:

> *Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvements which provide access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.*

The Project would require the use of non-renewable resources, such as lumber, metal alloys, and aggregate resources, for proposed MCC facility modifications. However, the Project is not a construction project that uses an extraordinary amount of raw materials when compared to other urban or industrial development projects of similar scope and magnitude.

Resources committed to this Project include fossil fuels, capital, labor, and construction materials such as rock, steel, concrete, and gravel. Fossil fuels and energy would be consumed in the form of diesel, oil, and gasoline used for equipment and vehicles during construction and operation activities. During operations, natural gas, diesel, oil, and gasoline would be used by MCC facility utility systems, DoCCS, and vehicles. Electrical energy and natural gas would be consumed during construction and operations. These energy resources would be irretrievable and irreversible.

Non-recoverable materials and energy would be used during construction and operations, but the amounts needed for construction would be accommodated by existing supplies. Although the increase in the amount of materials and energy used would be insignificant, they would nevertheless be unavailable for other uses.

5.3 GROWTH INDUCEMENT

5.3.1 Introduction

CEQA Guidelines require an EIR to discuss the ways in which a proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. This includes ways in which the proposed project would remove obstacles to population growth or trigger the construction of new community services facilities that could cause significant effects (CEQA Guidelines Section 15126.2).

The Project would not have direct or indirect growth-inducing impacts. The Project would involve modification of an existing facility to improve operational efficiency and storage capacity and comply with air pollution control requirements. It is, therefore, primarily a facility modification, and not a replacement or significant expansion of facilities.

5.3.2 Direct Growth-Inducing Impacts

A project would directly induce growth if it would remove barriers to population growth (e.g., by proposing new homes and businesses or infrastructure in excess of current needs). Since the Project would provide only for additional storage and upgraded equipment to improve the facility’s ability to receive and deliver cement, there would be no direct inducement to growth resulting from proceeding with the proposed Project.

In addition, the Project would only add two additional employees above baseline and an estimated maximum of 38 workers during the limited periods of construction. These extra employees or construction workers would be expected to come from within the existing labor pool of the greater Long Beach and Los Angeles area. They would not be expected to represent additions to the local population. Therefore, project employment would not lead to an increase in population and housing, and significant direct growth-inducing impacts would not occur.

5.3.3 Indirect Growth-Inducing Impacts

A project would indirectly induce growth if it would trigger the construction of new community service facilities that could increase the capacity of infrastructure in an area that currently meets existing demand (e.g., an increase in the capacity of a sewer treatment plant or the construction or widening of a roadway beyond that which is needed to meet existing demand). The MCC terminal would facilitate the importation of cement to augment supplies from Southern California cement plants. The primary source of cement for the California market is local production.

Due to the high transportation costs relative to the cost of cement, production and use of cement tends to be regional (i.e., within 200 miles of a plant/terminal) (BST Associates 2010). However, when the local supply is not sufficient to meet local demands, additional product is imported from out of the region. In recent years, bulk cement imported via vessels from Asia and shipped via rail from other states has accounted for a growing share of the market.

While the Project does not in itself involve the expansion of infrastructure capacity, it does facilitate the expansion of capacity by increasing the local supply of a key material (cement) that typically is an essential ingredient in most infrastructure projects. Portland cement is the primary ingredient in the production of concrete, and therefore, is essential to all types of construction, including public infrastructure projects (e.g., roads and highways), residential, and non-residential developments. The economic recession severely impacted the demand for cement. However, it is forecasted that there will continue to be a need for cement imports to supplement domestic production (BST Associates 2010; PCA 2014).

Regional infrastructure projects and residential and non-residential developments have been developed in response to existing population growth projections. Therefore, planned growth has triggered these construction projects, and not vice versa. Operation of the Project would be meeting known and planned regional cement demand and would not indirectly induce growth.

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CHAPTER 6
APPLICATION SUMMARY REPORT

This chapter, in conjunction with the EIR, constitutes an Application Summary Report prepared in accordance with the certified Port Master Plan (PMP; POLB 1990, as amended) and the CCA. As discussed below, the proposed Project is in conformance with the stated policies of the PMP. This document was circulated for public review and would become effective upon certification by the Board of Harbor Commissioners.

6.1 PORT MASTER PLAN AND CALIFORNIA COASTAL ACT CONSISTENCY ANALYSIS

6.1.1 Consistency with the California Coastal Act

6.1.1.1 Chapter 3

The proposed Project is not among the appealable project categories cited in Section 30715 of Chapter 8 of the CCA. Accordingly, specific policies of Chapter 3 would not apply to the proposed Project.

6.1.1.2 Chapter 8

Chapter 8 of the CCA recognizes the California ports, including the POLB, as primary economic and coastal resources that are essential elements of the national maritime industry (Section 30701[a]). Sections of Chapter 8 that address diking, fill, and tanker terminals (Sections 30705, 30706, and 30707, respectively) are not applicable to the proposed Project. Section 30708 is discussed below in relationship to the proposed Project.

Section 30708

All Port-related developments shall be located, designed, and constructed so as to:

(a) *Minimize substantial adverse environmental impacts.*

Project construction would produce air emissions that would exceed SCAQMD thresholds for PM_{10} and $PM_{2.5}$, with the majority of the emissions occurring in the form of fugitive dust. Implementation of additional fugitive dust controls (**Mitigation Measure AQ-1**) would reduce emissions and impacts to less than significant. Emissions from project operations would exceed SCAQMD thresholds for NO_x, NO_2, and PM. Implementation of **Mitigation Measures AQ-2, AQ-3, AQ-5**, and **AQ-6** would reduce the magnitude of these impacts, but impacts would remain significant and unavoidable.

The Project would produce GHG emissions during construction and operations. Implementation of **Mitigation Measures GCC-1 through GCC-3** would minimize GHG emissions, but impacts would remain significant and unavoidable.

The Project would not result in any potentially significant impacts on marine resources, biological productivity, or water quality, with the exception of the Project's potential contribution to cumulative impacts from whale strikes and invasive species, which are reduced to the extent possible with implementation of environmental controls. Therefore, construction and operation of the Project would minimize impacts on the marine environment.

(b) *Minimize potential traffic conflicts between vessels.*

Vessels associated with the Project would increase overall marine vessel traffic in Long Beach Harbor by 64 vessels per year at maximum throughput. Access to Pier F208 is via Queens Gate and the Southeast Basin off Long Beach Channel. Vessels calling at the MCC facility do not enter the Middle Harbor area of the Port because the entrance to the Southeast Basin is in the Outer Harbor area. Therefore, the increase in vessels attributable to the Project would minimally affect vessel traffic in most of the Port and would not introduce potential traffic conflicts between vessels.

(c) *Give highest priority to the use of existing land space within harbors for Port purposes.*

The Project includes upgrading existing Port facilities and increasing capacity to import cement to Southern California. Accordingly, the

Project would utilize existing lands within the POLB to facilitate existing Port purposes.

6.2 CONSISTENCY WITH THE PORT MASTER PLAN

6.2.1 Port and District Discussion

6.2.1.1 Overview

The PMP addresses environmental, recreational, economic, and cargo-related issues in accordance with the CCA. Because of the dynamic nature of world commerce, many trade and transportation practices change quickly. Accordingly, the PMP was written to encompass broad Port goals and specific projects, while recognizing and planning for change in cargo transport and requirements, throughput demand, available technology and equipment, and available lands for primary Port terminal development. The Port goals, objectives, policies, and statement of permitted uses guide future development within each Harbor Planning District. A finding of consistency with the PMP is required prior to any development within the Harbor District.

6.2.1.2 Port Goals

The PMP identifies six long-range planning goals and objectives for developing Port policies involving future port development and expansion (POLB 1990). The proposed Project would support Goals 2 and 5 as summarized below. The remaining goals are not germane to the Project.

Goal 2: Encourage maximum use of facilities.

The Project would encompass 5.92 acres within the Port, of which 1.71 acres are currently vacant. The Project would improve the efficiency of an existing facility and develop currently idle land for a Primary Port facility. As such, the Project would result in increased use of facilities compared to existing conditions. Thus, development of the Project would be consistent with Goal 2 of the PMP.

Goal 5: Develop land for primary Port facilities and Port-related uses.

The Project would develop currently idle land for a Primary Port Facility and intensify existing development for Port-related uses. Thus, development of the Project would be consistent with Goal 5 of the PMP.

6.2.1.3 Plan Elements

In addition to the long-range planning goals addressed above, the PMP also identifies Plan Elements which focus on specific areas where a Port-wide review is pertinent as compared to the individual district plans (POLB 1990). Plan Elements identified in the PMP are listed below.

- Public Access, Visual Quality, and Recreation/Tourist;
- Navigation;
- Environmental;
- Vehicular Transportation/Circulation;
- Intermodal Rail Facilities; and
- Oil Production and Operations.

For each of the Plan Elements listed above, the PMP identifies planning goals, issues or areas of controversy, and recommendations for implementation, including course of action for correcting, alleviating, and/or necessitating further study of the issue (POLB 1990). The Project generally falls under the Navigation Element because this element considers proposed projects and their relationship to vessel activity and navigation.

The Navigation Element in Chapter V of the PMP considers the existing navigational procedures and operational and physical constraints governing the maneuvering of vessels for existing and proposed vessel activities within the Port. The Navigation Element has four planning goals:

- Goal 1: Remain current to the changing needs of the maritime industry with respect to deep water access to commercial berths and anchorage areas by deepening channels to accommodate the existing and future tanker, dry bulk and general cargo fleet.
- Goal 2: Enhance surveillance capabilities for port pilots for vessels approaching, within and departing the Port of Long Beach, thereby improving vessel safety while transit or maneuvering in Southern California waters.

- Goal 3: Continue to facilitate access to anchorage areas within and adjacent to the Harbor.
- Goal 4: Minimize vessel congestion possibilities by properly coordinating and arranging ancillary port uses (i.e., sport fishing; marine contracting, etc.) to complement primary port activities.

The Project would help the Port attain these goals by upgrading existing facilities that are accessible to the dry bulk cargo fleet. The Project would be implemented in accordance with all PMP Elements, and would be consistent with the PMP as summarized above.

6.2.1.4 District Goals and Permitted Uses

District Goals

As noted above, the Project site is located within Harbor Planning District 8 (Southeast Harbor District). The PMP identifies one goal for this district, as provided below.

Goal: Modernize and maximize use of existing and future facilities.

The Project would upgrade and enlarge the existing MCC facility within the Port, thereby increasing cargo handling efficiency and throughput. Consequently, the Project would maximize use of existing facilities and would be consistent with the long-range planning goal for the Southeast Harbor District.

Permitted Uses

Permitted uses for Planning District 8 (Southeast Harbor District) include the following:

- Primary Port Facilities;
- Port Related;
- Oil Production; and
- Ancillary Port Facilities.

The Project is a Primary Port Facility and is therefore consistent with permitted uses within the Southeast Harbor District.

6.2.2 RMP Discussion

The Risk Management Plan (RMP) is a certified amendment to the PMP. The RMP provides a framework for siting hazardous facilities by identifying and defining hazards, vulnerable resources, and criteria for determining consistency with RMP policies. The RMP requires that populations and facilities within the Port District be assessed for their status as Vulnerable Resources if they are in an area defined as hazardous.

The Project is not a hazardous facility as defined by the RMP. Furthermore, the Project site is not adjacent to a hazardous facility or vulnerable resources as stipulated in the RMP. Therefore, the RMP does not apply to the Project.

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CHAPTER 7
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CHAPTER 9
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CHAPTER 10
RESPONSES TO COMMENTS

10.1 PUBLIC COMMENT PROCESS

The public comment period is a critical part of the CEQA public participation process. It provides the opportunity for other responsible agencies and interested parties to analyze the proposed Project and provide any comments they might have on the adequacy of the environmental document. The responses to comments are then intended to provide complete explanations to the commenters and to improve the overall understanding of the Project.

10.2 COMMENTS ON THE DRAFT EIR

The POLB received a total of 21 comment letters on the Draft EIR. Eighteen (18) comment letters were received during the public review period. Three comment letters were received after the public review period had closed. One letter was from South Coast Air Quality Management District (SCAQMD), which upon their request, was granted an extension to submit comments. The second letter was from California Resources Corporation (CRC). The third letter was from Environmental Audit Inc. on behalf of MCC. Under CEQA, a lead agency is not required to provide written responses to comments received outside the public comment period. In an effort to fully address all public concerns regarding this Project, the POLB has prepared written responses to those comments received outside of the public comment period. Additionally, seven speakers provided comments during the Public Hearing for the Draft EIR on October 22, 2014. Table 10.2-1 presents a list of the comment letters received, as well as comments provided during the Public Hearing for the Draft EIR. The written comments are grouped by the affiliation of the commenter, including State Government, Regional Government, Community Groups, Industry and Business Groups, and Individuals. Each letter is given a letter code based on the name of the commenter (e.g., California Department of Transportation is given the letter code □CT□). The individual comments within the letter are annotated in the margin using the letter code and consecutive numbering (e.g., CT-1, CT-2, and so on). The responses to comments use the same annotation in order to easily correspond with the comment letter. These letters and the transcripts for the Public Hearing, in addition to the responses to comments, are located on the following pages.

Table 10-1. Public Comments Received on the MCC Cement Facility Modification Project Draft EIR

Individual /Organization	Letter Code	Date	Page □
State Government			
California Department of Transportation	CT	11/17/14	
State Clearinghouse	SCH	11/18/14	
Regional Government			
South Coast Air Quality Management District	SCAQMD	11/25/14	
Community Groups			
Natural Resources Defense Council, et al.	NRDC	11/18/14	
Coalition for a Safe Environment	CSE	11/18/14	
Industry and Business Groups			
Long Beach Area Chamber of Commerce	LBCC	11/18/14	
District Export Council of Southern California	DEC	10/17/14	
FuturePorts	FP	11/18/14	
Harbor Association of Industry and Commerce	HAIC	11/5/14	
Los Angeles Customs Brokers and Freight Forwarders Association, Inc.	LACB	10/22/14	
Pile Drivers, Bridge, Dock and Wharf Builders, Local Union 2375	PD	10/22/14	
PortTech Los Angeles	PTLA	11/10/14	
Regional Hispanic Chamber of Commerce	RHCC	Undated	
The Propeller Club of Los Angeles-Long Beach	PC	11/04/14	
California Resources Corporation	CRC	12/2/14	
Environmental Audit Inc. (on behalf of MCC)	MCC	3/16/15	

Table 10-1. Public Comments Received on the MCC Cement Facility Modification Project Draft EIR

Individual /Organization	Letter Code	Date	Page
Individuals			
Caroline Brady	CB	10/21/14	
Betsy Cheek	BC	11/10/14	
Ronald M. Cheek, PE	RMC	11/10/14	
George Cunningham	GC	11/16/14	
Dennis C. Lord	DCL	11/10/14	
Public Hearing Transcript			
Mark Hirzel	PT	10/22/14	
Sandy Cajas	PT	10/22/14	
Randy Gordon	PT	10/22/14	
Michael Crehan	PT	10/22/14	
William Lyte	PT	10/22/14	
John Schafer	PT	10/22/14	
Don Rodriguez	PT	10/22/14	

DEPARTMENT OF TRANSPORTATION
DISTRICT 7-OFFICE OF TRANSPORTATION PLANNING
100 S. MAIN STREET, MS 16
LOS ANGELES, CA 90012
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Serious drought.
Help save water!

November 17, 2014

Ms. Heather A Tomley
Director of Environmental Planning
Port of Long Beach
4801 Airport Plaza Drive
Long Beach, CA 90815

RE: Mitsubishi Cement Facility
Modification Project
Vic. LA-710, LA-47, LA-103, LA-110
SCH # 2011081098
IGR/CEQA No. 141008AL-DEIR

Dear Ms. Tomley:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above referenced project. Mitsubishi Cement is proposing modifications to its existing cement import facility within the Port of Long Beach. The proposed Project would include installation of a vessel at-berth emission control system (Dockside Catalytic Control System [DoCCS]), construction of additional cement storage and truck loading silos on an adjacent lot, and upgrades to ship unloading equipment and other landside structure. Based on the information received Caltrans has the following comments: CT-1

Caltrans as the owner/operator of the State Highway System is responsible for obtaining measures that will off-set project vehicle trip generation that worsens State facilities. Caltrans does not adhere to the CMP guide of 150 or more vehicle trips added before freeway analysis is needed. The CMP, in acknowledging Caltrans' role, stipulates that Caltrans must be consulted to identify specific locations to be analyzed on the State Highway System.

The traffic study for this project was prepared in August 2012 and the baseline traffic data was collected in 2006. To accurately analyze traffic conditions and the impacts of the project on the State facilities, Caltrans is requesting that a supplemental traffic study be conducted using 2013 Baseline traffic data. The study should also include existing conditions and accurate trip assignments. CT-2

When analyzing the State facilities, please follow statewide standard procedures outlined in CT-3

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CT-3 Caltrans Traffic Study Guide. When analyzing the off-ramp the Highway Capacity Manual (HCM) 85th percentile queuing analysis methodology, with the actual signal timings at the ramp termini should be used.

CT-4 The segment of the I-710, Ocean Avenue, SR-47, SR-103, Pico Avenue, and the ramps are within the Port of Long Beach "Gerald Desmond Bridge" replacement project area and the existing construction condition is different than the 2006 condition shown in the study. Therefore, the updated traffic study needs to identify the potential impact of the project within the limits of the designated routes, within the Port of Long Beach.

CT-5 Pico Avenue/Pier G Street & Pico Avenue/Pier E Streets are used as an alternate detour for the "Gerald Desmond Bridge" replacement project. The updated traffic study needs to address the existing Project Construction condition.

CT-6 The state facility analysis (trip assignment) shown on page 26 of the Traffic Study is not consistent with the data provided in Table 4 (Project and Alternative Trip Generation Estimates), Figure 4 (Project Trip Distribution), and Figure 5 (Reduced Project Alternative Peak Hour Traffic Volumes). Please provide clarification on the trip assignments from the project site.

CT-7 Storm water run-off is a sensitive issue for Los Angeles and Ventura counties. Please be mindful that projects should be designed to discharge clean run-off water. Additionally, discharge of storm water run-off is not permitted onto State highway facilities without a storm water management plan.

CT-8 Transportation of heavy construction equipment and/or materials, which requires the use of oversized-transport vehicles on State highways, will require a transportation permit from Caltrans. It is recommended that large size truck trips be limited to off-peak commute periods.

If you have any questions, please feel free to contact Alan Lin the project coordinator at (213) 897-8391 and refer to IGR/CEQA No. 141008AL.

Sincerely,

Dianna Watson

DIANNA WATSON
Branch Chief
Community Planning & LD IGR Review

cc: Scott Morgan, State Clearinghouse

Comment Letter: Caltrans

Response to Comment CT-1

This comment summarizes the overall development proposed at the existing MCC facility and introduces the specific comments that follow. No further response is necessary.

Response to Comment CT-2

The comment refers to Caltrans wishing to obtain "measures that will off-set project trip generation that worsens State facilities." From a CEQA perspective, in order to impose mitigation measures, a project must first be found to cause a significant impact on that State facility. (CEQA Guideline 15126(a)(3).) The comment also states that Caltrans does not follow the Congestion Management Program for Los Angeles County (CMP) threshold criteria for triggering freeway analysis, and that Caltrans must be consulted per the CMP to identify specific locations to be analyzed on the State Highways System.

On p. D-2, the CMP states: "Caltrans must also be consulted through the Notice of Preparation (NOP) process to identify other specific locations to be analyzed on the state highway system." As shown in the Draft EIR at page ES-16 and as discussed further below, Caltrans was consulted during the NOP process. However, no specific locations on the state highway system were identified by Caltrans for analysis during the NOP process.

Caltrans was consulted and has participated in the Port's environmental review of the project, which started in August 2011, on at least three separate occasions. On September 13, 2011, Port staff coordinated with Caltrans by telephone to discuss the project. On September 15, 2011 Caltrans submitted a comment letter in response to the NOP that had been released in late August of that year. On April 12, 2012, Port staff went to Caltrans' District 7 office to discuss the project, present information on trip generation and trip distribution, and confirm the approach to the traffic analysis. The input received was used to inform the scope of the study that was prepared for the Draft EIR. In a letter dated August 27, 2012 to Caltrans, the Port outlined the methodology used in the analysis and summarized the estimated trip generation and trip distribution patterns that would be used in the traffic impact analysis. This letter also identified the roadway segments and intersections that would be analyzed in the traffic study and informed Caltrans that due to the low number of trips that would be generated by the proposed project, no detailed capacity analysis on the regional freeway system would be conducted. A follow-up letter to the Port from Caltrans dated September 27, 2012 did not express concerns with the identified roadway and intersection segments or recommend any specific locations to be analyzed on the State Highway system.

The traffic impact study included in the Draft EIR was prepared in a manner consistent with the City of Long Beach traffic study policies which include analysis to comply with the CMP adopted by the Los Angeles County Metropolitan Transportation Authority (Metro). Both the City's and Metro's guidelines clearly define that a traffic impact analysis for mainline freeway monitoring locations is required when the proposed project will add 150 or more trips, in either direction, during either the AM or PM weekday peak hours. The Commenter states that Caltrans does not follow the CMP threshold criteria for triggering freeway analysis. However, the Caltrans Guide for the Preparation of Traffic Impact Studies (December 2002) does not define a specific numerical threshold that triggers the need for further freeway analysis. Since Caltrans has not adopted a specific impact analysis threshold for freeway impacts, the analysis methods described in the Metro CMP were utilized to assess impacts to regional facilities. The Metro CMP provides clear and consistent evaluation procedures for evaluating freeway impacts, which were applied in the Draft EIR analysis of the nearest regionally approved and Caltrans' supported CMP monitoring locations that would be affected by Project trips.

The CMP criteria and thresholds used in the traffic analysis are appropriate for analyzing State Highway facilities in this study. In accordance with California Government Code Section 65089, the 2010 CMP for Los Angeles was "developed in consultation with, and with the cooperation of, the transportation planning agencies, regional transportation providers, local governments, the Department, and the air quality management district", including Caltrans District 7, Southern California Association of Governments, South Coast Air Quality Management District, Los Angeles County Metropolitan Transportation Authority, and Los Angeles County cities. The CMP freeway thresholds were developed in coordination with Caltrans and are the applicable and appropriate impact criteria for this region.

Response to Comment CT-3

The comment notes that while the traffic study for the project was prepared in August 2012, it uses baseline traffic data from 2006. The comment requests that additional analysis of Existing plus Project – Construction and Existing plus Project – Operation conditions be conducted using 2013 baseline traffic data.

As a point of clarification, the traffic study was completed in August 2012 and the analysis was prepared in the months prior to that date. The study did use baseline traffic data from 2006. The NOP for the proposed modification to the MCC terminal specifically outlined that the Port proposed to utilize the 2006 activity levels of the MCC facility as the baseline condition. It clearly explained the rationale for this selection. The purpose of the NOP is to help properly define the scope of the analysis to be undertaken. Caltrans's comment letter on the NOP did not object to the Port's utilization of the 2006 activity levels as the baseline condition. On April 12, 2012 Port staff met with Caltrans to discuss the project, present information on trip generation and trip distribution, and confirm the approach to the traffic analysis. Again, Caltrans did not raise an objection to the use of the 2006 baseline.

The rationale for the utilization of the 2006 baseline is further explained in Section 3.0.2 of the Draft EIR. In addition, Response to Comment NRDC-3 includes an extensive discussion on the baseline used in the environmental analysis. As explained, the existing MCC facility at the project site was fully permitted at the time the NOP was issued (August, 2011), and had already been fully vetted under CEQA, but due to a combination of circumstances was not in operation at that time. As discussed in the Draft EIR, the environmental baseline is not necessarily the date of the NOP and, "in order to present a realistic operational baseline for analysis, the year 2006 was chosen as the most representative baseline year as it was the last full year of operation at the facility."

As a point of information, available traffic count data collected at the analyzed intersections in 2006 and 2010 were reviewed by Port staff. As shown in the table below, a comparison of 2010 traffic counts with the 2006 baseline data used in the Draft EIR, at the two study intersections, revealed that AM peak hour volumes declined in 2010 and PM peak hour volumes either declined or did not change. Traffic count data for the two study intersections are not available for 2011 (NOP date), however, cargo volumes at the

Port decreased by 3% from 6.3 million twenty-foot equivalent units (TEUs) in 2010 to 6.1 million TEUs in 2011. Therefore, traffic counts for 2011 would be lower or similar to 2010 traffic count data. In addition, the MCC facility was fully operational in 2006 and was temporarily not in operation during the NOP date of 2011. The use of 2006 traffic count data provides for a more conservative approach to the traffic analysis because the higher baseline traffic volumes at the analyzed locations result in a baseline scenario in which the relevant thresholds of significance are more likely to be triggered. That is, the threshold level of service (E or F) is more likely to result from higher traffic volumes than from lower traffic volumes.

Intersection	Peak Hour	Year 2006 Volume (sum of all approaches)	Year 2010 Volume (sum of all approaches)	Change (2006 vs. 2010)
Pico Ave./Pier G St. & Harbor Plaza	A.M.	1806	1155	-36%
	P.M.	1817	1599	-12%
Pico Ave. & Pier E St./Ocean Blvd. Ramps	A.M.	1428	1360	-5%
	P.M.	1860	1860	0%

Source: Port of Long Beach (2014)

In addition to assessing potential project impacts against the appropriate CEQA baseline, impacts were also assessed against a cumulative scenario. The Draft EIR traffic analysis used the Port's travel demand forecasting model to project long-term (2035) traffic volumes in the area which included regional growth in employment, population, schools, and other activities, as well as over 50 projects in the vicinity of the Port. As with the baseline, inclusion of this growth in the cumulative forecasts results in a conservative analysis.

Conducting analysis of potential project impacts against 2013 baseline conditions would not be appropriate because there was a temporary suspension of activities at the MCC facility, and construction on several Port projects (e.g. the Gerald Desmond Bridge replacement project and Middle Harbor Terminal Redevelopment) were in progress, resulting in temporary changes in local circulation patterns. These temporary changes mean that traffic counts in 2013 reflect the unique circumstances of detours then in place that will have changed by the time construction of the MCC project is completed. Thus, data from 2013 would be less likely to provide meaningful information about how traffic from the proposed Project will affect the local roadway network.

As the lead agency under CEQA, the Port has the discretion to select the proper baseline for the environmental analysis and has chosen 2006 as the baseline. The Port is not required under CEQA to prepare a supplemental traffic study using 2013 baseline traffic data.

Response to Comment CT-4

The comment requests that analysis of State facilities should be conducted using procedures outlined in the Caltrans traffic study guide, and that the 85th percentile queuing analysis methodology and actual signal timing information be used in the analysis of freeway ramp terminals. However, as previously stated in Response to Comment CT-2, since the Caltrans traffic study guide does not provide specific numerical thresholds for triggering further freeway analysis and impacts to State facilities, the CMP threshold criteria was used instead.

The geographic scope of the traffic study and selection of specific locations for analysis were based on the location of the project site in the context of the surrounding local and regional roadway systems and the potential for project traffic to create significant impacts. The intersections chosen for analysis are all-way stop controlled and are not freeway ramp terminals. Thus, the Existing plus Project analysis did not incorporate any signal timing information. The Cumulative plus Project analysis of the Pico Avenue and Pier E Street location analyzed a future traffic signal there with an assumed cycle length based on projected traffic volumes.

Furthermore, an analysis of the nearest CMP locations at Pacific Coast Highway & Santa Fe Avenue and Pacific Coast Highway & Alameda Street did not meet CMP thresholds for analysis; therefore, no further analysis was required per the 2010 CMP Guidelines. Three CMP mainline monitoring locations nearest to the project site were also studied which included: I-710 between Pacific Coast Highway and Willow Street, I-710 between I-405 and south of Del Amo Boulevard, and I-110 between Wilmington Avenue and south of C Street. The three locations did not meet CMP thresholds for analysis; therefore, no further analysis was required.

Response to Comment CT-5

The comment names several roadways that are within the Port of Long Beach, some of which are part of the State Highway System, which are affected by the ongoing construction of the Gerald Desmond Bridge Replacement Project. The comment notes that the existing conditions differ from the 2006 baseline conditions analyzed in the Draft EIR and reiterates the request made in Comment CT-3 that additional analysis of Existing plus Project – Construction and Existing plus Project – Operation conditions be conducted.

It is acknowledged that current conditions differ from conditions that prevailed in the 2006 baseline. This is in part due to the temporary construction impacts associated with the Gerald Desmond Bridge Replacement Project. The Port does not believe that it is necessary or appropriate to update the traffic data to document the temporary effects of the bridge construction project, as this is an abnormal condition. Such an update would not lead to meaningful information for the public or decision makers regarding the impacts of the project because the construction conditions are short term in nature.

Response to Comment CT-6

The comment requests clarification of the project trip assignment used in the traffic impact analysis, citing inconsistencies between Table 4, Figures 4 and 5 and the text on page 26 of the traffic study (Appendix B to the Draft EIR).

The text on page 26 of the Traffic Study (Appendix B in the Draft EIR) correctly states that "Up to 16 additional one-way truck trips would be added to the monitoring stations on I-710 and up to 4 one-way truck trips would be added to the monitoring station on I-110." However, that statement is incomplete because it does not also include the passenger car equivalent (PCE) number of trips that the project would add to those monitoring stations. Throughout the analysis, truck trips were converted to passenger car equivalents by applying a factor of 2.0, thus 16 additional truck trips would equate to 32 additional PCE truck trips. With the addition of net new employee trips, up to 32 to 34 net new PCE trips would be added to the monitoring station on I-110.

The trip assignment used in the Draft EIR analysis included use of the slip ramp connections between Harbor Scenic Drive and Pico Avenue (south of Pier E Street). As stated on page 3.6-1 of the Draft EIR, “Harbor Scenic Drive provides access to the Project area. It connects the Project site and the Pier G-H-J portions of the harbor to I-710.” Because Harbor Scenic Drive provides access to the project area, the project-only volumes between study intersections 1 and 2 may appear not to have continuity of traffic flow.

For clarification, the text on page 3.6-10 of the Draft EIR (under Section 3.6.1.5 Methodology, CMP Monitoring Station Analysis section) and on page 26 of Appendix B to the Draft EIR, the traffic study, will be amended as follows:

> “Up to 16 additional one-way truck trips would be added to the monitoring stations on I-710 and up to 4 one-way truck trips would be added to the monitoring station on I-110. Based on conversion of these truck trips to PCE trips and adding employee trips, up to 32 to 34 one-way PCE trips would be added to the monitoring stations on I-710 and up to 8 one-way PCE trips would be added to the monitoring station on I-110.”

This clarification does not affect the conclusion of the analysis, which is that the incremental Project-related traffic in any direction during either peak hour is projected to be less than the minimum CMP criterion of 150 vehicles per hour (vph); therefore, no further CMP freeway analysis is required.

Response to Comment CT-7

As discussed in Section 3.4.2.2 of the Draft EIR, the proposed project would comply with the requirements of the State Water Resources Control Board (SWRCB) stormwater regulations and would obtain General Construction Activity Stormwater and General Industrial Activities Permits. In addition, the proposed terminal would implement a SWRCB Municipal Stormwater and Urban Runoff Discharge Plan. Since stormwater runoff from the project terminal would be directed to storm drains that discharge to the harbor, it would not discharge or direct runoff to State highway facilities. Please also refer to Response to Comment NRDC-10.

Response to Comment CT-8

The comment advises that oversized vehicles traveling on State highways must obtain a transportation permit from Caltrans and recommends that large size truck trips be limited to off-peak commute periods.

As indicated in this comment and as discussed in Chapter 1 of the Draft EIR (page 1-6), if the use of oversized-transport vehicles on State highways becomes necessary during project construction, the applicant would be required to obtain a Caltrans transportation permit. The permit would be subject to curfew conditions, which restrict movements of loads and/or vehicles over 10 feet in width on State highways during peak commute hours (Monday through Friday 6 to 9AM and 3 to 6PM).

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STATE OF CALIFORNIA
Governor's Office of Planning and Research
State Clearinghouse and Planning Unit

Edmund G. Brown Jr.
Governor

Ken Alex
Director

November 18, 2014

Heather A. Tomley
City of Long Beach
4801 Airport Plaza Drive
Long Beach, CA 90815

Subject: Mitsubishi Cement Facility Modification Project
SCH#: 2011081098

Dear Heather A. Tomley:

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. The review period closed on November 17, 2014, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. SCH-1

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

Sincerely,

Scott Morgan
Director, State Clearinghouse

1400 TENTH STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044
TEL (916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

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Document Details Report
State Clearinghouse Data Base

SCH# **2011081098**
Project Title Mitsubishi Cement Facility Modification Project
Lead Agency Long Beach, City of

Type **EIR** Draft EIR

Description Mitsubishi Cement Corporation is proposing modifications to its existing cement import facility located at 1150 Pier F Avenue, within the Port of Long Beach (Port). The proposed project would include installation of an emission control system (Dockside Catalytic Control System [DoCCS]) to capture and reduce nitrogen oxide (NOx) emissions from ship auxiliary generators at berth, construction of additional storage silos and truck loading capacity on an adjacent lot, and upgrades to ship unloading equipment and other landside structures.

Lead Agency Contact

Name Heather A. Tomley
Agency City of Long Beach
Phone 562 283 7100 ***Fax***
email
Address 4801 Airport Plaza Drive
City Long Beach ***State*** CA ***Zip*** 90815

Project Location

County Los Angeles
City Long Beach
Region
Lat / Long 33° 44' 55" N / 118° 12' 47" W
Cross Streets Pier F Avenue and Harbor Plaza
Parcel No.
Township ***Range*** ***Section*** ***Base***

Proximity to:

Highways SR 47, I-710
Airports
Railways
Waterways Long Beach Harbor
Schools
Land Use City of Long Beach Port - Related Industrial (IP), Port Master Plan Harbor District 8, Southeast Harbor District.

Project Issues Air Quality; Biological Resources; Coastal Zone; Geologic/Seismic; Noise; Toxic/Hazardous; Traffic/Circulation; Water Quality; Cumulative Effects

Reviewing Agencies Resources Agency; California Coastal Commission; Caltrans, District 5; Office of Historic Preservation; Department of Parks and Recreation; Department of Water Resources; California Highway Patrol; Caltrans, District 7; Air Resources Board, Major Industrial Projects; Regional Water Quality Control Board, Region 4; Department of Toxic Substances Control; Native American Heritage Commission; Public Utilities Commission; State Lands Commission

Date Received 10/03/2014 ***Start of Review*** 10/03/2014 ***End of Review*** 11/17/2014

Comment Letter: State Clearinghouse

Response to Comment SCH-1

This comment notifies the Port that the Draft EIR was submitted to selected state agencies for review, and acknowledges that the Port complied with the State Clearinghouse review requirements for draft environmental documents pursuant to CEQA. No further response is necessary.

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South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4182
(909) 396-2000 • www.aqmd.gov

E-Mailed: November 25th, 2014 November 25, 2014
Heather.tomley@polb.com

Heather Tomley
Director of Environmental Planning
Port of Long Beach
925 Harbor Plaza
Long Beach, CA 90802

Review of the Draft Environmental Impact Report (Draft EIR)
for the Mitsubishi Cement Facility (MCC) Modification Project

The South Coast Air Quality Management District (SCAQMD) staff appreciates the opportunity to comment on the Draft EIR for the Mitsubishi Cement Facility (MCC) Modification Project. AQMD-1

The proposed Project includes expansion of the MCC facility at Berth F208 into the adjacent vacant property, construction of four additional cement storage and loading silos with a truck lane under each pair of silos, installation of a Dockside Catalytic Control System (DoCCS) to control at-berth NO_X vessel emissions, and upgrades to ship unloading equipment. MCC is proposing to construct the additional cement storage silos and truck loading equipment on the vacant property that is the location of the former warehouse. The warehouse has been demolished and the site is vacant. Upon completion of the new silos, a new ship unloader would be added, the larger existing unloader would be upgraded, and the smaller existing unloader would be decommissioned. The new cement storage silos would be connected to the existing warehouse and new ship unloaders via new piping. The 4.21 acre Project site would be expanded to 5.92 acres.

The existing SCAQMD permit limits the ship unloading throughput to 9.66 million short tons (8.76 million metric tons) per year and the truck loading throughput to 3.8 million short tons (3.45 million metric tons) per year. The permit also requires that all ships be in "cold iron status" while unloading (that is, they must use shore-to-ship power instead of onboard auxiliary generators). MCC was only able to achieve approximately 66 percent average shore-to-ship power use in 2006. In 2005, MCC obtained an Order for Abatement from SCAQMD that allowed limited on-vessel generator use for unloading activities. The last vessel to call at MCC was in 2008.

The proposed Project would not modify the permitted unloading and loading limits. However, in the interest of a conservative analysis, the Draft EIR analyzed the environmental impacts from MCC's maximum capacity throughput. At completion, the modifications would result a throughput increase to 4.6 million short tons (4.2 million

AQMD-1 metric tons) of cement from 99 ships, resulting in 166,400 truck trips. MCC's existing SCAQMD permit will be modified to allow vessels that call at MCC facility to either use shore-to-ship electricity or use the proposed DoCCS at berth.

AQMD-2 As part of the Project's Environmental Controls, in EC AQ-2, the Lead Agency will verify and enforce that OGVs that call at the MCC facility shall use shore-to-ship power no less than 66 percent of the time. Compliance will be demonstrated by annual reports submitted by MCC to the Port's Environmental Planning Division. However, there is no discussion as to the repercussions should MCC not be able to meet the 66 percent cold-ironing requirement. Please provide more information to clarify the Lead Agency's actions in the event that MCC is unable to meet this Project requirement.

AQMD-3 SCAQMD staff has concerns about the modeling performed for this Project, which might have led to an under-estimation of the Project's air quality and health risk impacts. Additional details are included in the attachment.

Pursuant to Public Resources Code Section 21092.5, please provide the SCAQMD staff with written responses to all comments contained herein prior to the adoption of the Final EIR. Further, staff is available to work with the lead agency to address these issues and any other questions that may arise. Please contact me at (909) 396-3176, if you have any questions regarding the enclosed comments.

Sincerely,

Jillian Baker

Jillian Baker, Ph.D.
Program Supervisor
Planning, Rule Development & Area Sources

Attachment

LAC141003-05
Control Number

SN:JB:JK:JC

AERMOD Modeling

1. The Draft EIR did not provide a clear documentation of the modeled sources and receptors. The Final EIR should include a table with text that identifies each source or group of sources corresponding to the activity/source included in the emission spreadsheets. For example, in the Health Risk Assessment (HRA), source H includes OGV hoteling, SCR and duct burner emissions for annual emissions, but seems to only include boilers in the annual emissions. Some sources are identified in the input files, but some are not. This documentation should be included in the Final EIR. AQMD-4

2. Although Table A-2-3 shows the temporal distribution of sources, it was unclear how those variable emissions were modeled and which scenarios it applied to. The hourly variable emission rates in the outer harbor AERMOD input files are not consistent with the variable emissions rates in the Excel file (RateFactors-AERMOD.xls). Upon SCAQMD staff request, the annual and hourly variable emission rates were provided in an Excel file (RateFactors-AERMOD.xls). However, no documentation was provided that detailed how the variable emission rates were assigned. For example, the OGV Fairway emissions were shown to occur between midnight and 1:00 am, OVG precautionary travel would occur between 1:00 am and 2:00 am, etc. It is unclear how those hours were assigned to ensure that the maximum impacts from the Project's peak day were properly analyzed. In another example, the hoteling values were set to zero for the peak NO_2 emissions scenario in the input file, but the Excel file (RateFactors-AERMOD.xls) shows that 20 hours of emissions should be emitted from these sources. Since variable emission rate for this source was set to zero, the criteria impacts from these sources were not modeled and are under estimated. The Final EIR should include documentation that describes the scenarios (annual and hourly) provided in the spreadsheet and explain why these scenarios appropriately capture the annual average and the peak hourly conditions. AQMD-5

3. There are two sets of receptor grids used in the AERMOD modeling - a coarse and fine receptor grid. Coarse grids were used to model NO_2, CO, PM_{10} and $PM_{2.5}$ concentrations. Fine grids were used only for $PM_{2.5}$ and PM_{10}. Both coarse and fine receptor grids were used in the HRA. The coarse receptor grid is comprised of a 250-meter grid spacing extending out to no further than 5,000-meters from the facility, and a 500-meter grid spacing extending out to no further than 11,000-meters from the facility. The fine receptor grid used a 50-meter grid spacing, extending out to 500-meters from within the facility. The Draft EIR indicated that this grid spacing was used to reduce the resources needed for the AERMOD modeling run time. However, this alone is not an adequate reason to reduce the number of receptors modeled. SCAQMD staff is concerned that by limiting the number of receptors, the Project's air quality impacts might have been under-estimated. For this project, SCAQMD staff recommends a coarse receptor grid with a 100-meter grid spacing extending out to 2,500-meters from the facility and a 250-meter grid spacing, extending out to 10,000-meters from the facility. This grid should be used to determine the locations of maximum impact for each averaging period. If the maximum impacts for any of the averaging periods are not adequately captured by the coarse grid, a fine receptor grid with a 50-meter spacing can be used in the area of the potential maximum impact to AQMD-6

AQMD-6 ensure that the air quality impacts from the Project have been estimated correctly. The Final EIR should include figures showing the locations of the maximum impact for each averaging period and the placement of both the coarse and fine receptor grids.

AQMD-7 4. While the receptor numbers match in the various output files, not all of the output files have the UTM coordinates. There are inconsistencies in the UTM coordinates between the output files and UTM coordinates in the Excel files used to post-process the concentrations. For example, in the HRA, the Project concentrations (FE) were subtracted from the CEQA baseline concentrations (CB) and listed as receptor number 488 in the Excel file (HRA-FE-Results-COARSE.xls). However, it appears that the receptor in the CEQA baseline corresponding to UTM 38800, 3738750 is receptor 476. When SCAQMD staff reran the HARP off ramp values provided with the Draft EIR, the health risk values generated were lower than those reported in the Excel files and Draft EIR. Since the values were not the same, SCAQMD staff could not validate that the proposed Project concentrations were subtracted from the CEQA baseline concentrations at the same receptor. SCAQMD staff could not reproduce the health risks reported in the Draft EIR and could not verify that the health impacts have been accurately disclosed. The Final EIR should include all spreadsheets used to determine the Project's incremental impacts (by subtracting the CB scenario from the FE scenario) and list the receptors both by receptor number and UTM coordinates.

AQMD-8 5. Some of the receptors were placed within the volume source exclusion zone and their results would be invalid. Since there are modeled volume sources which extend beyond the Project boundary, care should be taken to ensure that no receptors are placed within the volume source exclusion zone.

AQMD-9 6. Page A-2-7 of the Draft EIR indicates that 2006-2007 meteorological data from the Gull Park station (outer harbor) and Superblock station (inner harbor) was used for dispersion modeling for both criteria pollutants and toxic air contaminants (TACs). The meteorological data was processed using AERMET version 12345, which is outdated. The US EPA recommends that for on-site meteorological data, the most recent one-year be used for the purposes of air dispersion modeling. Therefore, SCAQMD staff recommends that the Lead Agency update the meteorological data with the latest year of available data and use AERMET version 14134 (or the most recent version available at the time of analysis) to process the data. Alternatively, SCAQMD staff has prepared AERMOD-ready meteorological data which could be used by the Lead Agency in its air quality analysis. The meteorological data is available for download here: http://www.aqmd.gov/home/library/air-quality-data-studies/meteorological-data/data-for-aermod.

Criteria Pollutant Analysis

AQMD-10 7. Note C of Tables 3.2-12 through 3.2-25 of the Draft EIR implies that NO_X to NO_2 emission conversion rates (25.8 and 46.7 percent) from the SCAQMD LST Guidance were used to estimate NO_2 emissions. The use of the NO_X to NO_2 conversion ratios contained in the SCAQMD's LST Guidance are not appropriate for this Project. The NO_X to NO_2 conversion ratios listed in SCAQMD's LST Guidance were meant to be used with ISCST3, which did not allow for the NO_X to NO_2 conversion within the model. Within AERMOD, the conversion from NO_X to NO_2 can be modeled either by using the Tier 1 (full conversion), Tier 2 (ARM), or Tier 3 (OLM or PVMRM). Upon SCAQMD staff review, it appears that no NO_X to NO_2 emission conversion rates were applied (Tier 1 analysis). The Final EIR should be updated to reflect this. AQMD-10

8. The Federal one-hour NO_2 NAAQS is the 3-year average of the 98th percentile of the yearly distribution of one-hour daily maximum NO_2 concentrations. Since only one year of meteorological data was used for air dispersion modeling, the project proponent used the maximum NO_2 concentration to represent the 3-year average of the 98th percentile of the yearly distribution of one-hour daily maximum NO_2 concentrations. This could have resulted in an over estimation of the NO_2 concentration since the highest concentrations may have occurred on the same day. However, multiple years of met data may reveal other peaks that are not captured by the single year that was used. AQMD-11

<u>Health Risk Assessment</u>

9. The TACs in Table A.3-105 (Hourly DPM Emission Simulations) and Table A.3.1-13 (Annual DPM Emissions Simulations) are not the same. For example, the annual emissions include TACs from the duct burner (benzene, ethyl benzene, etc.), but these emissions are not included in the hourly emissions even though they have acute health risk values (RELs). In addition, there are no hourly or annual ammonia emission rates for the hoteling sources, which include the SCR unit. It appears that the ammonia slip emissions from the SCR were not included in the HRA. Therefore, the health risk impacts from the Project are likely underestimated in the Draft EIR. The Final EIR should include revisions to the HRA to include these emissions. AQMD-12

10. The hourly variable emission rates in the outer harbor AERMOD input files are not consistent with the variable emissions rates in the Excel file (RateFactors-AERMOD.xls). The emission factors for the hoteling and Kovaco cement unloader+50 percent payloaders are zero for all hours, which would mean that the emissions from these sources were not modeled. The Excel file (RateFactors-AERMOD.xls) shows that 20 hours of emissions should be modeled from these sources. Since emissions from these sources were not modeled, the health risk impacts in the Draft EIR are likely under estimated. The Final EIR should include revisions to the HRA to include the emissions from these sources. AQMD-13

11. The acute TAC emissions are missing in HARP emission files (MCP_Outer_FE_Acute(08-04-14).ems, and MCP_Inner_FE_Acute (08-04-14).ems). Since acute health risks are reported in Table 3.2-14 of the Draft EIR, SCAQMD staff were unable to verify the acute impacts from the provided files. The Final EIR should include the appropriate acute emissions files used in HARP. AQMD-14

12. Maps should be included in the Final EIR that show the MICR, MICW, and maximum acute and chronic HIs identified by the coarse receptor grids. No fine receptor grids appear to be included in the HRA analysis included with the Draft EIR. Fine receptor grids should be placed around the MICR, MICW, and maximum acute AQMD-15

AQMD-15 and chronic HIs identified by the coarse grid to refine the locations and concentrations of the MICR, MICW, and maximum acute and chronic HIs. Maps identifying the MICR, MICW, and maximum acute and chronic HIs determined by the fine receptor grids should also be included in the Final EIR. Since a fine receptor grids were not used it is unclear if the correct locations and concentrations of the MICR, MICW, and maximum acute and chronic HIs were identified in Draft EIR.

Mortality and Morbidity

AQMD-16 13. On Page 3.2-31 of the Draft EIR, the Lead Agency determined that mortality and morbidity significance would be identified by air dispersion modeling where the incremental operational emissions would result in off-site 24-hour PM2.5 concentrations that exceed the SCAQMD significance criterion of 2.5 $\mu g/m^3$. The SCAQMD staff does not agree with using a screening threshold of an incremental increase of 2.5 $\mu g/m^3$ for determining mortality and morbidity. The SCAQMD's PM2.5 significance threshold of 2.5 $\mu g/m^3$ is designed to determine the significance of localized impacts on nearby receptors, and was made consistent to existing permitting requirements under our Rule 1303. The PM2.5 significance threshold of 2.5 $\mu g/m^3$ was not intended to be used as a screening tool to further analyze mortality and morbidity impacts. The PM mortality analysis in the Draft EIR should instead use the methods described in CARB's 2008 guidance document.[1]

[1] Methodology for Estimating Premature Deaths Associated with Long-term Exposure to Fine Airborne Particulate Matter in California, 10/24/2008.
http://www.arb.ca.gov/research/health/pm-mort/PMmortalityreportFINALR10-24-08.pdf

Comment Letter: South Coast Air Quality Management District

Response to Comment AQMD-1

Thank you for your comment. The comment describes the proposed modification to the MCC facility and is noted.

Response to Comment AQMD-2

The comment describes Environmental Control (EC) AQ-2. The comment requests information regarding the potential consequences if MCC is unable to meet the requirements of EC AQ-2.

The 66 percent annual cold-ironing rate identified in Draft EIR EC AQ-2 is the level achieved by the MCC terminal in 2006, the last year of full operation. EC AQ-2 establishes this percentage as the minimum MCC must achieve going forward. MCC will cold iron vessels whenever feasible in order to achieve the 66 percent annual cold ironing rate as identified in EC AQ-2, and MCC will strive to achieve greater than 66% cold ironing. The new lease agreement between the Port and MCC will include the requirements contained in EC AQ-2 that vessels calling at the terminal shall achieve an annual cold-ironing rate of at least 66 percent. MCC will be held to the requirement of the lease. Should it fail to comply, it would be in breach of the lease and would be subject to the consequences of such breach, including lease termination. Pursuant to CEQA Guideline 15126.4(a)(2), imposition of requirements such as this through contractual agreements is appropriate.

Response to Comment AQMD-3

Please see the responses to comments AQMD-4 through AQMD-16 for the responses to the detailed comments. The Port appreciated the AQMD staff's time and availability to address issues and questions during the preparation of the Final EIR. The Port coordinated with AQMD staff via telephone on January 23, 2015 to seek clarification on a couple of AQMD's comments. Please see Response to Comments AQMD-7 and AQMD-14 for further details.

Response to Comment AQMD-4

Page A-2-2 of Draft EIR Appendix A-2 identifies the sources evaluated for the (1) 1- and 8-hour, (2) peak day, and (3) annual analysis scenarios. The peak 1-hour scenario does not include OGV hoteling emissions, as an hourly scenario with OGV harbor transit and docking activities (and associated assist tug operations) would generate the highest hourly emissions and resulting ambient pollutant impacts within the project region (for reference, Appendix A-2 Table A.2.1-5 shows hourly emission rates for these sources). In addition, the hoteling source H for the annual modeling scenarios includes emissions from the boilers, SCR duct burner, and 34% annual use of the diesel-powered onboard generators, as shown in Appendix A-2 Table A.2.1-7. These data can be verified by accessing the Excel version of this table provided to the AQMD as part of the Draft EIR analysis package (file Crit-FE-Annual-DEIR.xlsx) and following the file links to the hoteling line item in Table A.2.1-7. To aid in the explanation of the project analyses, Table A-2-3a has been added to Final EIR Appendix A-2 to display sources modeled for each project scenario and pollutant averaging period.

Regarding the annual emissions evaluated in the project HRA, the hoteling sources include emissions from boilers, SCR duct burner, and 34% annual use of the diesel-powered onboard generators. Response to Comment AQMD-12 includes further discussions of the HRA emissions evaluated in the project HRA.

Response to Comment AQMD-5

Regarding the project sources modeled for each scenario and pollutant averaging period, please see the response to comment AQMD-4. Appendix A-2 Table A-2-3 in the Draft EIR identifies the temporal factors used in the annual modeling scenarios. These data are the same as those used in the CARB Diesel Particulate Matter Exposure Assessment Study for the Ports of Long Beach and Los Angeles (CARB 2006), with project-specific variations identified by MCC. The file RateFactors-AERMOD.xls provided to the AQMD for their review of the Draft EIR analyses includes source temporal factors for both the peak day and annual scenarios. Appendix A-2 Table A-2-3 in the Final EIR has been revised to add temporal data for the peak day and peak hour modeling scenarios.

Regarding justification for selection of the peak hour emissions modeling scenario, please see the Response to Comment AQMD-4. Selection of the peak day emissions scenario used in the AERMOD analyses was based on the assumption that the time of day when project OGV sources operate would have little effect on maximum ambient particulate matter (PM) impacts generated by all project sources. This is because truck road dust and cement handling activities are the main sources of project PM. Hence, the first hour of the day (0000 to 0100 local time) was chosen when a project OGV would arrive in the outer water and then transit to the project terminal. However, to respond to the concerns raised in the comment, a sensitivity analysis was performed to evaluate all 24 possible peak day project PM scenarios by moving forward in time by one hour each emission source temporal factor identified in the peak day sheet of the RateFactors-AERMOD.xls file. This sensitivity analysis showed that the maximum project peak day PM_{10} impact was only 1.7 percent greater than the impact identified by the current analysis in the Draft EIR. This is a minor increase and would not affect any significance determination for any project scenario. The Port provided the AERMOD input/output files for this sensitivity analysis to the AQMD as part of the Final EIR analysis package under cover letter dated 4/20/15.

Response to Comment AQMD-6

The comment questions the grid spacing used in the HRA, and states: "The Draft EIR indicated that this grid spacing was used to reduce the resources need for the AERMOD modeling run time." However, as stated in Section 7.0 of Draft EIR Appendix A-2, the only area where the grid spacing was increased, thereby reducing the number of receptors was where the coarse receptor field extended over water. This approach was taken because people and sensitive receptors do not reside in this portion of the Port; therefore, analysis of impacts over water is de-emphasized. Appendix A-2 Figure A-2.2a identifies the locations of these overwater coarse receptors.

To respond to the concerns raised in the comment regarding the possibility that use of this grid system did not identify all maximum project pollutant impacts, project impacts were re-analyzed using a 50-meter receptor grid system that extended up to 400 meters beyond the project terminal boundary. This approach satisfies the concerns raised in the comment because all maximum project pollutant impacts would occur within this analysis area. The results of this analysis confirmed that all project scenario PM_{10}/$PM_{2.5}$

maximum impacts were correctly identified in the Draft EIR, with one exception that the annual PM_{10} impact for the no project alternative occurred slightly closer to the terminal and the no project minus CEQA baseline net value increased from 0.9 to 1.18. This analysis also identified maximum CO and NO_2 impacts for all project scenarios that are slightly higher and at locations slightly closer to the project terminal compared to the Draft EIR. The maximum CO impacts remain substantially below applicable significance thresholds. The 1-hour NO_2 impacts increased slightly and remain significant as identified in the Draft EIR for which all feasible mitigation measures have been applied. Section 3.2 of the Final EIR presents these new CO, NO_2, and PM_{10} values. The Port provided the AERMOD input/output files for this fine grid analysis to the AQMD as part of the Final EIR analysis package under cover letter dated 4/20/15.

Regarding the request to provide figures showing the locations of various maximum project pollutant impacts and receptor grids, the Draft EIR included a blend of both graphics and text discussions to describe the locations of project impacts. Since most of the project maximum ambient impacts are well below their applicable significance thresholds, the impacts were identified with textual descriptions rather than graphic presentations. However, the Final EIR Appendix A-2 has been supplemented with graphics that identify the locations of significant 1-hour NO_2 impacts for each project scenario and the coarse and fine grid receptor systems used in the modeling analyses.

Response to Comment AQMD-7

To address this comment, the Port communicated with AQMD staff via telephone on January 23, 2015. As discussed during the call, the CEQA baseline and the No Project scenarios had one additional coarse receptor point compared to the proposed Project and Reduced Throughput alternative, which is why the receptor numbers did not appear to match in the various output files provided to AQMD. The Port provided the receptor number and UTM coordinate for the additional coarse receptor point to AQMD and AQMD staff were able to verify the receptor point in the AERMOD modeling and determine that the UTM coordinate systems were used in a consistent way in all of the project air dispersion analyses. The Port and AQMD agreed in a follow-up email on 1/23/15 that the comment had been addressed. Therefore, no revision to the Final EIR is necessary.

Response to Comment AQMD-8

Comment noted. One fine grid receptor point (#55 associated with coarse receptor #415) and one coarse receptor point (#474) located adjacent to the project terminal occurs within the volume source exclusion zones of separate Pier F Avenue truck emissions sources. Since AERMOD estimates impacts from sources at the receptor point, if the receptor point occurs within the footprint of a volume source, AERMOD eliminates calculation of impacts at that receptor. As a result, AERMOD did not estimate the ambient impact of the individual volume sources at these two receptor locations. However, this omission does not have an impact on the analysis, as the analysis evaluated impacts at these two receptor locations from 24 other truck sources used to simulate emissions from Pier F Avenue, plus all other proposed sources. In other words, elimination of one Pier F Avenue trucking source at these individual locations resulted in a loss in evaluation of (1) less the 0.1 percent of the total project emissions associated with the peak hourly scenario and (2) substantially less than 0.1 percent of the total project emissions associated with the peak day or annual scenarios (for reference, Appendix A-2 Table A.2.1-5 shows hourly emission rates for these sources). Therefore, this omission does not have an effect on the results of the air dispersion modeling analyses in the Draft EIR. No revision to the Final EIR is necessary.

Response to Comment AQMD-9

The meteorological data used in the air dispersion modeling analyses were recorded from September 2006 through August 2007. These data represent typical conditions in the project region and therefore require no updating to a newer period of record (ENVIRON 2013).

The project air dispersion modeling analyses in the Draft EIR were actually performed with the most recent version of AERMOD at the time of the analysis (version 14134 released May 14, 2014), but the meteorological data used in the analyses were processed with AERMET version 12345 (released December 11, 2012). The EPA has updated AERMET twice since the 12345 version: (1) version 13350 (released December 16, 2013) and (2) the current version 14134 (released May 14, 2014). As part of their ongoing documentation of AERMOD/AERMET, the EPA performs sensitivity analyses that compare model updates to past model versions to enable users to understand the effects of new model updates. Sensitivity analyses that compare use of AERMOD version 14134 with AERMET versions 12345 and 14134 are not available. However, analyses are available showing that there are not significant differences between the different versions of AERMET. For example, the use of AERMOD version 13350 to simulate the same source types as those in the project analyses (volume or point sources in flat terrain) with either AERMET version 12345 or 13350 resulted in differences in impacts of no greater than 0.5 percent and in some cases none at all between these two versions of AERMET (EPA Support Center for Regulatory Atmospheric Modeling [SCRAM] website http://www.epa.gov/ttn/scram/dispersion_prefrec.htm#aermod). Additional analyses from the EPA SCRAM site also show that use of AERMOD version 14134 to simulate the same source types with either AERMET version 13350 or 14134 resulted in no differences in impacts. These analyses show that since impacts from (1) AERMET version 12345 are nearly equal to version 13350, (2) AERMET version 13350 are equal to version 14134, then (3) AERMET version 12345 are nearly equal to 14134. Therefore, use of AERMET version 14134 instead of version 12345 in the project dispersion modeling analyses would not produce a substantial difference in impacts compared to those presented in the Draft EIR. The Port provided files of the AERMOD sensitivity analyses conducted by the EPA to the AQMD as part of the Final EIR analysis package under cover letter dated 4/20/15.

The Port appreciates the offer to use AERMOD-ready meteorological data processed by the AQMD. However, since these data were collected several miles from the Port area, they are not as representative of conditions within the project region as the Port's data.

Response to Comment AQMD-10

The Draft EIR analyses used the NO_x to NO_2 conversion ratios contained in the AQMD LST Guidance to estimate ambient project NO_2 impacts because it is believed that this approach produces impacts that are more realistic and accurate than the Tiers 1 through 3 methods suggested in the comment. This is because the Tiers 1 through 3 methods used by AERMOD to estimate ambient NO_2 impacts are known to substantially over-predict these impacts (Hanna et al 2012). For example, the study by Hanna et al (2012) determined that the AERMOD/OLM option over predicted high end NO_2 concentrations by a factor of two. Nevertheless, to respond to the concerns raised in the comment, the project NO_2 impact analysis has been updated in the Final EIR with a Tier 3 detailed screening method that uses the Ozone Limiting Method (OLM) option in AERMOD. The OLM was chosen over the Plume Volume Molar Ratio Method (PVMRM), as the project AERMOD analyses simulate most project emission sources as ground-based volume sources that are subject to plume overlap (such as roadways). The EPA recommends use of the OLM for this type of simulation versus use of the PVMRM (EPA 2014). Section 3.2 of the Final EIR presents these revised NO_2 impact values in the maximum ambient pollutant impacts tables. However, results from this analysis do not change the significance determination and all feasible mitigation measures have been applied. The Port provided input/output files of this AERMOD OLM analysis to the AQMD as part of the Final EIR analysis package under cover letter dated 4/20/15.

Response to Comment AQMD-11

The project NO_2 impact analysis has been updated in Section 3.2 of the Final EIR to identify the 98th percentile of the 1-hour daily maximum NO_2 concentrations from an annual period of meteorological data. This statistic equates to the eighth highest 1-hour daily value in one year. It is possible that use of three continuous years of meteorological data (2006 through 2009) for this analysis would identify either a slightly higher or lower 98th percentile project NO_2 impact value (the 24th highest 1-hour daily value over a three-year period). This is expected because meteorological and pollutant background conditions are more variable over a three-year versus one-year period. However, EPA modeling guidance for the 1-hour NO_2 NAAQS states that use of one year of site-specific meteorological data for use in this analysis "…serves as an unbiased estimate of the 3-year average for purposes of modeling demonstrations of compliance with the NAAQS" (EPA 2010). Since the POLB Gull Park monitoring station is less than 0.5 miles from the project site and location of maximum project NO_2 impacts, meteorological data recorded at this station qualify as site-specific for the project. Therefore, the approach used for the project analysis in the Draft EIR is the best available to determine project compliance with the 1-hour NO_2 NAAQS.

Response to Comment AQMD-12

Please see the response to comment AQMD-4 regarding what project sources were modeled for each project scenario and pollutant averaging period. The peak hour (acute) analysis scenario includes a subset of the annual emissions analysis scenario, as for example, it is impossible for a project OGV to operate in all modes (offshore transit, harbor transit, docking, and hoteling) in one hour. It was determined that OGV harbor transit and docking activities would result in the highest emissions of toxic air contaminants (TACs), compared to OGV hoteling. As a result, OGV hoteling emissions, including ammonia emissions from the SCR duct burner, are not part of the peak hour or acute analysis scenario. Therefore, the TACs presented in Draft EIR Appendix A-3 Tables A.3.1-105 (Hourly DPM Emission Simulations) and A.3.1-13 (Annual DPM Emissions Simulations) should not be the same.

The presentation in the Appendix A-3 tables of TACs estimated for the project scenarios did not include a separate table for ammonia emissions, as was the case for some other pollutants, such as DPM. However, the summary table that combines all TACs evaluated for project chronic effects (Table A.3.1-66 -Total Annual PPY Chronic TAC Emission Simulations for the Full Expansion Project - Chronic Analysis - POLB MCC Project) presents the annual ammonia emissions estimated for the project (127.2 pounds per year). Therefore, the project HRA in the Draft EIR evaluated all potential TACs and no revision is necessary.

Response to Comment AQMD-13

Please see the response to comments AQMD-4 and AQMD-12 regarding what project sources were modeled for each scenario and pollutant averaging period. OGV hoteling and unloading are not part of the peak hour (acute) analysis because OGV harbor transit and docking activities (and associated assist tug operations) would generate the highest project hourly emissions and resulting ambient pollutant impacts within the project region. In addition, please see the Response to Comment AQMD-5 regarding the temporal rate factors applied to each project source for each scenario and pollutant averaging period. The file RateFactors-AERMOD.xls provided to the AQMD for their review of the Draft EIR analyses included source temporal factors for peak day and annual scenarios, but not the peak hour scenario (these data have been added to Appendix A-2 Table A-2-3 in the Final EIR). The 20 hours of operation of the hoteling and unloader/payloader sources pertain to the peak day scenario, not the peak hour scenario. Since the project HRA in the Draft EIR evaluated all potential sources of TACs as part of the acute (peak hour) and chronic (annual) scenarios, no revision is necessary.

Response to Comment AQMD-14

To address this comment, the Port communicated with AQMD staff via telephone on January 23, 2015. These discussions enabled the AQMD to determine that the HARP emissions files provided to the AQMD during the Draft EIR review period included the hourly acute TAC emissions. The Port and AQMD agreed in a follow-up email on 1/23/15 that the comment had been addressed. Therefore, no revision to the Final EIR is necessary.

Response to Comment AQMD-15

Please see the Response to Comment AQMD-6 regarding the request to provide additional graphic documentation of the project air quality analyses. Since most of the project maximum HRA impacts are well below their applicable significance thresholds, as discussed below, the impacts were identified with textual descriptions rather than graphic presentations. The Final EIR includes additional textual discussions in Section 3.2.2 to identify locations of the more substantial and/or significant HRA results.

No fine grid analyses were performed for the coarse grid HRA results, as the coarse analyses determined that all maximum health impacts were well below 50 percent of the applicable significance thresholds and, in addition, some of these impacts are negative values (project effects were lower than CEQA baseline effects). The maximum coarse receptor residential cancer risk (1.7 per million) would occur about 200 meters west of the I-710 freeway and just north of Anaheim Street (coarse receptor 488), and the main contributor to this risk was project trucks within the freeway. In the Draft EIR analysis, this point was conservatively defined as residential, when this area only has industrial and commercial land uses. However, to respond to the concerns raised in the comment regarding the possibility that the project HRA did not identify the maximum residential cancer risk, project impacts were re-analyzed at this location using a 50-meter receptor grid system that extended 250 meters out from this point. This analysis determined that cancer risks would increase from coarse receptor 488 towards the east, due to the influence of project truck emissions within the I-710 freeway and that the maximum cancer risk was 5.9 per million. However, the entire fine grid area east of receptor 488 comprises non-residential land uses: industrial, commercial, and the Anaheim Street/I-710 interchange. No residential cancer risks within the fine grid exceeded the risk value of coarse receptor 488 (1.7 per million). Therefore, the project HRA in the Draft EIR accurately identified a conservative residential cancer risk impact. The Port provided the input/output files of this fine grid cancer analysis to the AQMD as part of the Final EIR analysis package under cover letter dated 4/20/15.

The maximum coarse receptor worker cancer risk (1.0 per million) would occur a few meters east of Pico Avenue, about one mile northeast of the project terminal, and the main contributor to this risk was project trucks within Pico Avenue and to a lesser extent, OGV emissions. This point is essentially the maximum impact location for truck emissions along Pico Avenue, since it is next to the shoulder of this roadway. Project OGV emissions are fairly well dispersed at this location, as they would be sourced at least one mile away. As a result, their impact to worker cancer risks would not vary substantially within a fine grid overlaid at this point. Therefore, performing fine grid analyses on this project health impact would identify only a very small increase at the most in worker cancer risks compared to the coarse receptor value.

The maximum coarse receptor residential and worker chronic and acute non-cancer effects would be no more than 6 percent of the applicable health significance thresholds. Performing fine grid analyses for these risks would identify impacts that would be substantially less than 50 percent of the applicable health significance thresholds. Therefore, performing fine grid analyses on any of these nominal project health impacts would not provide more useful information than what is already included in the Draft EIR.

Response to Comment AQMD-16

Neither CARB nor AQMD has established a methodology or significance threshold for evaluating $PM_{2.5}$ mortality and morbidity in a CEQA document. Moreover, AQMD submitted a letter on September 7, 2011, in response to the Notice of Preparation of the Draft EIR. That letter did not reference any requirement for conducting a mortality and morbidity analysis for this proposed project. Nor did the letter contain any suggestions as to how such analysis would be undertaken. CARB did not respond at all to the Notice of Preparation. CARB's 2008 report cited in the comment does not provide any guidance as to whether such an analysis should be prepared for a project level CEQA assessment. Nor does it explain how such an analysis would be conducted. In the absence of any guidance, the Port followed the methodology described in detail in Section 3.2 of the Draft EIR and Section 8 of Appendix A-3.

Mortality and morbidity studies examining health effects of exposure to fine particulate matter have been used by US EPA and CARB to set the NAAQS and CAAQS, respectively, and by AQMD to set the CEQA significant concentration thresholds for particulate matter. For this reason, a comparison of the Project's modeled $PM_{2.5}$ concentrations to the AQMD's CEQA significance threshold for $PM_{2.5}$, which is more stringent than the NAAQS and CAAQS, implicitly accounts for mortality and morbidity effects on sensitive receptors.

To determine whether a detailed mortality and morbidity analysis was necessary for the proposed Project, the Port compared the locations of ambient $PM_{2.5}$ impacts predicted for the Project to the $PM_{2.5}$ 2.5 ug/m^3 24-hour threshold set by AQMD. Figure A-2-7 in Appendix A of the Draft EIR shows the area in which Project minus CEQA baseline $PM_{2.5}$ ambient impacts would exceed the 2.5 ug/m^3 threshold. As that figure indicates, the $PM_{2.5}$ 24-hour concentration of 2.5 ug/m^3 extends a maximum of about 250 meters beyond the fence line of the proposed Project. There are no residential or sensitive receptors within or near this area. The nearest residential receptor is about 1.2 miles away, and the nearest school is about 1.6 miles away. The predicted $PM_{2.5}$ 24-hour concentrations at these locations would be much less than 1 ug/m^3. Because the Project-related $PM_{2.5}$ concentrations would be so low at the nearest residential or sensitive receptor, a more detailed mortality and morbidity analysis is not required for this Project.

Natural Resources Defense Council * East Yard Communities for Environmental Justice
San Pedro and Peninsula Homeowners Coalition * Communities for a Better Environment
South Bay 350 Climate Action * Nicoal Sheen* Coalition for Clean Air * Theral Golden
Coalition For A Safe Environment * California Kids IAQ * Community Dreams
Apostolic Faith Center * EndOil/Communities for Clean Ports

November 18, 2014

Heather A. Tomley
Director of Environmental Planning
Port of Long Beach
PO Box 570
Long Beach, CA 90801
E-mail: Heather.Tomley@polb.com

Re: Draft Environmental Impact Report: MCC Cement Terminal

Dear Ms. Tomley,

On behalf of the Natural Resources Defense Council, East Yard Communities for Environmental Justice, San Pedro and Peninsula Homeowners Coalition, Communities for a Better Environment, South Bay 350 Climate Action, Nicoal Sheen, Coalition for Clean Air, Theral Golden, Coalition for a Safe Environment, California Kids IAQ, Community Dreams, Apostolic Faith Center, and EndOil/Communities for Clean Ports, we submit these comments on the Draft Environmental Impact Report (DEIR) for the MCC Terminal, Inc. Cement Facility Modification Project (MCC, Project) currently being planned at the Port of Long Beach. As discussed further below, we have major concerns regarding several aspects of the DEIR, which we believe renders the DEIR to be flawed and, thereby, in violation of CEQA. We are also concerned that the proposed Project seems to be a step backwards in terms of the Port's leadership on cleaning up port operations. NRDC-1

Further, the commodity at the center of this Project is a significant source of global CO2 emissions. Cement plants account for five percent of global emissions worldwide,[1] and production of just one ton of cement requires about 400 pounds of coal and generates nearly a ton of CO2.[2] This Project aims to annually import millions of tons of cement from outside of the U.S. in order to meet a projected increased demand for cement and concrete within the U.S. Because of the severe effects that cement and concrete production have on the environment, it is NRDC-2

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[1] Elisabeth Rosenthal, "Cement Industry is at the Center of Climate Change Debate," *The New York Times*, Oct. 26, 2007. (http://www.nytimes.com/2007/10/26/business/worldbusiness/26cement.html?_r=0).

[2] Madeleine Rubenstein, "Emissions from the Cement Industry," *Climate Matters*, May 9, 2012 (http://blogs.ei.columbia.edu/2012/05/09/emissions-from-the-cement-industry/); "Climate Change 2007: Working Group III: Mitigation of Climate Change," *IPCC 4th Assessment Report: Climate Change 2007 7.4.5.1 Cement* (http://www.ipcc.ch/publications_and_data/ar4/wg3/en/ch7s7-4-5.html).

NRDC-2 even more critical that MCC and the Port do everything in their power to ensure that this Project achieves as much emission reductions as possible.

NRDC-3

I. The Baseline Used in the DEIR is Arbitrary and Violates CEQA

The CEQA Guidelines specifically dictate that the baseline for an EIR should be "a description of the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced…"[3] Although the DEIR admits that the baseline is typically "the physical conditions of the project site and area at the time of the publication of a Notice of Preparation for an EIR, which was in 2011 for the MCC project,"[4] the Port chose to set 2006 as the baseline year, claiming that it was "the last representative year of operations at the MCC terminal prior to the economic recession."[5]

This is a clear violation of CEQA. CEQA Guidelines state that the baseline must represent conditions at the time of the Notice of Preparation (NOP) or when the environmental analysis commences in order to provide a most accurate description of the environmental effects that the project will have. The Statute has been interpreted to allow for some flexibility, but not to the extent demonstrated in this case.[6] CEQA does not provide the lead agency with the authority to choose whatever year is most convenient to the lead agency to downplay the impacts from the project. 2006 was nearly a decade ago, and, further, using it as the baseline year does not provide the most accurate description of the impacts of the project, but rather is a more confusing and misleading approach.

There is no clear description of current activities at the MCC terminal, other than the fact that "the terminal has not operated since October 2011." By establishing the baseline in 2006 instead of the time of the NOP, the DEIR increased baseline vessel visits from 0 to 35, and truck trips from 0 to 53,067. This discrepancy directly affects the determination of whether the Project will have significant impacts on air quality, health, GHG emissions, and other environmental factors, all of which are important conclusions which play a key role in the adoption of mitigation and the decision of whether to approve the Project. Further, the DEIR applies the baseline figures as standards for future operations at the Port.[7] In other words, the incorrect baseline infects the entire DEIR.

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[3] CEQA § 15125(a).
[4] DEIR at 3.2-13.
[5] DEIR at 3.2-13.
[6] *See Communities for a Better Environment v. South Coast Air Quality Management Dist.* (2010) 48 Cal.4th 310; *Neighbors for Smart Rail v. Exposition Metro Line Const. Authority* (2013) 57 Cal.4th 439, 445 ("a departure from the norm [of using existing conditions can only] be justified by substantial evidence that an analysis based on existing conditions would tend to be misleading or without informational value to EIR users"); *Pfeiffer v. City of Sunnyvale City Council* (2011) 200 Cal.App.4th 1552.
[7] E.g., 66% cold ironing (DEIR at 3.2-18, 3.3-10); 62% compliance with the old VSRP that has since been extended (DEIR at 3.2-14); "the small net change in the number of employees that

The California Appellate and Supreme Courts have consistently held that "the baseline for CEQA must be 'the existing physical conditions in the affected area'…that is, the real conditions on the ground rather than the level of development or activity that *could* or *should* have been present according to a plan or regulation." *Communities for a Better Environment v. South Coast Air Quality Management Dist.* (2010) 48 Cal.4th 310, 321. Here, the Port used a baseline reflecting the level of activity that could have been present, had the terminal stayed in operation. But courts have specifically mentioned that this is not within the authority of the lead agency. Additionally, the Appellate Court held that lead agencies are not permitted to "essentially turn back the clock and insist upon a baseline that exclude[s] existing conditions." *Citizens for East Shore Parks v. California State Lands Com.* (2011) 202 Cal.App.4th 549, 559. By establishing 2006 as the baseline year, the Port is doing exactly what the courts have said was a violation of CEQA, namely reverting to a time that excludes existing conditions. NRDC-3

In addition, in an effort to downplay the Project's projected emissions, in the DEIR, the Port applied "emission factors to [2006] activities that would equate to operating conditions in 2015" to the baseline.[8] Consequently, the baseline does not merely take the exact data from 2006, it bolsters those numbers by applying 2015 emission standards levels. This results in inaccurate figures and a faulty comparison for the air quality and health risk section and the global climate section. This method for procuring a baseline is entirely unfounded. CEQA is somewhat flexible in its rules for determining a baseline year, but nowhere in the language of the statute does it permit an agency to choose one year for the baseline and apply emission standards, or any other standards, from a different year. This is a clear violation of CEQA. The baseline year must be the year in which the NOP was written, 2011, or the year in which the environmental assessment began. Either way, it is not permissible to apply emission standards from a non-baseline year to the baseline year. NRDC-4

II. The DEIR Failed to Analyze the Induced Demand in the Cement Market Caused by the Project NRDC-5

The DEIR states that "according to the forecast for Spring 2014, the U.S. cement market is expected to grow…by ten percent during 2015 and 2016."[9] The Project is fostering and facilitating this growth, and it is, thereby, an indirect impact of the Project, which is required to be analyzed, according to CEQA.

CEQA specifically states that "a project means an activity which may cause either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment."[10] The Guidelines state that an EIR must "discuss the ways in which the proposed project could foster economic or population growth or the construction of additional housing

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would occur between the baseline and proposed Project," as concerning GHG emissions from employee commuting (DEIR at 3.3-9).

[8] DEIR at 3.2-13.

[9] DEIR at 1-4.

[10] CEQA § 21065

NRDC-5 either directly or indirectly, in the surrounding environment."[11] Courts have consistently held that an EIR is inadequate if it fails to analyze the Project's growth-inducing impacts.[12]

NRDC-6

III. The DEIR Failed to Analyze the Life Cycle Impacts of the Project

Because the Project is facilitating growth in the cement market and thereby this growth is an indirect impact of the Project, the Port must accordingly also analyze the increased impacts resulting from the life cycle of this market increase. This includes manufacturing, transportation, and use.

This life cycle analysis is all the more important because cement is particularly polluting: cement manufacturing is extremely energy intensive and, consequently, emissions intensive.[13] The cement industry currently accounts for 5% of global CO2 emissions and has been growing at an annual rate of 2.5%, a rate which is projected to persist.[14] In order "to produce cement, limestone and other clay-like materials are heated in a kiln at 1400°C and then ground" and combined with gypsum to form cement.[15] The extreme heat necessary to fire the kiln requires the equivalent of about 400 pounds of coal,[16] and generates almost a ton of CO2.[17] In addition, when limestone is heated, it releases CO2 directly, accounting for nearly half of all emissions from cement production.[18] It is critical that the Port include an analysis of these harmful impacts from imported cement from the initial production phase through the distribution phase. Failure to do so likely led to a gross underestimation of the negative impacts of the Project, including to air quality, health risk, global climate change, and cumulative impacts.

NRDC-7

IV. The Mitigation Measures Included in the Air Quality and Health Risk, and Global Climate Sections of the DEIR are Inadequate and Violate CEQA

With regard to mitigation measures, CEQA requires that

> An EIR shall describe feasible measures which could minimize significant adverse impacts, including where relevant, inefficient and unnecessary consumption of

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[11] Guidelines § 15126.2(d).
[12] *David v. Mineta* (2002) 302 F.3d 1104; *City of Davis v. Coleman* (1975) 521 F.2d 661.
[13] Elisabeth Rosenthal, "Cement Industry is at the Center of Climate Change Debate," *The New York Times*, Oct. 26, 2007. (http://www.nytimes.com/2007/10/26/business/worldbusiness/26cement.html?_r=0).
[14] *See* Rubenstein note 2.
[15] *Id.*
[16] Most commonly, it is coal being used to heat the kilns that melt the limestone that forms cement. Most sources, including worldcoal.org, globalcement.com, the IPCC (http://www.ipcc.ch/publications_and_data/ar4/wg3/en/ch7s7-4-5.html), and others, list coal as the main material used in cement production. Although there have been several small initiatives to reform the cement industry, little progress has been made. This kind of information is precisely what could have been included in the DEIR, to provide an accurate understanding of the impacts of facilitating the growth of this dirty commodity.
[17] *See* note 10
[18] *See* Rubenstein note 2.

energy[19]…Mitigation measures must be fully enforceable through permit conditions, agreements, or other legally binding instruments.[20] NRDC-7

The mitigation measures in the Air Quality and Health Risk section of the DEIR, as well as the Global Climate section, are inadequate, they fail to account for the severity of the hazardous effects that the Project is likely to have on local populations, ignore other feasible mitigation, and they lack enforcement mechanisms, in violation of CEQA.

A. The Mitigation Measures Failed to Account for the Impacts Resulting from the Life Cycle of Cement

NRDC-8

In addition to failing to analyze the negative impacts from the increased growth in the cement industry caused by the Project, and the life cycle of the increased levels of imported cement, the DEIR also failed to identify any mitigation measures to reduce such impacts. There are several ways to reduce the emissions caused by cement manufacturing, including using less carbon-intensive fuels to heat the kiln, energy efficiency measures to reduce the overall demand for fuel, replacing limestone with other materials and using blended cement, and carbon capture and storage.[21] Using these methods can reduce CO2 emissions from cement by 40%.

MCC has the responsibility to ensure that the millions of tons of cement that it will be importing through its terminal at the Port are produced using the most environmentally sound methods. Further, the Port should do everything it can to ensure that the best environmental policies are being implemented for all the commodities imported at its terminals. If cement must be imported, it should be manufactured using a low-emissions and environmentally sound process.

B. The Fugitive Dust Controls Are Not Adequate to Address Cement Dust

NRDC-9

The DEIR explains that "the main contributors to…significant PM10 and PM2.5 impacts would be cement dust generated from the truck loaders and trucks driving along the east side of the terminal (road dust)."[22] This is particularly worrisome, as studies have found that prolonged exposure to cement dust can cause allergic reactions, eye and lung irritation, and cancer.[23] Cement dust is extremely toxic and the Project should focus on ensuring that as little cement dust as possible is released into the air. Similar to the Port's measures to keep petroleum coke and coal enclosed to reduce exposure to the harmful dust, the Port should apply a similar approach to keeping cement dust enclosed as well. This includes enclosing the cement as it is unloaded from the ships, as cement ships release huge amounts of dust while they are being unloaded.[24]

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19 CEQA § 15126.4(a)(1).
20 CEQA § 15126.4(a)(2).
21 *See* Rubenstein note 2.
22 DEIR at 3.2-26.
23 Cement Hazards and Controls Health Risks and Precautions in Using Portland Cement, *Construction Safety Association of Ontario*, available at: http://www.elcosh.org/document/1563/d000513/Cement%2BHazards%2Band%2BControls%2BHealth%2BRisks%2Band%2BPrecautions%2Bin%2BUsing%2BPortland%2BCement.html?show_text=1
24 DEIR at 3.2-24.

NRDC-10 In addition, the DEIR explains some measures that include application of significant amounts of water to dust covered areas. The water used to remove the cement dust would then become polluted and a plan for disposing of the water in an environmentally safe manner is critical, such as putting in place effective storm water and wastewater treatment measures.

NRDC-11

C. The Mitigation Measures for Ocean Going Vessels are Not Adequate

The DEIR states that Ocean Going Vessels (OGVs) are the main contributors to NOx emissions for the Project, but that

> MCC does not own the OGVs that would call at the project terminal and they have no active charter party agreements or dedicated fleet. Due to this lack of control over the project OGV fleet, it would be difficult to facilitate implementation of CAAP measure OGV5[25] or OGV6[26] on these vessels. Retrofitting or replacing an existing OGV main engine to reduce NOx emissions also would not be feasible, as successful demonstration of these techniques are still in a process of development and evolution (Ports of Los Angeles and Long Beach 2012, 2013, and 2014). Due to the high cost of engine retrofits, the cost to implement (in dollars spent per mass of NOx reductions) of such a measure would not be effective. Therefore, implementation of measures to reduce NOx emissions from proposed OGV main engines is deemed infeasible.[27]

MCC's lack of ownership of the OGVs, however, does not excuse implementing 100% shore power as a mitigation. Regardless of whether MCC can control the vessels, the SCAQMD permit for the terminal requires that shore power be used during unloading.[28] The Port is likely to install shore power in all of its docks by the time this Project is operational, as promised in the CAAP[29] and increasing numbers of vessels are equipped with the technology to plug into shore power. MCC cannot claim that they are permitted to violate their SCAQMD permit and CARB regulations and operate with increased emissions because the ships with which they are contracting to do continuous business are not within their control. MCC is perfectly capable of adding a clause in their import contracts that requires vessels to comply with the CAAP measures and the SCAQMD permit in an effort to reduce emissions, as demonstrated in the past

[25] OGV5 is a CAAP measure that seeks to maximize the number of vessels meeting the IMO NOx limit of 3.4g/kW-hr that visit the ports. *See* http://www.cleanairactionplan.org/civica/filebank/blobdload.asp?BlobID=2532.
[26] OGV6 is a CAAP measure that seeks to encourage demonstration and deployment of cleaner OGV engine technologies. *See* http://www.cleanairactionplan.org/civica/filebank/blobdload.asp?BlobID=2532.
[27] DEIR at 3.2-23.
[28] DEIR at 1-4.
[29] *See* San Pedro Bay Ports, Clean Air Action Plan 2010 Update (Oct. 2010), *available at* http://www.portoflosangeles.org/environment/caap.esp at ES-5.

when "MCC…worked with various charter companies and…negotiated commitments to equip some vessels to use shore-side-power."[30] NRDC-11

Additionally, if it was found to be "infeasible" to comply with CAAP OGV5 and OGV6, the DEIR should have included alternative mitigation measures to ensure that emissions from OGVs are reduced. The DEIR admits that "the net increase in mitigated average daily NOx emissions from total proposed operations would continue to exceed the SCAQMD daily NOx emission threshold. Since there are no other feasible mitigation measures, the mitigated average daily NOx emissions from Project operations would be significant and unavoidable."[31] This is unacceptable. As discussed below, the AMECS technology, with which the Port is very familiar, is an available and feasible mitigation measure that should be adopted to mitigate the Project's significant NOx impacts.

1. The Port Should Implement the AMECS Instead of the DoCCS NRDC-12

The CARB Airborne Toxic Control Measure for Auxiliary Diesel Engines Operated on Ocean-Going Vessels At-Berth in a California Port Regulation, passed in 2007, states that: "vessel fleet operators visiting [California] ports [have] two options to reduce at-berth emissions from auxiliary engines: 1) turn off auxiliary engines and connect the vessel to some other source of power, most likely grid-based shore power; or 2) use alternative control technique(s) that achieve *equivalent emission reductions*." (emphasis added). The Dockside Catalytic Control System that the DEIR proposes be installed and used as an alternative to grid-based shore power is not an adequate alternative and should not be approved for several reasons.

a. DoCCS Does Not Achieve "Equivalent Emission Reductions"

The DEIR states that "MCC has applied to the SCAQMD to modify its existing SCAQMD permit to allow vessels that call at the MCC facility to either use shore-to-ship electricity or use the proposed DoCCS at-berth emission control system when unloading. The proposed control system would capture NOx emissions from the generators of ships that cannot use shore-to-ship power and process the exhaust through a selective catalytic NOx reductions system."[32]

When ships use grid-based shore power, all air pollution is eliminated by 95%.[33] This includes emissions of NOx, SO2, DPM, and VOCs. Therefore, since DoCCS only focuses on reducing NOx emissions, the technology is inferior, inadequate, and cannot be considered to achieve "equivalent emission reductions" to grid-based shore power. In addition, even if the regulation were only focusing on NOx emissions, DoCCS only reduces NOx emissions by less than 90%, as compared with 100% from shore-side power or 99%+ from other control techniques, such as the AMECS. Approval and use of DoCCS instead of shore-side power or another alternative would be a clear violation of CEQA.

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[30] DEIR at 1-4.
[31] DEIR at 3.2-24.
[32] DEIR at 1-5.
[33] POLB website, Shore Power: http://www.polb.com/environment/air/shorepower.asp.

NRDC-13 In addition, the DEIR does not explain how DoCCS is powered. If it runs off of a diesel-powered engine or generator, then the emissions produced by the mechanism will have to be accounted for in the CEQA analysis, and mitigated.

NRDC-14

b. AMECS is a Significantly Better Alternative

Advanced Maritime Emissions Control System (AMECS) is a significantly better alternative to shore power than DoCCS. The system uses a sleeve to capture and remove airborne emissions from the auxiliary engines and auxiliary boilers of ocean going vessels at berth. A diesel particulate filter is already built into the mechanism, so it would not have to be retrofitted pending lengthy demonstrations and approvals, like the DoCCS DPF. AMECS is currently being tested at the Port of Long Beach and our understanding is that CARB verification is imminent. If verified, it will function as an excellent option for the MCC terminal when shore-side power cannot be used. It reduces DPM by 97.5%, NOx by 99+%, SO2 by 98.5%, and VOCs by 99.5%. The Port website specifically refers to AMECS as a potential alternative to shore-side power in the near future.[34] By the time this Project is operational, AMECS will most likely be CARB-verified, and even if it is not, it is still available for use at the Port. There is no reason for MCC to use a significantly inferior emissions reduction system like DoCCS, when AMECS is available and truly complies with the regulation.

NRDC-15

c. The DPF for the DoCCS is Inadequate

The DEIR proposes a demonstration of a DPF on the DOCCS. While we appreciate the effort to capture PM emissions from the OGVs, we have several concerns with this initiative. First, this in and of itself illustrates why the AMECS would be a superior approach, since the AMECS reduces PM without the needed of an additional filter, especially a filter with unknown effectiveness.

Second, the DEIR admits that "due to the uncertainties associated with the application of the DPF technology to unmodified existing marine technologies, a specific level of DPM emissions control is not provided at this time."[35] PM emissions from ships is a major public health problem; we need more certainty to protect the local community and the region than is provided by the DPF. It would be one thing if there was not another technology available, but because the AMECS is proven and much more certain, it is unreasonable and arbitrary to do a DPF demonstration on the DoCCS instead of just use the AMECS.

NRDC-16 Third, the DPF will take a minimum of 3 years to install, *after* the Project begins operation. This is an unnecessary and unacceptable delay, especially because the AMECS could be implemented much sooner. Fourth, the DEIR does not include a plan of how to address PM emissions from OGVs if the DPF demonstration fails.[36] This is unacceptable. Fifth, the DEIR states that no other
NRDC-17 feasible mitigation exists,[37] but we know that to be incorrect: the AEMCS is available.

[34] POLB website: http://www.polb.com/environment/air/shorepowerfaq.asp#faq10.
[35] DEIR at 3.2-26.
[36] *See* DEIR at 3.2-27.
[37] DEIR at 3.2-27–28.

D. The Mitigation Measures for Reducing Truck Emissions Are Inadequate

NRDC-18

The DEIR explains that the Project exceeds SCAQMD's levels of significance for air pollution, and one of the main contributors are on-road trucks.[38] On-road trucks are also a main contributor to the Project's cancer risk.[39] Many of these trucks will likely travel on the 710 freeway, where schools, businesses, and homes lie within close proximity and are already disproportionately burdened by air pollution from the 710 freeway, port operations, and other regional sources.

To really mitigate this problem, the Project should commit to the implementation of zero emissions truck technology, to reduce emissions both within the project borders and from the hundreds of thousands of truck delivery trips that will be made. Frustratingly, the DEIR does not even list zero emission trucks as an option. Given the technologies that are already available in the market, there is no reason that the Project should not commit to a phase-in of a zero emissions truck fleet. This project, which will not commence construction until 2015 at the earliest, has a moral obligation, as well as a duty under CEQA, to implement this life-saving technology.

NRDC-19

Instead of the kind of commitment to zero emission technology that we need to meet federal air standards and reduce health impacts on the local community, the Port included MM AQ-2, "modernization of the delivery truck fleet," which states,

> No less than 90% of the trucks loading cement or similar materials at the MCC facility shall be equipped with an engine that meets the following requirements: 1) is no older than five years, based on engine model year or emission equivalent engine; 2) complies with current federal and state on-road emission standards (EPA 2007 Heavy-Duty Highway Rule standards or successor rules or regulations) for that model year; or 3) uses equivalent or better alternative engine technology or fuels with emissions which shall not exceed levels equivalent to the current federal and state on road emission standards for that model year. Trucks also may operate with alternative non-diesel engine technologies or fuels, but their emissions shall not exceed levels equivalent to the current federal and state on-road emission standards for that model year.[40]

This measure does not pro-actively reduce emissions in any meaningful way. Under MM AQ-2, "modernization" of the truck fleet could be met by merely adhering to the existing Port Clean Truck Program and state standards. Because of the word "or" in this measure, MCC needs to only comply with one of the three options provided: trucks 5 years old or less, trucks engine year 2007 or newer (which is the existing Clean Truck Program), ***or*** an alternative cleaner technology. Further, MM AQ-2 requires that only 90% of the fleet adhere to one of the three options. This leaves 10% of the fleet, or close to 17,000 trucks trips, to ignore these requirements altogether. This is of course less than the existing Clean Truck Program, which applies to 100% of the heavy duty truck fleet. The DEIR explains that the Clean Truck Program requires "all" trucks to meet

[38] DEIR at 3.2-22.
[39] DEIR at 3.2-30.
[40] DEIR at 3.2-24.

NRDC-19 the 2007 engine standards.[41] Further, the DEIR states that "[t]he heavy-duty trucks used during Project operations would comply with [the Clean Truck] Program."[42] This is obviously in conflict with the actual language of MM AQ-2, which requires that only 90% of the trucks comply with the Clean Truck Program.

To add insult to injury, it is our understanding that cement trucks rarely last more than five years because of the heavy loads that they consistently carry, thus the requirement to equip the terminal with only trucks that are five years old or less would likely occur regardless of any efforts to reduce emissions. If our understanding is correct, then it makes MM AQ-2 even less meaningful.

NRDC-20 In addition, in the Global Climate section of the DEIR, MCC admits that "MCC only owns diesel-powered trucks and procuring… lower emitting trucks [including 'delivery trucks powered with alternative fuels such as liquid propane gas or compressed natural gas'[43]] for purposes of project GHG mitigation would have a very high cost per mass of GHG reduction. Therefore, no other measures are feasible to further reduce GHGs from the operation of proposed cement delivery trucks."[44] This is unacceptable, and an unacceptable definition of feasibility.

NRDC-21 The Port has committed to reducing Port emissions and moving forward with zero emission trucks as promised in the CAAP, and this is an excellent opportunity for the Port to act on that commitment.

The key issue over the past several years has been whether zero emission trucks are a feasible mitigation, and fortunately, that day has come. If the Port has any doubts about feasibility, the Port could opt to do a phase-in over time, which worked very well under the Clean Truck Program. While phasing in zero-emissions technology may take some time, this Project provides an excellent opportunity to catalyze development in this area so that the Port can meet its CAAP commitments and adequately mitigate the negative impacts under CEQA.

NRDC-22

E. The Mitigation Measures for Reducing Greenhouse Gases are Inadequate

The Project will produce a net increase of CO2e that is more than double baseline levels, which the DEIR identifies as a significant impact. The fact that emissions are estimated to increase by 22,248 metric tons annually over even the 2006 levels is unacceptable. This is especially worrisome given that we believe the Port used an inflated, incorrect baseline. The "Green Port" should not be *increasing* greenhouse gas emissions, when every local, state, federal, and international policy is directed at *reducing* climate-change emissions.

NRDC-23

1. The DEIR's Summary of Climate Change Science is Incorrect

Also unacceptable is the DEIRs summarization of climate change science. The DEIR states that "[s]cientific evidence indicates a correlation between increasing global temperatures over the

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[41] DEIR at 3.2-13.
[42] DEIR at 3.2-13.
[43] DEIR at 3.3-10.
[44] DEIR at 3.3-10.

past century and the worldwide proliferation of greenhouse gas (GHG) emissions by mankind."[45] NRDC-23
The problematic word here is "correlation." The reality is that there is a broad consensus by the International Panel on Climate Change and others that GHG emissions are *causing* climate change; there is not just a mere *correlation*. To be candid, it is surprising that the Port would misrepresent this important fact.

2. Examples of Additional Feasible Mitigation Measures NRDC-24

The mitigation measures proposed in the DEIR are entirely insufficient. There are numerous mitigation measures that the Port can implement to further lower emissions from the Project. Some of these include zero emissions trucks, using shore power or equivalent technology 100% of the time, and life cycle changes. One additional example is to implement the proposed solar
panels and low energy lighting that is discussed under GCC-1 immediately, rather than wait 3 NRDC-25
years.[46]

a. Electric Cranes and Payloaders NRDC-26

A further example is that the Port should utilize electric cranes and payloaders. Throughout the NRDC-27
DEIR, it is repeatedly mentioned that MCC is not required to implement the best available technologies because it cannot control the ships with which it contracts to import cement. With respect to the use of shore power, the DEIR states,

> even ships that are equipped to use shore-to-ship power sometimes cannot unload the entirety of their cargo while using shore-to-ship power. In particular, because of the high electrical load, some ships are unable to operate their cranes from shore-to-ship power to lift the equipment necessary to remove the last cement from the vessel's hold into and out of the vessel. They must then start the shipboard generators to complete unloading. MCC was only able to achieve approximately 66 percent average shore-to-ship power use in 2006.[47]

The Project's commitment to use 66% shore power, which it accomplished eight years ago, in 2006, is wholly inadequate. Statistics from 2006 cannot be used as a reference point for ships in the future, considering the immense amount of progress that has been made and continues to be made in terms of technology, and climate policy and regulations since then.

In addition, there are available alternatives for ships that are unable to unload the entirety of their NRDC-28
cargo while using shore to ship power. Hybrid and electric payloaders have been available since 2013, and MCC can use them as an alternative to diesel powered payloaders to further reduce emissions.[48] If cement vessels require specific cranes that have not yet been updated to produce

[45] DEIR at 3.3-1.
[46] DEIR at 3.3-10.
[47] DEIR at 1-4.
[48] John Deere website: http://www.forconstructionpros.com/product/10243562/john-deere-944k-644k-diesel-electric-hybrid-loaders.

NRDC-28 low or no emissions, the terminal should at least commit to using AMECS when shore power does not provide enough power.

NRDC-29

b. Funding the GHG Reduction Grant Program Based on a Formula Using the Correct Project Baseline

Finally, the Port could contribute more funds to the Port GHG Emissions Reduction Grant Program. The grant allocation formula should be based on the proper baseline (the conditions at the time of the NOP), rather than the arbitrary 2006 baseline. This would result in a more appropriate amount of funding going into this critical Grant Program.

NRDC-30

F. The Public Health Impacts from this Project are Unacceptable

The DEIR admits that even after the proposed mitigation measures, significant impacts will
NRDC-31 remain.[49] The health effects from this Project are severe, especially from particulate matter.
NRDC-32 Numerous studies have documented a wide range of adverse health impacts from exposure to PM, including increased rates of respiratory illness and asthma, cardiovascular disease, heart attacks, strokes, emergency room visits, and premature death. Near-roadway exposure to particulate matter has also been linked to birth defects, low birth weights, and premature births. Emerging studies have shown a potential connection between exposure to fine PM and diabetes, as well as cognitive decline and other serious impacts to the brain.

The DEIR states that "if PM10 emissions accumulate in the respiratory system, they can aggravate health problems such as asthma, bronchitis and other lung diseases. Children, the elderly, exercising adults and those suffering from asthma are especially vulnerable to adverse health effects of PM10."[50] But "these ambient impacts from proposed Project operations would remain significant and unavoidable."[51]

NRDC-33 In addition, although DoCCS, if approved, will purportedly reduce emissions of NOx by 88.9%[52], the NOx emissions that will still be released from the Project site, which will be running 24 hours a day, 6 days per week in close proximity to adjacent communities, is significant. Simultaneously, NOx will be emitted during truck loading and transporting of cement, which will also be in operation 24 hours per day.[53] The DEIR specifically states that "the main contributors to most pollutant emissions are on-road trucks, although OGV transiting the SCAB outer waters would be the largest source of NOx emissions."[54] NOx also causes significant health effects.

NOx can have a toxic effect on the airways, leading to inflammation, asthmatic reactions, and worsening of allergies and asthma symptoms. In addition, NOx reacts with VOCs in sunlight to

[49] DEIR at 3.2-22, 3.2-26.
[50] DEIR at 3.2-28.
[51] DEIR at 3.2-28.
[52] DEIR at 3.2-18.
[53] DEIR at 3.2-22.
[54] DEIR at 3.2-22.

form ozone—also known as smog. This layer of brown haze contributes to decreased lung function and increased respiratory symptoms, asthma, emergency room visits, hospital admissions, and premature deaths. Ozone can also cause irreversible changes in lung structure, eventually leading to chronic respiratory illnesses, such as emphysema and chronic bronchitis.[55] NRDC-33

With regard to NO2, the DEIR admits that "the worst case NO2 background concentration…is at approximately 91% of the SCAQMD significance threshold" and "the off-site 1-hour NO2 exceedances could still have health impacts on persons located within or near exceedance areas…Moreover, it is important to note that the worst-case NO2 background concentration is itself very close to the SCAQMD threshold. Thus even minor additional increases in NO2 emissions from the Project could cause an exceedance of the standard."[56] But, again, the DEIR concludes that "since there are no other feasible mitigation measures, these ambient impacts from proposed Project operations would remain significant and unavoidable."[57]

This Project will produce continuous, toxic emissions during construction and operation of the terminal, yet not enough has been done to ensure that PM, NOx, and NO2 emissions are reduced to safe levels. NRDC-34

G. The DEIR Fails to Analyze Environmental Justice NRDC-35

Attorney General Kamala B. Harris writes that "CEQA centers on whether a project may have a significant effect on the physical environment. Under CEQA, human beings are an integral part of the 'environment.' An agency is required to find that a 'project may have a *significant effect on the environment* if, among other things, '[t]he environmental effects of a project will cause substantial adverse effects on human beings, either directly or indirectly[.]'…Specific provisions of CEQA and its Guidelines require that local lead agencies consider how the environmental and public health burdens of a project might specifically affect certain communities."[58] Although a section on Environmental Justice is not explicitly required by CEQA, when the environmental impacts will cause substantially disproportionate effects on a community, the Attorney General suggests that an analysis and mitigation measures are warranted.

Construction and operation of the Project is likely to violate the civil rights of the environmental justice communities near the Project, and studies, mitigation measures and an environmental justice-centered analysis are necessary, at minimum.

The ports of Los Angeles and Long Beach are the largest in the nation in terms of container throughput, and collectively are the single largest fixed sources of air pollution in Southern California. Emissions from port-related sources, such as marine vessels, locomotives, trucks, harbor craft and cargo handling equipment, adversely affect air quality in the local port area as well as regionally. Freight operations pose a particularly acute threat to regional air quality. The

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[55] DEIR at 3.2-25.
[56] DEIR at 3.2-28.
[57] DEIR at 3.2-28.
[58] Attorney General Kamala D. Harris, 'Environmental Justice at the Local and Regional Level Legal Background,' *State of California DOJ*, May 8, 2012.

NRDC-35 South Coast Air Basin (SCAB), where the project area is located, consistently ranks near the top of the lists for the nation's most polluted air. Freight transport, including the operations at the Ports, greatly contributes to the persistent failure of the SCAB to meet clean air standards established by EPA. In fact, the SCAQMD has determined that freight movement poses a serious risk to attainment of air quality standards.

People who live or go to school near ports, rail yards, distribution centers, freight roadways and other diesel "hot spots" face disproportionate exposure to diesel exhaust and associated health impacts, including increased risks of asthma and other respiratory effects, cancer, adverse birth outcomes, adverse impacts to the brain (including potentially higher risk of autism), heart disease, and premature death.[59]

The DEIR admits that even after mitigation measures, daily NOx emissions, 1-hour NO2 emissions, 24-hour PM10 and PM2.5 emissions, and annual PM10 emissions would exceed significance thresholds.[60] In addition, the DEIR states that "impacts of NO2, PM10 and PM2.5 from Project operations could contribute to one or more of the public health effects mentioned [which include asthma, bronchitis, lung diseases, etc.]…These effects could occur throughout Project operation."[61] Pier F is located in close proximity to west Long Beach and Wilmington, both low-income communities of color. According to the 2010 U.S. census, Latinos, African-Americans, Asians, and other non-white ethnicities represent over 75% of the population of these communities.[62] These residents, as CARB recognizes, already "bear a disproportionate share of the emission impacts from goods movement"[63] and are *already* overburdened by environmental hazards generated by the Ports of Long Beach and Los Angeles, traffic on the 710 and Terminal Island Freeways, the ICTF, as well as the several nearby refinery operations. Of particular concern in this respect are the adverse health effects of diesel emissions, which will be increased by the construction and operation of the proposed Project. The DEIR must therefore analyze the environmental justice impacts of the proposed Project and suggest mitigation measures to reduce the potential harm that may be disproportionately caused.

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59 Kim, J., et al. "Traffic-Related Air Pollution and Respiratory Health: East Bay Children's Respiratory Health Study," *American Journal of Respiratory and Critical Care Medicine.*2004; 170: 520-526.

60 DEIR at 3.2-25, 26.

61 DEIR at 3.2-28.

62 Information available at http://www.census.gov/#.

63 *See* California Air Resources Board, *Proposed Emission Reduction Plan for Ports and International Goods Movement in California*, Ch. 5, at 1 (March 21, 2006).

H. Conclusion

In conclusion, we believe that the DEIR fails to comply with both the spirit and the letter of CEQA. We urge the Port to recirculate a new DEIR, remedying the current DEIR's many problems, as outlined above. NRDC-36

Thank you for consideration. Please do not hesitate to contact Morgan Wyenn at the Natural Resources Defense Council, at mwyenn@nrdc.org or (310) 434-2300, if you have any questions or would like further information.

Sincerely,

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Comment Letter: Natural Resources Defense Council

Response to Comment NRDC-1

Thank you for your comment letter. This comment is noted and is hereby part of the Final EIR and before the decision-makers for their consideration prior to taking any action on the proposed Project. The response to the specific comments is set forth below. As explained below, the Draft EIR complies with CEQA.

Response to Comment NRDC-2

Comment noted. Cement production is not part of the proposed Project. The proposed Project involves the modification of an existing cement terminal. The considerations of the environmental impacts of the overseas cement production are outside of the scope of the EIR. See Response to Comment NRDC-6.

Response to Comment NRDC-3

The existing MCC facility, without the proposed modifications, is a fully permitted and entitled facility that on any day, without prior approvals of any kind, can operate up to its maximum permitted level of 8.76 million metric tons per year for ship unloading and 3.45 million metric tons per year for truck loading, which is the same capacity MCC had in 2011 when the NOP for the proposed modifications was released. Although the facility is allowed to operate at this maximum level, it never has done so. Instead, the throughput at the facility always has been lower than the maximum permitted level, varying from 1.4 million metric tons in 2006 to zero by 2011 when regional construction was at a near standstill and the facility operation was temporarily suspended.

The EIR utilized 2006 as the baseline year because that was the last full year of normal operations before the recession. The years between 2007 and 2011 were clearly not "normal" for the facility. By 2007, the recession had caused a drop in the ship calls and truck trips by over 31 percent and 28 percent respectively, compared to 2006 levels. By 2008, the annual ship calls had dropped by 91 percent and the truck trips by 81 percent compared to the 2006 pre-recession levels. Ship arrivals stopped in December 2008, and only a small number of truck trips occurred in 2009 and 2010 (2 percent and 1.6 percent of the 2006 pre-recession truck trip levels, respectively). Thus, none of these years could be considered to reasonably reflect the operation of the existing facility.

From this information, the Port needed to decide the appropriate activity level to use for the air quality baseline. Although this comment asserts an inflexible "date of the NOP" approach to the baseline, CEQA provides much more flexibility to a lead agency. Using the NOP date for the proposed terminal modifications, which involve certain limited modifications to an existing facility, would have the effect of treating the existing, fully entitled cement facility--that was itself subject to prior CEQA review--as if it did not exist. The CEQA Guideline referenced by the comment – Section 15125(a) – only states that the NOP year will "normally" constitute the baseline. Thus, the Guidelines themselves do not dictate the baseline, but allow flexibility. As explained in *Cherry Valley Pass Acres & Neighbors v. City of Beaumont* (2010) 190 Cal.App.4th 316, 336-337:

> In using the word "normally," section 15125, subdivision (a) of the Guidelines necessarily contemplates that physical conditions at other points in time may

> constitute the appropriate baseline or environmental setting. (*Fat v. County of Sacramento* (2002) 97 Cal.App.4th 1270, 1277–1278 [119 Cal.Rptr.2d 402].) Though the baseline conditions are generally described as the existing physical conditions in the affected area, or the real conditions on the ground (*CBE*, *supra*, 48 Cal.4th at p. 321), the date for establishing baseline cannot be a rigid one. Environmental conditions may vary from year to year and in some cases it is necessary to consider conditions over a range of time periods (*id*. at pp. 327–328, *quoting Save Our Peninsula*, *supra*, 87 Cal.App.4th at p. 125). Environmental conditions may also change during the period of environmental review, and temporary lulls or spikes in operations that happen to occur during the period of review should not depress or elevate the baseline. (*CBE*, *supra*, at p. 328.) Accordingly, neither CEQA nor the CEQA Guidelines mandates a uniform, inflexible rule for determination of the existing conditions baseline. Rather, an agency enjoys the discretion to decide, in the first instance, exactly how the existing physical conditions without the project can most realistically be measured, subject to review, as with all CEQA factual determinations, for support by substantial evidence. [Citation.] (*Ibid*., internal quotations omitted.)

In *Communities for a Better Environment v. South Coast Air Quality Management District*, 48 Cal.4th 310 (2010) ("*CBE*"), the California Supreme Court observed:

> Neither CEQA nor the CEQA Guidelines mandates a uniform, inflexible rule for determination of the existing conditions baseline. Rather, an agency enjoys discretion to decide, in the first instance, exactly how the existing physical conditions without the project can most realistically be measured, subject to review, as with all CEQA factual determinations, for support by substantial evidence.

(48 Cal.4th at 336; *accord*, *Neighbors for Smart Rail v. Exposition Metro Line Construction Authority*, 57 Cal.4th 439, 510 (2013) [plurality opinion - court acknowledged that an agency's discretion in selecting the baseline even extends so far as to the omission of an existing conditions analysis altogether if the use of such a baseline would be misleading or without informational value].)

Courts have recognized that the existing conditions may properly consist of historically achieved levels. For instance, in *Cherry Valley Pass Acres*, *supra*, the court ruled that the EIR's use of the full allocation under an adjudicated groundwater basin as the baseline for water usage was appropriate even though actual water use was much less. The court reasoned that the entitlement existed at the time environmental review commenced and closely approximated historic water usage on the site. The California Supreme Court recently cited *Cherry Valley Pass Acres* with approval, noting that "a water allocation approximating the property's recent historical use constituted a realistic measure of existing conditions." (*Neighbors for Smart Rail*, *supra*, 57 Cal.4th at 450.)

In *Fairview Neighbors v. County of Ventura*, 70 Cal.App.4th 238 (1999), the court likewise allowed permitted levels of truck traffic that had been previously attained by an existing mining operation to serve as the baseline for the proposed expansion of the mine even though truck traffic had declined from the historic, permitted levels. In reaching this decision, the court reasoned that "[d]iscussing the possible environmental effects of the project based on actual traffic counts would have been misleading and illusory. . . ." (70 Cal.App.4th at 243.)

The baseline proposed by the Commenter would essentially disregard the existing cement facility, MCC's investment therein, the existing lease held by MCC, the existing entitlements for the facility, the numerous prior approvals from both the Port and SCAQMD for the operation of facility, and the prior CEQA review that was conducted in advance of those approvals. The Commenter's suggested baseline would treat the existing facility as if it had been shuttered and abandoned. Such treatment is both factually and legally incorrect.

A prior full EIR was prepared for this facility. The Port prepared a Draft EIR for the original construction and operation of the terminal (then referred to as the Lucky Cement terminal), DEIR SCH No. 87042211, in August of 1987. The project description in the EIR did not include any upper caps on throughput or truck trips. The Final EIR was prepared in December of 1987, and was certified by the Board of Harbor Commissioners on January 11, 1988. There was no legal challenge to the EIR.

Following the certification of the above-referenced EIR, on April 19, 1988, the SCAQMD, acting as a responsible agency, issued permits for all of the stationary source facilities and activities at the terminal. Prior to issuing the permits, the SCAQMD Engineering Division conducted a detailed analysis of the precise equipment and facilities that were being proposed. (See, e.g., Application Processing and Calculations for Application No. 152672, dated 2-25-1988 and 4-6-88.) Once that process was concluded, in reliance on the EIR and the further engineering analysis, SCAQMD issued permits on April 19, 1988, for the construction and operation of the various components of the terminal, including the ship unloading system (Application No. 155337) and the storage and truck loading system (Application No. 152672). The ship unloading permit, in Condition 4, included a cap of 24,000 metric tons per day, which equates to 8.76 million metric tons per year, on the ship unloading system. (See Permit issued per Application No. 155337, Condition No. 4.) The throughput limit placed on truck loading was 5,760 metric tons per day, or 2,102,400 metric tons per year. (Permit issued per Application 152672, Condition No. 2.) There were no legal challenges to these permits.

With the detailed engineering for the terminal completed, the project proceeded back to the Board of Harbor Commissioners for the issuance of Harbor Development Permit (HDP) No. 87-015 for the construction and operation of the cement terminal. On February 21, 1989, the Board approved the permit and expressly incorporated the SCAQMD's conditions of operation, including the throughput limits set forth above. (HDP 87-015, Special Condition No. 1.) The cost of the original improvements (applicant funded) was estimated to be $7 million.

Later in 1989, the Port entered into the original lease for the facility with Lucky Cement. The lease assumed (and set minimum rent based upon the assumption) that over the first five years of operation, the annual throughput for the terminal would increase to 750,000 metric tons. The leasehold interest was transferred from Lucky Cement to MCC in 2001. In 2002, the lease was extended. The current lease expiration date is June 13, 2022. MCC currently pays $27,508 a month in rent, and pays tariff and related fees based upon an assumed minimum throughput of 500,000 metric tons of cement per year.

After the facility had operated for over a decade and MCC had taken over the operation, MCC proposed to improve the facility by, among other things, increasing its truck loading capacity. On April 7, 2003, the Port issued, for public review, a Negative Declaration for the improvements, which consisted of: (1) the installation of two additional conveying blowers; (2) construction of one additional truck load-out station with two 500-ton bins; (3) modification of the existing load-out bins and increasing their capacity from 250 tons to 400 tons each; (4) the construction of a 70-foot truck scale and dust collector; (5) the installation of a truck vacuum-type cleaning facility; and (6) the installation of electrical infrastructure to support the modifications. As modified, the facility would have the capacity to load a maximum of approximately 224 trucks per day, compared to 135 trucks per day in the unimproved condition. The Board of Harbor Commissioners adopted the Negative Declaration and, on June 16, 2003, issued HDP No. 02-110 for the modifications. There was no legal challenge to the Negative Declaration or the Permit. For the improved facility, the SCAQMD increased the trucking operation to 1,000,000 metric tons per year. (See Permit No. F72816, Condition No. 4.) The improvements were estimated to cost MCC an additional $1.79 million.

In 2006, MCC applied to SCAQMD for a modification of its truck loading operating permit. The proposed modifications dealt with equipment only, and therefore required no amendments to the Harbor Development Permit. MCC proposed to replace its standard polyester non-pleated bags with spun bond polyester bags in baghouse DC-2, DC-3, and DC-21 in order to increase its truck loading throughput capacity with no corresponding increase in emissions. It proposed to increase the truck loading throughput from 1,000,000 tons per year to 3,800,000 tons per year. A detailed engineering package was provided to SCAQMD, including emission calculations. SCAQMD conducted a CEQA review and concluded the change was exempt from CEQA and modified MCC's permit accordingly. On September 19, 2006, SCAQMD issued Permit F84160, increasing the limit on material loaded into trucks to no more than 333,333 short tons per month, with an annual cap of 3,800,000 short tons (3.45 million metric tons). SCAQMD's CEQA determination and permit issuance were not challenged.

The prior EIR, the prior Negative Declarations, and all of the other documents referenced in this response are available for review in the office of the Director of Environmental Planning at the Harbor Department's offices, located at 4801 Airport Plaza Drive, Long Beach, California 90815.

The current SCAQMD permits are as follows:

Appl_Nbr	Permit_Nbr	Issued_Date	Permit_Status	Eq_Type	Equip_Description	[illegible]	Appl_Status
542115	G21137	10/24/2012	ACTIVE	Basic	BULK LOAD/UNLOAD CEMENT	8/17/2012	PERMIT TO OPERATE GRANTED
542116	G21138	10/24/2012	ACTIVE	Basic	CEMENT MARINE LOADING & UNLOADING	8/17/2012	PERMIT TO OPERATE GRANTED
456215	F84161	9/19/2006	ACTIVE	Control	BAGHOUSE, AMBIENT TEMP (>500 SQ FT)	4/21/2006	PERMIT TO OPERATE GRANTED
456213	F84986	11/2/2006	ACTIVE	Control	BAGHOUSE, AMBIENT TEMP (>500 SQ FT)	4/21/2006	PERMIT TO OPERATE GRANTED
456214	F84987	11/2/2006	ACTIVE	Control	BAGHOUSE, AMBIENT TEMP (>500 SQ FT)	4/21/2006	PERMIT TO OPERATE GRANTED
413208	F60019	4/18/2003	ACTIVE	Basic	I C E (50-500 HP) EM ELEC GEN-DIESEL	3/20/2003	PERMIT TO OPERATE GRANTED
396203	F48896	2/9/2002	ACTIVE	Control	BAGHOUSE, AMBIENT TEMP (>500 SQ FT)	1/16/2002	PERMIT TO OPERATE GRANTED

Source: SCAQMD
FIND http://www3.aqmd.gov/webappl/fim/prog/eqlist.aspx?fac_id=131160

Thus, as it stands today, and as it stood as of the 2011 date of the NOP, MCC has the right to operate up to the maximum levels permitted by the SCAQMD permits, namely, 8.76 million metric tons per year for ship unloading, and 3.45 million metric tons per year for truck loading. SCAQMD confirmed these facts in the comment letter it submitted on this Draft EIR.

Given that all of the approvals to construct the existing facility underwent prior CEQA review, the baseline for the EIR could have been established at those levels of operation. As explained in Practice Under The California Environmental Quality Act, 2d Ed., Section 12.23 (2014):

> When an agency is evaluating a proposed change to a project that has previously been reviewed under CEQA, the agency must apply CEQA's standards limiting the scope of subsequent environmental review. 14 Cal Code Regs § 15162; *Abatti v. Imperial Irrig. Dist.* (2012) 205 Cal.App.4th 650; *Sierra Club v. City of Orange* (2008) 163 Cal.App.4th 523, 542; *Temecula Band of Luiseño Mission Indians v. Rancho Cal. Water Dist.* (1996) 43 Cal.App.4th 425, 437; *Benton v. Board of Supervisors* (1991) 226 Cal.App.3d 1467, 1477. Under these standards, once an EIR has been certified or a negative declaration adopted for a project, further CEQA review is limited. *Communities for a Better Env't v. South Coast Air Quality Mgmt. Dist.* (2010) 48 Cal.4th 310. These standards apply whether or not the project has been constructed. *Benton v. Board of Supervisors, supra*. In effect, "the baseline for purposes of CEQA is adjusted such that the originally approved project is assumed to exist." Remy, Thomas, Moose, & Manley, Guide to CEQA, p. 207 (11th ed. 2007).

Thus, this EIR could have used the full capacity of this facility as the baseline and been fully compliant with CEQA. However, as explained in the Draft EIR, the full capacity of the facility had not been reached following the above-described terminal improvements. In order to be conservative, the Port chose not to treat the SCAQMD permit limitations as the baseline. Instead, the Port chose to use 2006 - the last full year of operations at the improved terminal prior to the economic recession.

Moreover, the NOP, which was distributed to the Commenter for comments, clearly explained the approach to baseline. The Commenter received the NOP via Certified Mail in August of 2011. Neither the Commenter nor any other person took issue with the Port's stated plan to utilize the 2006 condition as the baseline. The purpose of the NOP is to help properly define the scope of the analysis to be undertaken.

The cases cited by the Commenter do not support the suggestion that the baseline should assume that the existing facility has essentially been abandoned. For example, in CBE, the California Supreme Court held that the hypothetical operational capacity stated in a permit, which had not been the subject of CEQA review, could not be used as the baseline. The court disallowed the use because it was hypothetical. The levels had never been reached during the prior operations. The court also distinguished situations such as the case here where the existing facility at issue had been subject to prior CEQA analysis and what was proposed was a modification to the previously approved facility. (Id. at 326.) Unlike CBE, the Port did not use a hypothetical baseline, but rather used the actual operational levels from the last full year of operation at the facility prior to the economic recession. Moreover, this is clearly a "modification project" in a circumstance where the existing project had undergone full CEQA review.

Moreover, in CBE, the court expressly acknowledged the need for flexibility in situations such as this, where operating levels vary over time or as a result of economic conditions. The court held that a temporary lull in operations should not be used to depress the baseline. (Id. at 328.)

The other two cases cited by the Commenter - *Neighbors for Smart Rail*, *supra*, and *Pfeiffer v. City of Sunnyvale City Council* (2011) 200 Cal.App.4th 1552, likewise dealt with situations involving hypothetical future baselines. Here, there is nothing hypothetical about the 2006 operational levels. Those were the actual levels of operation in 2006.

Citizens for East Shore Parks v. California State Lands Comm. (2011) 202 Cal.App.4th 549 also fails to support the Commenter's position. The Commenter selectively quotes language from that case which has no application here. In context, the "turn back the clock" reference quoted in the comment relates to *Riverwatch v. County of San Diego* (1999) 76 Cal.App.4th 1428. As reiterated in *Citizens for East Shore Parks*, the court in *Riverwatch* upheld the county's chosen baseline which included illegal development that had occurred at a mining operation. The challenger had argued that the illegal structures should not be assumed in the baseline. The court noted that the challenger could not "essentially turn back the clock and insist upon a baseline that excluded existing conditions." (202 Cal.App.4th at 559.) The reference to "existing conditions" relates to the illegal development that had occurred. Moreover, the court warned against drawing distinctions between physical structures and their use. The court described such distinctions as "illusory" since the marine terminal at issue in that case was built and exists for a specific use - "use and structure, in other words, being hand in glove."

A case that is more on point is Cherry Valley Pass Acres & Neighbors, supra. In that case, the court held that the developer's adjudicated right to draw 1,484 acre-feet per year of groundwater could be used as the baseline even though the developer's actual use had dropped to 50 acre-feet per year after it had ceased operating the egg farm located on the property. The court emphasized that the actual usage in the past had been close to the maximum permitted, and was therefore not "hypothetical." Moreover, the court held that the developer's legal entitlement to draw its full allocation of water was also not "hypothetical." Here, the baseline utilized in the EIR was based upon actual operations, not hypothetical operations. Through its existing permits and lease, MCC currently has the right to operate the facility to the extent permitted by the SCAQMD throughput limitations. It could resume operations at any time it wishes to do so. It has invested nearly $9 million into the existing facilities, and is paying rent on those facilities as if they were in full operation. To suggest that the facility be treated as abandoned for the purposes of the baseline is factually and legally wrong.

After deciding that activity levels in 2006 are the best representation of the operations baseline for the existing MCC facility, the Port considered applying 2006 emissions rates to those activity levels as is typically done in CEQA documents. However, use of 2006 emission rates would completely ignore the improvements in air quality that have occurred subsequent to 2006 as a result of new air quality regulations and requirements.

The modifications to the MCC facility were initially proposed in 2006 in the midst of a relatively unique regulatory climate. Commencing in 2006 with the adoption of the Port's landmark Clean Air Action Plan (CAAP) and follow up regulations adopted by the California Air Resources Board (CARB), emissions from mobile sources at ports in California have been dropping dramatically. In the recent report on 2013 emissions at the Port of Long Beach, diesel particulate emissions were down 82%, sulfur oxides were down 90%, and nitrogen oxides were down 54% compared to 2005 emissions levels. These reductions are the result of the Port's Clean Truck Program that was initiated in 2008 and fully implemented on January 1, 2012 (and the similar CARB On-Road Heavy-

Duty Diesel Vehicle In-Use Regulation), CAAP measures OGV3 and OGV4 for low sulfur fuel in main and auxiliary engines (and similar CARB low sulfur marine fuel regulation), CAAP Control Measure CHE1 for cargo handling equipment (and similar CARB CHE regulations), and CARB and EPA low sulfur diesel regulations. None of these requirements were in effect at the time MCC submitted its initial application in 2006 for the proposed project, and most (including the Clean Truck Program) had not taken full effect in 2011 when the NOP was released for the proposed Project.

Emissions rates from 2006 would not account for the above mentioned regulatory emission reductions. For this reason, the Port considered emission rates that would eliminate the reductions that result from regulatory requirements in order to show only the impacts of the proposed Project. The two options considered were emission rates for 2011, because that was the NOP year, or 2015, because that is the year of construction and commencement of operations for the proposed terminal modifications. In the end, the Port selected 2015 because by January 1, 2015, more regulatory requirements applicable to the MCC facility would have taken effect so that the air emissions shown in the Draft EIR are directly attributable only to the proposed terminal modifications. In contrast, use of 2011 emission rates would have resulted in the Draft EIR air quality analysis showing emissions reductions attributed to the proposed Project when, in fact, those reductions primarily result from the Clean Truck Program and the CARB low sulfur OGV fuel regulation.

Commenter's statement that use of 2015 emissions rates for the CEQA baseline is an "effort to downplay" the projected emissions from the terminal modifications is incorrect. In fact, the exact opposite is true. Use of 2015 emissions rates is the best and only way to isolate and show the air impacts of the proposed facility modifications. Use of 2006 or 2011 emission rates would inflate the CEQA baseline emissions (see comparison in Table 1) and would mask the air quality impacts of the proposed modifications. In addition, as explained in Section 3.2.1.4 on page 3.2-13 of the Draft EIR, the approach used in the Draft EIR also allows a more equitable comparison of impacts between the CEQA baseline and project alternatives.

The following Table 1 presents emissions calculated for the CEQA baseline scenario with the use of 2006 emission factors. For comparative purposes, Table 1 also includes emissions calculated for the CEQA baseline scenario with the use of 2015 emission factors. These data show that the CEQA baseline with 2015 emission factors has substantially lower peak daily emissions compared to the CEQA baseline with 2006 emission factors.

Table 2 also includes peak day emissions estimated for the proposed Project and compares these emissions to both the CEQA baseline with 2006 emission factors and the CEQA baseline with 2015 emission factors. These data show that on a peak day of activity air emissions from the proposed Project are *greater* when the comparison is made to the baseline with 2015 emissions factors than when the comparison is made to the baseline with 2006 emissions factors.

Table 1. Peak Daily Emissions for CEQA Baseline Operations at the MCC Terminal - Year 2006 Emission Factors

Activity	Emissions (Pounds per day)					
	VOC	CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$
Ships - Outer Waters Transit	26.5	62.2	804.6	473.3	67.2	53.7
Ships - Precautionary Area Transit	3.1	7.4	96.4	58.4	8.2	6.5
Ships - Harbor Transit	1.9	3.2	24.2	14.1	2.7	2.2
Ships – Docking	1.3	1.6	13.3	6.9	1.6	1.3
Ships - Hoteling Aux. Sources	2.6	7.3	97.1	81.2	9.9	7.9
Ships - Turning at Berth	3.9	5.0	40.8	21.3	4.9	3.9
Tugboats - Cargo Vessel Assist	1.4	14.4	72.0	0.0	1.9	1.8
Vessel Unloading - Dust					14.6	9.8
Payloaders						
Truck Loading - Dust					5.7	3.8
On-road Trucks	59.0	246.7	750.5	3.6	37.1	34.1
CEQA Baseline Peak Daily Emissions – Year 2006 Emission Factors	**99.7**	**347.8**	**1,898.9**	**658.9**	**153.8**	**125.1**
CEQA Baseline Peak Daily Emissions – Year 2015 Emission Factors	**60.5**	**171.6**	**1,426.7**	**33.3**	**97.1**	**68.1**

Table 2. Peak Daily Operational Emissions from Proposed Project vs. CEQA Baseline With 2006 and 2015 Emission Factors

Scenario	Emissions (Pounds per day)					
	VOC	CO	NO_x	SO_x	PM_{10}	$PM_{2.5}$
Proposed Project Peak Daily Emissions	81.4	281.0	1,407.7	30.1	169.9	116.3
Net Change – Proposed Project minus CEQA Baseline (2006 Emission Factors)	**(18.3)**	**(66.9)**	**(491.2)**	**(628.8)**	**(35.8)**	**(21.8)**
Net Change – Proposed Project minus CEQA Baseline (2015 Emission Factors)	**20.9**	**109.3**	**(19.0)**	**(3.2)**	**72.8**	**48.2**

Appendix A-1 of the Draft EIR at page A-1-3 explains in further detail the regulations and rules that were taken into account in calculating the CEQA baseline emissions from the 2006 level of activities. Had these not been taken into account, the baseline emissions would have been higher, and the delta between the emission levels from the modified terminal and the 2006 baseline would have been lower. The approach taken by the Port resulted in more conservative analysis.

The SCAQMD has advocated for this approach to the baseline in its comments on CEQA documents prepared by both the Port and the Port of Los Angeles. Indeed, SCAQMD has expressly requested that the emission factors applied to the baseline not be held static in commenting on other projects. For example, in a November 14, 2012 comment letter to the Port of Los Angeles on the Revised EIR for the Southern California International Gateway (SCIG) project, SCAQMD noted as follows:

> A static baseline is an improper baseline to evaluate impacts for criteria pollutants. The static baseline used in Recirculated DEIR for criteria pollutants fails to disclose the impacts of the proposed project because it credits the proposed project with improvements in air quality that would occur independent of the proposed project due to adopted state and federal rules. This error has real-world implications since the lead agency will not be required to apply feasible measures or alternatives that would avoid or lessen the impacts. (P. 17.)

(See also SCAQMD letter re SCIG dated March 6, 2013, p. 8.)

In Neighbors for Smart Rail, supra, 57 Cal.App.4th at 453, n.5, the California Supreme Court acknowledged SCAQMD's position on this issue (conveyed to the Court in an amicus brief) and noted that updating the emission factors applied to the baseline activities is appropriate rather than leaving the baseline emission static for future year comparison.

Consistent with its prior comments, although SCAQMD submitted detailed comments on the Draft EIR, it did not object to the baseline analysis and approach used in the Draft EIR.

Response to Comment NRDC-4

See response to NRDC-3 that pertains to the discussion on 2006 emission rates vs. 2015 emission rates.

Response to Comment NRDC-5

The Commenter notes the forecasted growth in the U.S. cement market and suggests that the proposed modifications to the MCC cement facility will actually cause increased demand for and usage of cement materials, and that therefore the EIR should have assessed the growth inducing effects of the terminal modifications. The potential for growth inducement effects from the facility modifications was assessed in Section 5.3 of the Draft EIR on pages 5-2 to 5-3. That section explains that the proposed terminal modifications have an extremely low impact on population, which the Commenter does not dispute. The potential for indirect growth-inducing impacts on the cement market is addressed in Section 5.3.3. Therein, the Draft EIR explains that the production and use of cement tends to be regional rather than international. It is only when local supply is not sufficient to meet the demand that additional cement is needed from outside of the region. The Draft EIR explains that the proposed terminal improvements involve modification of an existing facility to improve operational efficiency and storage capacity. The proposed terminal modifications involve no increase in the throughput limitations currently imposed upon the facility by SCAQMD. While the terminal modifications facilitate the storage capacity for a local supply of cement, this supply is not a driving force for usage of the cement in the region. The Commenter presents no evidence, and the Port has found none, to suggest that disapproval of the proposed terminal modifications would have any impact on the number of projects that get constructed in the region. Moreover, the MCC terminal is one of many cement terminals on the West Coast. Just within California, there are 11 terminals and 10 manufacturing plants. (See PCA, California Cement Industry, CA Cement Production.)

More fundamentally, the planning and construction of infrastructure, commercial projects and residential development is in response to population growth. It is not controlled by the method by which any one type of building material (e.g., cement) is transported to the general area. While a temporary shortage of a building material may cause inconvenience or temporary delays in construction schedule, it is speculative to suggest that a project that helps to normalize local supplies of a building material will actually induce the construction of a project that is not otherwise warranted.

The Commenter cites two federal cases to support this comment. The first, *Davis v. Mineta* (10th Cir. 2002) 302 F.3d 1104, does not involve CEQA. Instead, it involved a NEPA Environmental Assessment ("EA") for a highway project. The EA itself acknowledged that the rate of development in the area served by the new highway may increase. The EPA stated that the enhanced transportation facilities will generate or enhance economic activity and development. (*Id.* at 1123.) The court held that in light of those statements, the NEPA analysis that had concluded the project had no growth inducing effects was flawed.

Equally inapplicable is the 40-year old decision in *City of Davis v. Coleman* (9th Cir. 1975) 521 F.2d 661. That case related to the environmental review for a freeway interchange. The CEQA clearance for the project was a negative declaration. The record demonstrated that the interchange was an indispensible prerequisite for "rapid development" of the area it served. It was described as an "essential catalyst for the fruition" of the county's development plans for the area. "The growth-inducing effects of the ... [i]nterchange project are its raison d'être...." (*Id.* at 674.)

Such infrastructure projects that eliminate a constraint on development certainly may be viewed as growth-inducing. However, the same conclusion does not apply to the modification of an existing terminal that will be used to store a raw material that might end up being used in such infrastructure.

Response to Comment NRDC-6

The Commenter suggests that the EIR was required to analyze the "life cycle" of the cement that will be transported through this facility. The Commenter cites no authority to support the scope of this request; nor does such authority exist.[1] CEQA instead requires a good faith effort to reasonably disclose localized impacts associated with a project and cautions against attempting to assess speculative or uncertain impacts.

The facility modification involved in this application does not encompass the manufacturing or use of cement beyond any minor amounts used in the construction. The impacts associated with the manufacturing and use of cement would occur with or without the proposed modifications to the MCC terminal. See, e.g., Friends of the Eel River v. Sonoma County Water Agency, 108 Cal.App.4th 859, 876 (2003) (court observes that "when a project relies on an arrangement that predates the project and is authorized in a different proceeding, the project's EIR [need not] consider the significant impacts of this prior arrangement."). In other words, the demand for cement will be met with or without the proposed modification of the MCC terminal. Thus, neither the manufacturing or ultimate use of the cement could fairly or reasonably be considered impacts of the proposed terminal modifications.

More fundamentally, the analysis requested by the Commenter would require the Port to examine the impacts of manufacturing activities that generally take place outside

[1] Along those lines, it is important to keep in mind that CEQA is not to be interpreted "in a manner which imposes procedural or substantive requirements beyond those explicitly stated in [the statute] or in the [CEQA] guidelines." PRC § 21083.1. The California Supreme Court has likewise cautioned that CEQA "must not be subverted into an instrument for the oppression and delay of social, economic, or recreational development or advancement." *Laurel Heights Improvement Association v. Regents of University of California*, 6 Cal.4th 1112, 1132 (1993) and *Citizens of Goleta Valley v. Board of Supervisors*, 52 Cal.3d 553, 576 (1990).

California and outside of the United States, which is plainly beyond the scope of CEQA. The purpose of CEQA is to analyze projects' environmental impacts ***within the State of California***. For instance, PRC § 21000 states: "The Legislature finds and declares as follows: (a) The maintenance of a quality environment for the people ***of this state*** now and in the future is a matter of ***statewide*** concern. . . . (c) There is a need to understand the relationship between the maintenance of high-quality ecological systems and the general welfare of ***the people of the state***, including their enjoyment of the natural resources **of *the state***. . . . [and] (g) It is the intent of the Legislature that all agencies of the state government which regulate activities or private individuals, corporations, and public agencies which are found to affect the quality of the environment, shall regulate such activities so that major consideration is given to preventing environmental damage, while providing a decent home and satisfying living environment ***for every Californian***." [Emph. add.]

Nothing in CEQA requires the far-reaching analysis urged by the Commenter here. Instead, CEQA specifically requires that analysis be focused on impacts within a relatively localized project area. CEQA Guidelines § 15125, which addresses the environmental setting, states: "An EIR must include a description of the physical ***environmental conditions in the vicinity of the project***, as they exist at the time the notice of preparation is published, or if no notice of preparation is published, at the time the environmental analysis is commenced, ***from both a local and regional perspective***." [Emph. add.] In *City of Riverside v. City of Los Angeles*, the Fourth District Court of Appeal ruled that the Port of Los Angeles did not abuse its discretion by failing to include an analysis of increased rail traffic some 65 miles away in Riverside allegedly due to a port expansion project. The court there reasoned that Riverside was not in the vicinity of the project area and that it was speculative to tie impacts there to a port expansion project. (See attached copy of that opinion in Case G043651.)

A significant effect on the environment is defined as a "substantial adverse change in the physical conditions which exist in the area affected by the proposed project." CEQA Guidelines § 15002(g) [Emph. add.];2 see also, CEQA Guidelines § 15126.2 ("In assessing the impact of a proposed project on the environment, the Lead Agency should normally limit its examination to changes in the existing physical conditions in the affected area as they exist at the time [environmental review commences]," noting that the discussion should include "relevant specifics of the area" and the "resources involved."). The scope of review certainly does not extend to impacts beyond the borders of California (over which the Legislature of this State has no jurisdiction), especially ones that are not directly or indirectly caused by a project, as is the case here. Any analysis of such impacts would be speculative and beyond the reasonable, good faith disclosure standard established by CEQA. CEQA Guidelines §§ 15064(d)(3), 15088(c), 15144, 15145, 15151, 15204(a); Save Tara v. City of West Hollywood, 45 Cal.4th 116, 133 (2008); Save Round Valley Alliance v. County of Inyo, 157 Cal.App.4th 1437, 1450-1454 (2007).

The genesis of the obligation to analyze GHG emissions in CEQA documents is the California Global Warming Solutions Act of 2006 or "AB 32." The focus of AB 32 is on "***statewide*** greenhouse gas emissions," which are expressly limited to "the total annual emissions of greenhouse gases ***in the state***." Health & Safety Code Section 38505(m).

[2] *Accord*, CEQA Guidelines § 15382.

[Emph. add.] The mandate of AB 32 is to reduce the "in state" GHG emissions to their 1990 level by 2020. Health & Safety Code Section 38550.

The CEQA Guidelines were amended in 2010 to address GHG emissions. CEQA Guidelines § 15064.4 requires a lead agency to "make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project." When assessing the significance of GHG impacts, CEQA Guidelines § 15064.4(b) states that a lead agency should consider, among others, "[t]he extent to which the project complies with regulations or requirements adopted to implement a ***statewide, regional, or local plan*** for the reduction or mitigation of greenhouse gas emissions." [Emph. add.] In regard to plans for the reduction of GHG emissions, CEQA Guidelines § 15183.5 states that such plans must, among others, "[q]uantify greenhouse gas emissions . . . resulting from activities within a defined geographic area," and "[i]dentify and analyze the greenhouse gas emissions resulting from specific actions or categories of actions anticipated within [that] geographic area." [Emph. add.]

In Save the Plastic Bag Coalition v. City of Manhattan Beach, 52 Cal.4th 155 (2011), the California Supreme Court cautioned against reliance on "life cycle" studies associated with a particular product, such as plastic or paper bags. The court noted that while such studies may be a useful guide for the decision-maker when a project entails substantial production or consumption of a product, when "increased use of the product is an indirect and uncertain consequence, and especially when the scale of the project is such that the increase is plainly insignificant, the product 'life cycle' must be kept in proper perspective and not allowed to swamp the evaluation of actual impacts attributable to the project at hand." 52 Cal.4th at 175. The court went on to conclude that the environmental impacts discernible from the life cycles of plastic and paper bags would not be significantly impacted by a plastic bag ban in the City of Manhattan Beach.

Similarly here, it simply cannot be shown that the modifications to the MCC facility would create any measureable or predicable impact on cement manufacturing or usage. Just as the purported increased use of shopping bags was uncertain, any presumption regarding increased use or manufacturing of cement in Asia is likewise speculative.

Further, and tellingly, the Governor's Office of Planning & Research ("OPR") and Natural Resources Agency specifically rejected the notion of requiring the type of global analysis of GHG emissions urged by the Commenter here when adopting CEQA Guidelines on that topic, noting that "the phrase 'associated with' in the preliminary draft [of CEQA Guidelines § 15064.4] was replaced by 'resulting from' ***to conform to the existing CEQA law that requires analysis only of impacts caused by the project*. *This change is also necessary to avoid an implication that a 'life-cycle' analysis is required.***" April 13, 2009 letter from Cynthia Bryant, Director of OPR to Natural Resources Secretary Mike Chrisman. (Emph. add.)

In short, the impacts of cement manufacturing and use are separate and divorced from the terminal modification here at issue. Finally, nothing in CEQA mandates the far-reaching and limitless analysis urged by the Commenter here.

Response to Comment NRDC-7

The Comment quotes portions of CEQA Guideline section 15126.4(a). The remaining portion of the comment is a general conclusion. The specific comments raised by the Commenter are addressed below.

Response to Comment NRDC-8

The comment states that because the life cycle of the imported cement is not assessed in the Draft EIR, that the Port has failed to mitigate the impacts associated with that life cycle. For the reasons stated in the Response to Comment NRDC-6, the EIR was not required to assess the impacts in Asia for the manufacturing of the cement, or to account for its ultimate use in construction.

The proposed Project modifications relate to the transport of cement. The comment states that "MCC has the responsibility to ensure that the millions of tons of cement it will be importing through its terminal at the Port are produced using the most environmentally sound methods." This is not a responsibility imposed by CEQA. The terminal modifications do not involve, directly or indirectly, the production of cement. Moreover, the Port as lead agency has no authority or control over cement manufacturing processes that occur outside its jurisdiction.

Response to Comment NRDC-9

Historically, the MCC terminal has complied with SCAQMD Rule 403 (Fugitive Dust) with techniques such as the use of a vacuum sweeper to control onsite road dust. Operations under the proposed Project would continue this approach in the future. The HRA completed for the Draft EIR (Section 3.2.2.3) includes an evaluation of the effects of all emissions from the proposed Project, including cement dust, and those effects are less than significant.

Contrary to allegations in the comment that there will be "huge amounts of dust while [ships] are being unloaded," during a peak day of operation, the ship unloaders, storage warehouse dust collector, direct load silo dust collector, and on-site road dust from trucks would total 16.8 pounds per day of cement dust in the form of PM10 (for reference, Draft EIR Appendix A-1 Tables A.1.2-38 and A.1.2-48 show peak daily emissions for these sources).

The comment notes that the Port has adopted measures to enclose ships loading petroleum coke, and suggests that the Port "apply a similar approach" to ships offloading cement. However, the cement product is already "enclosed as it is unloaded from the ships," as explained in section 1.5.4 of the Draft EIR. The cement handling process line from ship to truck is entirely closed off from the atmosphere, other than at the (1) opening of the ship hold where the vessel unloader accesses the cement cargo, (2) bag houses venting from cement storage areas, and (3) the small joint between the truck loader and truck opening. The entire process is regulated by the SCAQMD and is covered by various SCAQMD operating permits. (See listing of permits in Response to NRDC-3.)

Table 3.2-9 (on DEIR page 3.2-22), Table 3.2-10 (page 3.2-23) and Table 3.2-11 (page 3.2-24) show operational emissions from the proposed Project for, respectively, the average daily unmitigated project, peak daily unmitigated project and average daily mitigated project.[3] Of the emission-generating activities listed in these tables, particulate matter caused by cement dust could be attributed to two of them: (1) vessel unloading and (2) truck loading. The emissions associated with vessel unloading and truck loading are from emission control devices (i.e., baghouses) and as such, no further emissions controls are available.

MCC's pneumatic (vacuum) unloading device is, itself, the best available emissions control technology for the process of unloading cement. The "older" method of unloading cement used a vertical screw conveyor. During unloading, the screw auger churns the cement and generates dust as the cement is mechanically lifted out of the hold and transferred to a conveyor system. Unlike a screw-conveyor cement unloading operation, the use of a pneumatic unloader allows for removal of the cement from the ship's holds in a top down fashion, which reduces sloughing that occurs when using a screw conveyor and thus greatly reduces the dust generated during unloading. The vacuum's negative air draft into the ship's hold works as an additional emissions control to further reduce dust. In addition, the electric unloader is equipped with a particulate bag filter to control the emissions from the cement transfer process. Unlike a screw-conveyor system, the cement is transferred from the ship through sealed piping, and goes into a warehouse that also is equipped with a baghouse for particulate control. Once the majority of the cement (80 percent or greater) has been removed from the ship's holds, during the final cleanout phase of unloading, a payloader is used to gather the remaining cement into a centralized point in the hold such that the pneumatic unloader can vacuum the remaining material from the hold.

It would not be feasible to completely enclose the holds during unloading. "Feasible" is defined in Cal. Pub. Res. Code section 21061.1 as capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors. In this instance, there is no feasible measure that could be implemented to further control the cement dust that would significantly reduce the PM10 and PM2.5 impacts. As shown in the attached Figure 1, the hatches to the ships hold are large and fold upwards. On-board cranes need to be able to maneuver them in order to open them. Any type of "shroud" that could enclose each of the holds – if it could even be engineered – would be accompanied by its own significant set of problems, including safety concerns, space constraints, and exorbitant cost far exceeding the benefit of marginal emissions reductions that might result. Neither the applicant nor the Port is aware of any type of apparatus in use like this. The comments have not identified any such apparatus.

Moreover, there are already measures in place (vacuuming the site, and the ability to vacuum the cement trucks if necessary) to ensure that the trucks do not track fugitive dust off-site. The cement is loaded into trucks through small hatches using an emission-controlled nozzle. Very little cement dust results from loading the trucks. If any cement does get on the exterior of the trucks, which is infrequent in the usual course of operations, there is an industrial vacuum at the truck hatch closing station.

Cement loading is unlike other types of dry bulk loading, for example, petroleum coke and coal, which often require a truck wash as a truck exits the loading station. Petroleum

[3] With regard to the post-project on-site truck dust, please see Response to MCC-1 relating to silt loading emissions factors.

coke and coal are loaded very differently without the type of control device nozzle that is used for loading the cement. It is unnecessary and undesirable to wash a cement truck. Not only would washing every truck generate its own set of potential impacts, such as increased use of water in a time of serious drought, wastewater discharge concerns, and potential safety issues, washing cement with water causes the cement product to become hard and adhere to surfaces. Further, the comment also does not recognize the fundamental differences between the cement import operations and a typical coal or petroleum coke terminal operation. Coal is an export product which involves loading operations to a vessel, unlike cement, which is imported and therefore involves unloading operations from a vessel. To load bulk product, the product is typically dropped into a ship's hold, which can generate a large amount of dust from within the hold. As described above, the mechanics of unloading are different, and do not involve dropping material into an open hold.

The MCC facility uses the best and cleanest technology currently available for cement unloading operations to ensure that particulate emissions will be reduced to the extent feasible. Comparisons to petroleum coke operations are misplaced.

Response to Comment NRDC-10

During construction, Mitigation Measure AQ-1 requires application of water to unpaved areas to control fugitive dust and wind-blown soil, consistent with SCAQMD requirements for dust control. The construction will also be subject to the requirements of the SWRCB General Construction Activities Stormwater Permit with respect to water runoff and erosion, as identified in Draft EIR Section 3.4.2.2. Accordingly, watering during construction must be sufficient to wet the surface but not so excessive as to cause runoff. The facility historically has not used water for dust suppression during operation and there are no future plans to use water for dust suppression during operations. The facility is equipped with industrial vacuum sweepers to clean up spilled cement. Other than domestic wastewater discharged to the sanitary sewer (e.g., sink and restroom facility wastewater), the only water discharged from the facility will be stormwater, which is monitored by the Port in compliance with its Stormwater Management Plan. Records do not show prior pollutant exceedences associated with this facility and the facility has not been required to take any corrective action to reduce suspended solids in the stormwater runoff. Nothing in the project proposal will change MCC's operating practices of routine facility vacuum sweeping. In addition, construction and operation of the proposed Project would be in accordance with stormwater permits that would regulate the water quality associated with all stormwater discharges to prevent impacts from the proposed Project to beneficial uses of the receiving waters. Therefore, no change in the stormwater characteristics is expected and no exceedences are anticipated.

Response to Comment NRDC-11

The Commenter states that mitigation measures for OGVs are not adequate and that 100% cold ironing (also known as shore power) should be required. As stated in the Draft EIR, 100% cold ironing is not feasible at the MCC facility. When MCC took over the lease to the facility from the previous tenant, Lucky Cement, it inherited the facility SCAQMD permit to operate for Bulk Cement Ship Unloading, which included a condition that all ships had to use shore power while unloading. To comply with their SCAQMD permit, MCC has successfully designed and implemented a specialized cold ironing connection, through the dry-dock connection of the ship, to power critical ship systems (i.e., on-board lights, ventilation, and instrumentation) while the ship is being unloaded.

In most cases in the past, the ships have not been able to receive sufficient electrical power through the dry-dock breaker to operate the on-board cranes. The on-board cranes serve two necessary roles in the cement unloading process. Initially, the ship uses the on-board cranes to open the holds. Later, during the unloading process, the ships use their on-board cranes to transfer the payloader or "power squeegee" from the dock to a hold, and then from hold to hold to complete the unloading process.

When unloading, the pneumatic unloader (Kovako or van Aalst) removes the bulk of the cement from a ship's hold, and then it needs some help with cleanout. The payloader must be lifted into a hold, where it pushes the remaining cement together so that the pneumatic unloader can reach it more efficiently. The ship's on-board crane is used to lift the payloader from the dock into the hold, and thereafter from hold to hold as each hold goes through the cleanout phase. For many of the ships, MCC has been able to cold-iron up until the point that the ship's crane is needed to lift the payloader. Since the ships have not been retrofitted, and MCC has had to connect the ships to shore power through a circuit breaker designed to be used when the ship is in dry dock, most of these breakers have a limited capacity. Most of the ships are not capable of receiving enough power through their dry-dock breakers to run the crane to lift the payloader.

MCC is not able to change standard ship industry design criteria for dry-dock breakers on ships owned by countless companies in international trade; therefore, it is expected that the limitations on dry-dock breaker capacity that have been noted in the past will continue for the foreseeable future. As such, it is expected that ship auxiliary engines will continue for the foreseeable future to operate for short periods to supply power to operate the cranes. For this reason, cold ironing cannot be achieved 100% of the time at this facility. SCAQMD has acknowledged the inability to cold iron 100% of the time at berth as they have allowed MCC to use limited on-vessel generators during unloading under an Order for Abatement from 2005 to 2010 while MCC worked towards an alternative method to control emissions from ships that are not able to use shore power. As part of the proposed Project, MCC has identified the DoCCs for use when ships are unable to cold-iron and has submitted an application for a modification to its existing SCAQMD permit to allow vessels that call at the MCC facility to either use shore-to-ship electricity (cold-ironing) or the proposed DoCCS at-berth emission control system when unloading. The SCAQMD permit modification is pending and will be considered for approval upon completion of the CEQA review process.

MCC does not own the ships that are used to transport cement to the Long Beach terminal, and so does not have the ability to retrofit them to be compatible with shore power. Ships of the class used to transport cement to the Long Beach terminal are not dedicated to cement; they are chartered by many diverse parties to transport a variety of bulk products around the world. The ships were not designed or built to cold iron, and their owners have not retrofitted them to do so. Also, because it is an international fleet used to transport many bulk products to many ports, very few ships have visited the terminal multiple times, giving MCC no leverage to insist that the ship owners retrofit their ships.

In 2006, MCC succeeded in getting a clause added to charter party agreements that says the ship captains will cooperate with cold ironing. This language provides that ships will receive shoreside electrical power, and “will use this power throughout the time the vessel is berthed,” providing exceptions to this requirement only where shore power capacity is insufficient to supply the required load; there is a breakdown in shore power supply; or during a vessel emergency event. However, the ships were not designed or constructed to cold iron, and the international bulk transport fleet of ships of the relevant size (owned by many different shipping companies) has not been retrofitted to be compatible with shore power.

The Commenter noted that the “Port is likely to install shore power in all of its docks by the time this Project is operational, as promised in the CAAP.” It should be clarified that the Port committed in the CAAP to outfitting all its ***container terminals*** with shore power infrastructure by 2014, and that commitment has been completed. MCC’s terminal is a dry bulk terminal, not a container terminal, and is not part of the CAAP commitment. However, as previously mentioned, MCC has installed a specialized cold-ironing connection to power critical ship systems while ships are at-berth.

The Commenter also states that “MCC cannot claim that they (sic) are permitted to violate their (sic) SCAQMD permit and CARB regulations…” MCC is not proposing to violate its SCAQMD permit. Instead, it is seeking to modify the permit. The CARB shore power regulation only applies to passenger, container, and refrigerated cargo vessels and is not applicable to dry bulk cement vessels and, therefore, its requirements do not pertain to vessel operations associated with the proposed Project.

As detailed in Response to Comment NRDC-14, the use of AMECS on the Project's dry bulk vessels while at berth is not a feasible mitigation measure at this time, given that the technology is currently in the demonstration phase and is not commercially available. Nonetheless, as noted in Responses to Comments NRDC-12 and NRDC-14, an additional mitigation measure (AQ-5) related to participation in the AMECS emission testing has been added.

Response to Comment NRDC-12

As indicated in the Port’s Response to Comment NRDC-11, dry bulk vessels are not subject to the CARB Shore Power Regulation, nor is 100% cold ironing of vessels feasible at the MCC facility. Therefore, requirements under the CARB Shore Power Regulations, such as achieving equivalent emission reductions, do not pertain to bulk vessel operations associated with the proposed Project. The DoCCS is not replacing cold-ironing completely. Rather, as part of the proposed Project, MCC has identified use of the DoCCS to control at-berth emissions when dry bulk vessels are not capable of cold-ironing, as detailed in the Response to Comment NRDC-11.

Currently, there are no alternative technologies available that achieve the equivalent emissions reductions as shore power. However, as one of the strategies identified in the CAAP (OGV2), the Port has been working on finding alternative technologies to reduce at-berth emissions from ships not subject to the CARB shore power regulation (i.e. bulk, roll-on/roll-off, and tanker vessels).

The Commenter states that *“The Port should implement the AMECS instead of the DoCCS.”* As further discussed in Response to Comment NRDC-14, the new mobile, barge-mounted AMECS is still in the demonstration stages and is not commercially available. In addition, the long-term costs of implementing the AMECS technology are not yet understood. Until the AMECS, or other alternative technologies to shore power are proven to achieve emission reductions levels approved by CARB and are commercially available for use on bulk vessels, the AMECS is not a feasible mitigation measure or project alternative at this time.

According to MCC, there are numerous additional reasons why AMECS was not used for the proposed Project, including space constraints, the timeframe under which MCC had to commit to an emissions control system, and information available about AMECS at that time.

By order of the SCAQMD Hearing Board, described on page 1-4 of the Draft EIR, MCC was required to identify and commit to an emissions control system nine years ago. The order required MCC to report to the SCAQMD by December 15, 2005, regarding its plan for achieving compliance with the cold ironing provision in its permit. Given the technological and practical limitations on cold ironing a fleet of ships that MCC did not own and that were not dedicated to the facility, the SCAQMD staff and the Hearing Board accepted MCC's proposal to cold iron to the extent feasible, and to add a device to control the ship emissions when cold ironing was not feasible. In successive hearings, MCC was required to release a request for proposals by May 31, 2006; to receive bids by July 15, 2006; to contract for the control device no later than October 31, 2006; and to submit applications for SCAQMD permits by December 15, 2006.

The system that ACTI had designed at that time had a footprint larger than MCC's site could accommodate. Even assuming the expansion of the terminal area (and the corresponding lease) could have taken place sooner, there was insufficient space for placement of the AMECS as it was designed in 2005-2006. According to publicly available documents from that time period, the footprint of the AMECS "would occupy an area of approximately 140 feet X 20 feet" (see p. 1-7 of the Southeast Basin Vessel Emission Control Project Negative Declaration for the Metropolitan Stevedore demonstration project.)[4]

As the Draft EIR shows in Figures 1.4-1 and 1.5-1, the MCC terminal is space-limited. The AMECS unit, as designed in 2005-2006 would not safely fit on the property. Whether oriented parallel or perpendicular to the dock, it would have obstructed either the unloaders or the truck traffic pattern and fire access. The attached Figure 2 shows the post-project site and the AMECS footprint outlined in blue and green in two different possible orientations. Installed parallel to the dock (green), the AMECS would interfere with unloading the number 5 ship hold. Installed perpendicular to the dock (blue), it would directly block truck circulation because, after exiting the silos, the trucks are already making the minimum safe turning radius requiring the least amount of cross traffic on the facility.

Additionally, the AMECS technology at that time contained a cloud chamber which used a caustic solution mixed with water. Both fresh and spent cloud chamber solution would require onsite management, either in tanks or by delivery and removal trucks adjacent to the unit, all of which required additional space in addition to the footprint of the unit. That additional space would have interfered with normal facility operations.

The DoCCS, in comparison, was designed with these space constraints in mind. It is approximately 26 feet by 56 feet, and it is tire-mounted so it is mobile. Accordingly, the

[4] http://www.polb.com/civica/filebank/blobdload.asp?BlobID=3785

DoCCS was selected by MCC over the AMECS because it better suited the needs of the proposed Project, including the site constraints.

DoCCS is an alternative technology which will help reduce at-berth emissions. Although it does not achieve the same emission reductions as shore power, it is the best option currently available to maximize emissions reductions from dry bulk vessels that cannot use shore power 100% of the time at the berth. In those instances when shore power cannot be used, the DoCCS will be required to capture as much NOx as possible. There are no other feasible control measures currently available.

Nonetheless, the Port has proposed two additional mitigation measures relevant to this comment. First, after completion of terminal modifications, MCC will be required to participate in the AMECS demonstration program provided that such demonstration is not yet complete. The new measure is as follows:

> **Mitigation Measure AQ-5: Participation in AMECS Emission Testing.** After construction of the proposed Project has been completed and operations have resumed at the MCC facility, MCC shall use its best effort to participate in the SCAQMD's AMECS demonstration project at the Port of Long Beach (Port). MCC's participation specifically pertains to Task 10 Durability Testing as described in Exhibit A to the contract between the City of Long Beach and the SCAQMD, approved by the Port of Long Beach Board of Harbor Commissioners on February 10, 2014 (the "AMECS Demonstration Testing"), if at such time, AMECS technology is undergoing Task 10 Durability Testing at the Port.
>
> If MCC participates in the testing of a vessel pursuant to the AMECS Demonstration Testing, the costs of testing will be borne as indicated in the contract, and no testing costs shall be borne by MCC (with the exception of in-kind staff time associated with coordinating the logistics of the testing). Additionally, if MCC participates in the AMECS Demonstration Testing, such vessel hoteling hours shall be exempt from the requirements of Project Environmental Control (EC AQ-2) – Shore to Ship Power/Cold Ironing, which requires OGVs that call at the MCC facility to use shore-to-ship power (cold-ironing) no less than 66 percent of the time (on an annual average) while at berth.

In addition, the Port has imposed a new measure that would require periodic review of new technologies to reduce emissions. The new measure is as follows:

> **Mitigation Measure AQ-6: Periodic Technology Review**. To promote new emission control technologies, MCC shall perform an investigation and submit a report to the POLB Chief Executive, every 5 years following the effective date of the new lease, on any POLB-identified or other new emissions-reduction technologies that may reduce emissions at the MCC facility, including the feasibility of zero emissions and near-zero emissions technologies for cement delivery trucks and cement handling equipment (e.g. payloader). If the Periodic Technology Review demonstrates the new technology will be effective in reducing emissions and is determined through mutual agreement between the Port and MCC to be feasible, including but not limited to from a financial,

technical, legal and operational perspective, MCC shall work with the Port to implement such technology.

Response to Comment NRDC-13

The DoCCS is powered by electricity and natural gas; it has no diesel components. The system uses pumps and blowers that are electric, the selective catalytic reduction (SCR) duct-burner uses natural gas, and urea is used in the catalytic reaction. Electrically driven pumps power the hydraulic system used to maneuver both the wheels and the crane boom holding the capture hood. The SCR duct burner is natural gas-fired and its emissions are included in the Project air quality analysis (for reference, Draft EIR Appendix A-1, Tables A1.1.2-39 through 42 show the emissions calculations for this source).

Response to Comment NRDC-14

The comment describes the AMECS, and states in the final sentence that the AMECS "truly complies with the regulation," implying that the DoCCS does not, but the comment fails to state to which regulation it is referring. The Commenter may be referring to the CARB Airborne Toxic Control Measure for Auxiliary Diesel Engines Operated on Ocean-Going Vessels At-Berth in a California Port (17 Cal. Code of Regs. 93118.3) that it referenced earlier in NRDC-12. If so, that regulation applies only to container ships, passenger ships and refrigerated cargo ships. It does not apply to bulk carriers, such as the ships calling on MCC's terminal. The DoCCS is designed to meet the permitting requirements that do govern MCC's operations.

The comment also asserts that the AMECS is superior because it can achieve greater emissions reductions than assumed for the DoCCS in the Draft EIR air quality analysis. It is important to keep in mind that neither the AMECS nor the DoCCS have a lengthy track record of commercial operations. CEQA review and permitting analyses must consider the range of operations anticipated as a result of the proposed Project. This includes the variability in performance that may result from applying the emission control technology to a range of vessels with different designs, equipped with different engines, and burning different fuels.

MCC will be required to operate in compliance with conditions in its air permits that will be enforceable at all times, not just during a demonstration test performed under known or ideal conditions. The demonstration testing for the AMECS is encouraging, but given the limited operational experience for bulk vessels and the wide range of variables in the ship engines, operations and fuels, the control efficiencies stated for the demonstration testing should not be translated into permit limits enforceable at all times either for the AMECS or for the DoCCS. Moreover, as noted above, the Port has added additional mitigation measures related to participation in AMECS testing and periodic emission reduction technology review.

The control efficiencies assumed for the DoCCS reflect the changes in NOx removal efficiency of SCR systems over the life of the catalyst. The 95% control estimated for the DoCCS is intended to be a NOx control efficiency that will be met under a range of conditions, including the less robust performance toward the end of reasonable catalyst life. The ACTI Final Report provided two source tests performed during the demonstration project (at 885 and 1,174 hour of operation, respectively). The ACTI system is still in the demonstration phase and has shown variability in the performance of the system (see Table 3). The MCC DoCCS is a system designed to meet the operational constraints expected to be imposed by the SCAQMD through permit conditions. Until the DoCCS has been permitted, installed and subsequently source tested, the emission reductions estimates were based on performance standards considered the best available control technology at the time the permit applications were submitted (December 2006). As with the ACTI system that has developed over time, once permits are received and the system design and installation are completed, the performance of the DoCCs system can be proven. Until that time, a conservative emission reduction has been assumed so as not over-promise the emission reductions that will be realized by the DoCCs system.

Table 3. - Source Tests for ACTI AMECS

Pollutant	SCAQMD Test Method	First Source Test (885 hours)	Second Source Test (1,174 hours)
NOx	100.1	96%	99%(1)
Sox	6.1	71%(2)	98.5%
PM10	5.2	70%(3)	97.9%
HC	25.3	70%	99.5%
CO(4)	100	-170%	-150%

(1) Actual outlet values measured were below 20% of analyzer range, so 20% was reported.
(2) Actual outlet values measured were below 20% of analyzer range, so 20% was reported.
(3) Excludes anomalous Run 3; see TRC test report and adjustment for isokinetic sampling error.
(4) An increase in CO was measured. The reason for the CO was not determined, but is thought to be a tuning issue with the heat exchanger burner. The burner will be repaired before further use.
Source: Advanced Cleanup Technologies, Inc., Final Report Demonstration of AMECS on an Ocean-Going Vessel While Berthed, January 23, 2013, Table 3.

Results of testing done under controlled conditions when equipment is new and the catalyst is fresh are informative, but often are not indicative of what the equipment will achieve under all expected operating conditions and over the life of the equipment/ catalyst. SCR catalyst performance is affected by factors such as fouling, poisoning by metals, and erosion due to high gas velocities. Over time the catalyst deteriorates such that NOx reduction decreases and ammonia slip increases. SCR manufacturers typically guarantee the performance and life of the catalyst. (U.S. EPA Air Pollution Control Technology Fact Sheet on SCR, http://www.epa.gov/ttn/catc/dir1/fscr.pdf, posted 07-15-2003). SCAQMD rules require continuous emission monitoring. Routine performance compliance demonstration (e.g., periodic source testing) is required by SCAQMD under Rule 1147(c)(3) for permitted NOx reduction equipment to ensure the equipment is performing properly and complies with emission limits.

Moreover, even if the air quality analysis assumed installation of the AMECS at the emissions performance described in the comment, it would not change the significance conclusions of the Draft EIR. With respect to the mass emissions thresholds, the estimated emissions from the proposed Project with mitigation are significant only for annual average NOx; emissions of VOC, CO, SOx, PM10 and PM2.5 all are less than significant and so would require no further mitigation under CEQA. See DEIR Table 3.2-11. With respect to NOx, only the ship emissions during hotelling (“Ships – Hoteling Aux Sources”) would be affected by switching from the DoCCS to the AMECS. As shown on Table 3.2-11, this is 14.6 pounds per day out of a total of 618.6 pounds per day for the proposed Project with mitigation. Even assuming the performance stated in the comment, only a small portion of the proposed Project’s emissions would be avoided by assuming the AMECS in lieu of the DoCCS, and the project would remain significant for annual average NOx mass emissions.

With respect to ambient air quality, use of the AMECS would not affect the ambient air quality analysis for two reasons. First, the 1-hour NOx analysis, which was determined to be significant, was based on ship arrival at the dock with assist tugs (DEIR Appendix Section 3.1 item 2 on page A2-2). This step occurs before the at-berth emissions control technology can be employed, so, as with the DoCCS, the AMECS would not be employed either and no change to 1-hour ambient air quality analysis would occur. Second, the PM analysis, which was determined to be significant, showed the main source contributors to be the onsite on-road truck dust (road dust) and truck loading emissions (DEIR page 3.2-26). These sources would not be controlled by either the DoCCs or the AMECS. Therefore, use of the AMECS would have a minimal effect on reducing these emissions.

In addition, the use of AMECS on the Project's dry bulk vessels while at berth is not feasible at this time, given that the technology is currently in the demonstration phase and is not commercially available. The Port has been working with Advanced Cleanup Technologies, Inc. (ACTI) since 2006 on the demonstration of the AMECS technology in the Port. The AMECS has gone through several generations and modifications since 2006. The previous generation of the AMECS was wharf-mounted, often referred to as the "sock on a stack" consisting of a “bonnet” lifted by a crane placed over the smokestacks to capture emissions, and an emissions treatment system. In 2008, emissions tests of the AMECS were conducted on two dry bulk vessels at the Port of Long Beach. CARB issued a letter on December 15, 2008 stating that the AMECS was estimated to achieve particulate matter emissions reductions of 93-98 percent and oxides of nitrogen emissions reductions of at least 95 percent. With caveats relating to the overall reduction of the hoteling emissions, CARB staff indicated in the letter that they expect the AMECS to be capable of meeting the requirements of the Regulation to Reduce Emissions from Diesel Auxiliary Engines on Ocean-Going Vessels While At-Berth in a California Port (CARB, 2008).

However, since 2008, ACTI has further developed the AMECS, and more recently, replaced the wharf-based AMECS with a new emission control system mounted on a barge that uses a direct connection to a vessel's exhaust outlets.

Currently, there is only one AMECS unit—a prototype—that is undergoing demonstration and emissions testing on container vessels. ACTI has not yet commercialized the AMECS, and should it be commercialized, the new commercial unit will need to undergo the testing and approval process required by CARB as a viable alternative to the use of electrical shore power. On February 10, 2014, the Long Beach Board of Harbor Commissioners approved an agreement between POLB and SCAQMD to demonstrate the AMECS’s performance and conduct emissions testing on container vessels in order for the technology to be approved as an alternative compliance option for ships subject to the CARB Shore Power Regulation. Therefore, its use and effectiveness on other vessel types, including dry bulk vessels has yet to be demonstrated and determined. Under the agreement, ACTI is required to conduct demonstration and emissions testing of the AMECS on ships of varying types including dry bulk, liquid bulk, tankers, car carriers, and container vessels for a certain number of hours. The demonstrations and emissions testing are expected to take at least 6 months after the test plan is approved by CARB. It is not known at this time when the test plan will be approved and when emissions testing will commence. Because the AMECS has not yet undergone the required CARB demonstration and testing for dry bulk vessels; and until it becomes available as a commercialized system, the AMECS cannot be considered feasible for use on the Project.

Although it is not feasible to replace the DoCCS with the AMECS technology for the proposed Project, it might be possible to test the AMECS technology on a bulk vessel at the MCC facility if the timing of the AMECS testing and MCC facility operations overlap. Therefore, as stated above in Response to Comment NRDC-12, a mitigation measure (AQ-5) requiring participation in AMECS emission testing has been added to the Final EIR.

Response to Comment NRDC-15

Please see Response to Comment NRDC-14. The use of the AMECS technology on the Project vessels while at berth is not feasible at this time. The proposed demonstration of the DPF on the DoCCS is intended to improve the DoCCS emissions capture of particulate matter (PM) when shore power cannot be used. It is estimated that the DPF system will reduce DPM emissions by at least 80% in addition to the DPM emissions reductions achieved as a result of the use of low sulfur fuels in vessels while at berth as required under the CARB vessel low-sulfur fuel regulation. The demonstration of the DPF will determine the feasibility of additional PM emissions reductions on the DoCCS technology and provide an opportunity to advance and diversify this type of PM control technique for at-berth emission reduction technologies for dry bulk vessels.

Response to Comment NRDC-16

The Commenter expressed concern that the installation of the DPF will take a minimum of 3 years to install, after the Project begins operation, and that the AMECS could be implemented much sooner. Mitigation Measure AQ-3 does not state that the installation of the DPF will take a minimum of 3 years to install after the project begins operations. Rather, it states that within three months after the start-up/initial use of the DoCCS, MCC shall submit a proposed plan, budget, and schedule to the Port for the DPF demonstration project. After the Port reviews and approves MCC's proposal, MCC shall install the DPF and begin the demonstration project within 6 months of the Port's approval. The installation of the DPF on the DoCCS could occur within a year from start-up/initial use of the DoCCS. The installation of the DPF on the DoCCS will take time to design, procure, and permit. Emissions testing will need to be conducted on a representative number of ships to gather data to determine the necessary specifications for the DPF, modifications will need to be designed to the DoCCS to accommodate the DPF, and necessary permits will need to be obtained prior to construction and installation. As discussed in the Response to Comment NRDC-12, two additional mitigation measures have been added to the proposed Project requiring participation in AMECS emission testing (AQ-5) and periodic technology review (AQ-6) that are intended, in part, to provide information on other potential replacement technologies in the event that results from the DPF monitoring indicate unsatisfactory performance.

As previously mentioned in the Response to Comment NRDC-14, the AMECS is not currently available for commercial use as it is undergoing demonstration and testing. Therefore, the timeline for availability of the AMECS technology for bulk vessels is uncertain at this time. There are no other feasible mitigation measures to reduce PM emissions from ships at berth.

Response to Comment NRDC-17

Please see the responses to NRDC-12, NRDC-14, and NRDC-16 explaining that AMECS technology is not currently a feasible mitigation measure.

Response to Comment NRDC-18

The Commenter states that the Project should commit to the implementation of zero emission truck technology to reduce emissions from the proposed Project. The Commenter also suggests that "the technologies are already available in the market and there is no reason that the Project should not commit to a phase-in of a zero emission truck fleet". However, the Commenter has provided no information about the availability of such trucks for use in connection with MCC's operations. As explained below, such zero emissions trucks are not currently feasible for cement delivery in connection with the MCC terminal.

While zero-emissions technologies are promising, there are currently no zero emission technologies readily available in the marketplace to replace the types of cement delivery trucks at the MCC facility, nor have such trucks been tested and proven to be feasible in port operations. Before zero-emission trucks can be deployed in port operations, several factors must be considered including charging/fueling and maintenance. In addition, durability, loss of power potential, and safety need to be monitored through testing before large capital investment can be made in a new truck fleet. A June 2011 report prepared for the ports of Long Beach and Los Angeles examined the state of current zero-emission technologies and outlined a reasonable, programmatic approach to commercialization, through demonstration and evaluation (TIAX, 2011). The report concluded that a two-phase demonstration to commercialization is needed, with a small-scale demonstration of one to three units to examine basic technical performance. A second phase would include a broader, larger scale performance demonstration to assess how the technologies' feasibility fits into existing operations on a multi-unit basis. As such, phase-in of zero emissions trucks is not feasible. Because the development and testing of many of these technologies are still in the early stages, the timeline for commercial viability is speculative at this time. The phase-in of cleaner diesel-fuel heavy-duty trucks under the Port's Clean Trucks Program was possible because trucks meeting the 2007 EPA on-road heavy-duty engine emission standards were known to be readily available by 2012.

The ports of Long Beach and Los Angeles Technology Advancement Program (TAP) works along with other interested parties and the air regulatory agencies (U.S. Environmental Protection Agency, California Air Resources Board, and South Coast Air Quality Management District) to partner with technology providers to fund the demonstration of emissions reduction technologies in port operations. In July 2011, the two Ports' Harbor Commissions met jointly to consider the staff report entitled "Roadmap for Moving Forward with Zero Emission Technologies at the Ports of Long Beach and Los Angeles." (Zero Emissions Roadmap Report) and directed staff to expand the TAP guidelines to consider and potentially fund early stage zero-emission technology projects. An expansion of the guidelines facilitates the opportunity for promising, early stage zero emission technologies to potentially participate in the TAP since the TAP previously focused on near-term technologies ready for commercial deployment following an in-use demonstration in port applications.

Several small-scale zero emission and near zero emission truck demonstration projects have been conducted as part of the TAP. In 2013, under the TAP, International Rectifier developed a prototype plug-in hybrid electric vehicle (PHEV) from a conventional diesel-fueled Class 8 drayage truck. The PHEV will be deployed into drayage operations to evaluate the vehicle's performance and durability under various payloads and scenarios. To support the demonstration, International Rectifier has developed duty-cycle simulator software with a display unit to guide the driver through pre-loaded duty cycles representing various driving states, such as transient and creep modes. The duty-cycle simulator will be used to establish the baseline performance of the conventional diesel-fueled truck to compare and evaluate the PHEV's performance. In-service demonstration is expected to start Fall 2015.

The TAP is also engaged in the development and demonstration of an all-electric battery drive system for Class 8 trucks applications. Transportation Power, Inc. (TransPower), with additional funding provided by the U.S. Department of Energy and California Energy Commission, developed an advanced electric propulsion system, ElecTruck™ designed to meet or exceed diesel truck performance standards while producing zero emissions. Under the Port's TAP, TransPower is currently working to integrate the ElecTruck™ drive system into at least seven Navistar ProStar® trucks by Summer 2015 and work with drayage truck operators to demonstrate and evaluate the performance of the all-electric trucks in Port drayage operations over a 12-month demonstration period.

Total Transportation Services, Inc. (TTSI), a drayage truck operator, conducted a test of an initial prototype all-electric vehicle in 2011-2012, which successfully hauled a loaded container weighing 52,000 pounds over the Gerald Desmond Bridge and Vincent Thomas Bridge. In addition, one year of operational and performance testing of a second "pilot" truck in actual drayage operations was conducted in the Los Angeles area from late 2013 through November 2014.

Also through the TAP, POLA and POLB provided funding towards the demonstration and testing of a hydrogen fuel cell powered Class 8 truck by Vision Industries. The *Tyrano*, is powered by a lithium-ion battery that is charged on-board by a hydrogen fuel cell generator. The truck was demonstrated in mid-2012 and achieved a range of 200 drayage miles on a single tank of hydrogen. However, on October 20, 2014, the LA Business Journal reported that Vision Industries Corporation, which did business as Vision Motor Corps., filed for bankruptcy despite receiving millions in grant money from local, state, and federal agencies. The article stated that the largest impediment to marketability of the company's product was the difficulty in getting the hydrogen fuel that powers the trucks.

Notwithstanding these efforts, there are still no zero emission trucks proven and available for port usage. Although there are several testing programs underway, it remains entirely uncertain when or if such trucks will become available. In addition, while testing has occurred, there is not enough data collected that would constitute a completed small-scale demonstration. A small-scale demonstration would consist of approximately one year (up to eighteen months if durability is questionable) of continuous demonstration to fully assess the technical capabilities and reliability of each technology.

Response to Comment NRDC-19

The Commenter states that Mitigation Measure MM AQ-2 as written in the Draft EIR does not pro-actively reduce emissions in any meaningful way. Because MCC controls a large portion of its truck fleet, the intent of the mitigation measure is that 90% of the truck fleet would go above and beyond the Clean Trucks Program and current federal and state on-road emission standards by the engine being no older than five years old. To clarify the intent of this measure, the language has been revised as indicated below.

> **Mitigation Measure AQ-2: Modernization of Delivery Truck Fleet**. No less than 90 percent of the trucks loading cement or cementitious material at the MCC facility shall be equipped with an engine that meets one of the following requirements: 1) is no more than five years old, based on engine model year ("5-Year Engine"); 2) has been designed or retrofitted to comply with federal and state on-road heavy-duty engine emissions standards (e.g. EPA 2010 engine emission standards or successor rules or regulations for on-road heavy duty diesel engines) for a 5-Year Engine ("Emission Equivalent Engine"); or 3) uses alternative engine technology or fuels demonstrated to produce emissions no greater than a 5-Year Engine ("Alternative Equivalent Engine"). The remaining 10 percent of the trucks shall comply with all applicable federal and state heavy-duty on-road truck regulations. In addition, all trucks loading cement or cementitious materials at the MCC facility shall be registered in the Port of Long Beach and Los Angeles Clean Truck Program Drayage Truck Registry and the CARB Drayage Truck Registry. Compliance with this 90 percent requirement shall be determined on a calendar year basis. Documentation of compliance, showing the following information, shall be submitted to the Port's Environmental Planning Division on an annual basis by January 31 following each year of operation: 1) truck vehicle identification number (VIN), 2) engine model year, 3) annual truck trips, and 4) if non-diesel technology, manufacturer engine standards.

In addition to Mitigation Measure AQ-2, another mitigation measure, AQ-6, has been included that requires MCC to participate in periodic technology reviews for future feasible zero emission and near-zero emission technologies for cement delivery trucks (see Response to Comment NRDC-12).

Response to Comment NRDC-20

See response to NRDC-18 and NRDC 19.

Response to Comment NRDC-21

See response to NRDC-18 and NRDC 19. The Commenter states that "*the Port could opt to do a phase-in over time, which worked very well under the Clean Truck Program*" and further acknowledges that… "[w]hile phasing in zero-emissions technology may take some time, this Project provides an excellent opportunity to catalyze development in this area…."

The Port's successful Clean Trucks Program phase-in was very different in one key respect from what the Commenter suggests here. The Clean Trucks Program phase-in was possible because trucks meeting the 2007 engine standards were already available. The phase-in was not premised on future testing and hope that a successful technology would emerge, as would be the case here.

The Port remains committed to supporting the development of zero emission truck technologies through the TAP. In addition to the TAP, the Port is currently working with the Los Angeles County Metropolitan Transportation Authority's Countywide Zero-

Emission Trucks Collaborative (Collaborative) to "promote consistency among public agencies in working to catalyze the development and deployment of zero-emission trucks in Los Angeles County." This collaborative includes the ports of Long Beach and Los Angeles, Caltrans, Southern California Association of Governments, and the SCAQMD. The Port has partnered with SCAQMD and other agencies on multiple occasions and has contributed significant funding towards the demonstration and development of emerging zero emission truck technologies to help foster quicker commercialization of the technologies. Two such projects include the overhead catenary system (OCS) and the zero emission cargo transport (ZECT) demonstration projects.

SCAQMD is overseeing an OCS demonstration project and has engaged the members of the Collaborative as potential partners in this demonstration project. The OCS technology would provide power to electric drayage trucks connected to the system while traveling along major corridors and charging capacity to extend the range of zero-emissions trucks off the corridor on smaller arterials throughout the region. In July 2014, the Port entered into a contract with SCAQMD to provide up to $2 million in funding to test an OCS for hybrid and electric trucks. As outlined in the funding agreement, SCAQMD will contract with Siemens Industry and will install 1 mile of overhead catenary lines along Alameda Street in the City of Carson (roughly between East Lomita Street and the Dominguez Channel) and retrofit at least two trucks with its proprietary "pantograph" system that allows trucks to connect to and disconnect from the catenary lines while driving. Performance and emissions benefits will be measured over the course of a 12-month demonstration project.

In addition, the Ports, through the TAP, are contributing approximately $1.13 million in funds to the zero emission cargo transport (ZECT) project that is being managed by the SCAQMD, under a grant from the US Department of Energy (US DOE). The ZECT project encompasses the development of seven (7) drayage trucks by five different contractors as approved under the US DOE's Zero Emission Cargo Transport Demonstration Funding Opportunity Announcement. The purpose of this demonstration project is to accelerate deployment of zero emission cargo transport technologies by developing and demonstrating zero-emission fuel cell range extended electric drayage trucks and hybrid electric drayage trucks for goods movement operations between the Ports of Los Angeles and Long Beach near dock rail yards and warehouses.

Response to Comment NRDC-22

Regarding use of an allegedly inflated CEQA baseline in the Draft EIR, please see the Responses to Comments NRDC-3 and NRDC-4. For the reasons set forth in those responses, the Port believes that the use of the 2006 baseline is appropriate. It should be noted that the project CO2e emissions referenced in the comment as the net increase of 22,248 metric tons is the unmitigated project condition. As stated in the Draft EIR, project operations would implement several environmental controls and mitigation measures GCC-1 (Indirect GHG Emission Reduction/Avoidance), GCC-2 (Energy Audit), and GCC-3 (Funding Contributions to the POLB Greenhouse Gas Emission Reduction Grant Program) will help mitigate greenhouse gas emissions. These are in addition to the air quality mitigation measures, many of which help to reduce CO2e. While the exact reductions from these measures cannot be quantified, these measures would help to mitigate project GHG emissions. In addition, as stated above, the Port is imposing two additional air quality mitigation measures, which may ultimately help to reduce CO2e. No other feasible mitigation measures are available to further reduce emissions.

Response to Comment NRDC-23

The Draft EIR passage cited in the comment is factually correct. No further revision is required.

Response to Comment NRDC-24

Regarding the feasibility of zero emissions trucks, use of shore power or equivalent technology 100 percent of the time, and life cycle changes, please see the responses to comments NRDC-18, NRDC-11, and NRDC-6 respectively.

Response to Comment NRDC-25

The Commenter notes that the proposed solar panels and low energy lighting that are part of mitigation measure GCC-1 should be implemented immediately, rather than wait three years. Mitigation Measure GCC-1 does not require "wait[ing] three years" to install solar and low energy lighting. Rather, it states that these shall be installed "**no later than** three (3) years from the start of Project construction" (emphasis added). The Project entails backland construction and dock work, as detailed in the EIR. Because of construction logistics, it would be impractical to begin installation of solar panels and lighting before this fundamental work on the site is completed. Likewise, it is not practical or safe to conduct the installation concurrent with the site preparation work. The backland and dock work is estimated to take approximately 18 months. Additionally, as the mitigation measure recognizes, MCC is required to submit to the Port a plan and schedule for installing the solar panels and lighting. It takes time to solicit bids from vendors, review proposals, formulate a plan and obtain Port approval. In light of the realities of commencing the backland and dock work and developing a proposal for the Port's approval, it is not realistic to anticipate installing the solar panels and low voltage lighting immediately.

Response to Comment NRDC-26

The comment suggests that the use of electric cranes and payloaders should be required. However, as explained below, compatible electric equipment is not available for this facility. Also, contrary to Commenter's assertion, at no point does the Draft EIR state that MCC need not implement best available technologies, and Commenter provides no citation to such statement.

Unlike container vessels, where cranes and unloading equipment are shore-side equipment, bulk vessels have on-board cranes that are used to open the holds to access the cargo and, in the case of ships visiting the MCC Terminal, to lift the payloader into each hold during the cleanout phase of unloading. The on-board cranes are electric, and they are powered by on-board diesel auxiliary engines. MCC has successfully designed and implemented a specialized cold ironing connection to power critical ship systems (e.g., on-board lights, ventilation, and instrumentation) while the ship is being unloaded without the use of the auxiliary engines. However, the amount of power that can be delivered to a ship is limited by the dry-dock connection of the ship. In most cases in the past, the ships have not been able to receive sufficient electrical power through the dry-dock breaker to operate the on-board cranes. MCC does not own the ships, and is not able to change standard industry design criteria for dry-dock breakers on ships owned by countless companies in international trade; therefore, it is expected that the limitations on dry-dock breaker capacity that have been noted in the past will continue for the foreseeable future. As such, it is expected that ship auxiliary engines will continue for the foreseeable future to operate for short periods to supply power to operate the cranes.

The payloader is used in the final stages of unloading. When the majority of cement has been pneumatically removed from the ship holds, the cleanout phase of unloading commences using a labor crew equipped with pole-mounted blades (similar to a squeegee) and the payloader. The crew uses the pole-mounted blades to collect the cement lodged on the sides of the hold and to maneuver the material to a location where the payloader can manage it. The payloader, which is a front end loader equipped with a blade instead of a bucket, is used to centralize residual cement in the hold such that the nozzle of the pneumatic unloader can effectively transfer the cement to storage. This equipment is classified as off-road construction equipment.

The comment suggests, but provides no evidence, that electric payloaders are available commercially for this application. Research during the project design and to respond to this comment has not identified any electric construction equipment that would meet the operational needs of the facility. Footnote 48 of the comment mentions a John Deere hybrid. However, information available on the John Deere line shows that only the Model 644K is published as Tier 4-certified. The Model 644K physical size and horsepower are larger than that used at the MCC Cement Terminal. The payloader historically used at the terminal is 125 horsepower, and mitigation identified in the Draft EIR will require in the future that the payloader will be Tier 4 equipment. As such, using a larger Tier 4 engine will result in greater emissions than using an appropriate size for the task. Additionally, the larger wheelbase of the Model 644k would limit the maneuverability of the payloader in the ship holds. Therefore, while a hybrid is available, no emissions benefit and, most likely, an emissions increase would occur by using the John Deere hybrid as suggested by the Commenter. Therefore, it remains infeasible to use electric payloaders as the Commenter suggests.

As noted above (see Response to Comment NRDC-12), the Port has added a mitigation measure (AQ-6) that will require periodic technology review in connection with each 5-year update of the lease terms. Review of the feasibility of available zero-emissions payloaders is specifically required during such reviews.

Response to Comment NRDC-27

Regarding the feasibility of mitigating greenhouse gas (GHG) emissions from OGV hoteling operations with the use of shore power or equivalent technology 100 percent of the time, please see the Response to Comments NRDC-11 and NRDC-26. The 66% commitment for shore power is the minimum level that MCC must meet to ensure that it uses shore power at least as frequently as it did during prior operations. In effect, the 66% requirement functions as a backstop to make sure that MCC does not rely on the DoCCS when in the past it would have used shore power. This commitment does not preclude MCC from achieving a greater percentage of shore power usage at the facility as future technology, policies, and regulations evolve.

Response to Comment NRDC-28

Regarding the feasibility of implementing hybrid or electric-powered payloaders and the operation of onboard cranes on the project OGVs, please see the Response to Comment NRDC-26. Regarding the feasibility of the AMECS technology, see the Response to Comments NRDC-12 and NRDC-14.

Response to Comment NRDC-29

For the reasons stated in the Response to Comment NRDC-3, the Draft EIR's use of the 2006 activity level is appropriate and results in a larger contribution to the GHG Emission Reduction Grant Program than if the fully permitted capacity of the facility had been used as the baseline.

Response to Comment NRDC-30

Comment noted.

Response to Comment NRDC-31

Although the Commenter characterizes the health effects resulting from the facility modifications as "severe," this characterization is inconsistent with the results of the HRA completed for the proposed Project. For example, the project HRA determined that the maximum cancer risk generated by the project would not exceed 23 percent of the significance threshold. In addition, the project HRA determined that the maximum non-cancer effect would equate to only 6 percent of the applicable significance threshold. In other words, the project HRA determined that proposed emissions would produce less than significant health impacts to all receptor types in the project region.

Response to Comment NRDC-32

See response to NRDC-31.

Response to Comment NRDC-33

Page 3.2-25 of the Draft EIR identifies health effects that could occur from exposure to NOx emissions to provide as much information as possible to the public and decision makers. The HRA for the proposed Project shows less than significant impacts for NOx emissions based on thresholds of significance for health risks set by the SCAQMD, which thresholds take into consideration the health effects of air pollutants. However, as set forth in the Draft EIR, criteria pollutants NOx and NO2 exceed thresholds established by the SCAQMD. For this reason, the Draft EIR included information about the possible health effects of these exceedances. Because these emissions are significant and unavoidable after incorporation of all feasible mitigation measures, the Board of Harbor Commissioners would be able to approve this project only if it adopts a statement of overriding considerations explaining how the project benefits outweigh potential environmental impacts.

With regards to the statement that the operation will take place "in close proximity to adjacent communities," please see the discussion of the proximity of sensitive receptors in Section 3.2.1.2 of the Draft EIR on page 3.2-7. The nearest residents to the project are located in southwest Long Beach approximately 1.2 miles from the MCC terminal.

Response to Comment NRDC-34

The Final EIR includes all feasible measures to mitigate significant levels of project NOx, NO2, PM10, and PM2.5 emissions. The project HRA determined that proposed emissions would produce less than significant health impacts to all receptor types in the project region. Although Commenter asserts that not enough has been done to reduce emissions, the Port has been unable to find, and Commenter has been unable to identify, any additional feasible mitigation measures that could be added to the proposed Project.

Response to Comment NRDC-35

Comment NRDC-35 states that the Draft EIR must "analyze the environmental justice impacts of the proposed terminal modification and suggest mitigation measures to reduce the potential harm that may be disproportionately caused." Under CEQA, projects are analyzed for their physical impacts on the environment, meaning that social and economic impacts, including those related to environmental justice issues, are beyond its reach and are not a necessary part of an environmental evaluation.

The concept of "environmental justice" is discussed in Government Code section 65040.12. While that statute specifically discusses numerous environmental justice programs to be implemented by the Office of Planning and Research, nowhere does it require that environmental justice issues be analyzed as part of the CEQA process. For example, subdivision (c) states that the Office of Planning and Research must develop guidelines for cities and counties to address environmental justice requirements in their respective general plans – but makes no mention of such guidelines for the CEQA process. In addition, Section 65040.12 was originally enacted by the State Legislature in 1999 via SB 115. Initial versions of that bill reviewed in committee stated that the Office of Planning and Research was to recommend changes to the CEQA Guidelines to mitigate environmental effects on minority and low-income populations. However, when the bill finally reached the Assembly Floor, it no longer contained those provisions. Below is the excerpt from the September 3, 1999 version of SB 115, showing the tracked changes and deletion of the referenced CEQA language:

> This bill would ~~require, by July 1, 2001, the office to recommend proposed changes in, and the secretary to certify and adopt revisions to, the guidelines to provide for the identification and mitigation by public agencies of disproportionately high and adverse environmental effects of~~ projects ~~on minority populations and low-income populations and to promote effective public participation by those affected populations. The bill would require the office, by July 1, 2000, in consultation with other state agencies, to review its available data bases and other available data bases and information to identify affected communities and populations. The bill would require the office and the secretary to coordinate their efforts and to share information with the Council on Environmental Quality and the United States Environmental Protection Agency in implementing those provisions, as specified.~~

The Assembly Floor Analysis of the bill even stated the following:

> This bill establishes OPR as the state's lead agency for implementation of environmental justice programs. Earlier versions of this bill enacted a more

detailed program intended to track the key requirements of the federal environmental justice policy and programs. The bill was amended in Assembly Appropriations to delete these provisions.

Clearly, the Legislature did not intend for the CEQA process to include analysis of environmental justice issues.

An EIR is required to evaluate the environmental impacts of a project, but is not required to analyze the economic and social effects of the project. (14 Cal. Code Regs. § 15131(a).) In short, the impacts analyzed in an EIR must be "related to a physical change." (14 Cal. Code Regs. § 15358(b).) "[S]ocial, economic and business competition concerns are not relevant to CEQA analysis unless it is demonstrated that those concerns will have a significant effect on the physical environment." (*Maintain Our Desert Environment v. Town of Apple Valley* (2004) 124 Cal.App.4th 430, 446 [finding that large national retailer need not be identified in EIR as end user because social, economic, and business competition concerns not relevant under CEQA].) "[U]nder CEQA, the question is not whether a project will affect particular persons, but whether it will affect the environment of persons in general." (*Friends of Davis v. City of Davis* (2000) 83 Cal.App.4th 1004, 1019 [social and economic effects of chain bookstore did not constitute significant change in environment].)

Similarly, the effects of the environment on the project do not need to be analyzed. "[T]he purpose of an EIR is to identify the significant effects of a project on the environment, not the significant effects of the environment on the project." (*Ballona Wetlands Land Trust v. City of Los Angeles* (2011) 201 Cal.App.4th 455, 473.) For example, in *City of Long Beach v. Los Angeles Unified School Dist.* (2009) 176 Cal.App.4th 889, 905, the petitioner challenged the adequacy of an impacts analysis in an EIR for the construction of a new high school, arguing among other things that the EIR failed to address the impacts on staff and student health of emissions from nearby freeways. There, the Court of Appeal held that the EIR was not required to discuss the impacts on staff and student health of locating the project near the freeways. (*Ibid.*) Similarly, in *Ballona Wetlands Land Trust, supra*, the Court of Appeal stated that "identifying the environmental effects of attracting development and people to an area is consistent with CEQA's legislative purpose and statutory requirements, but identifying the effects on the project and its users of locating the project in a particular environmental setting is neither consistent with CEQA's legislative purpose nor required by the CEQA statutes." (201 Cal.App.4th at 473.) The court also noted that Appendix G of the CEQA Guidelines, which is used by many lead agencies to prepare initial studies and which recommends evaluation of potential effects on users of a project that may be caused by preexisting environmental conditions, ''cannot support an argument that the effects of the environment on the project must be analyzed in an EIR.'' These cases support the idea that environmental justice concerns, which relate to the state of the environment around a proposed project, do not need to be part of the CEQA evaluation.

Response to Comment NRDC-36

After evaluating all of the comments on the Draft EIR, the Port, as lead agency, has determined that recirculation is not required. Neither this comment letter nor any of the other comment letters has added significant new information that would trigger the need to recirculate the Draft EIR.

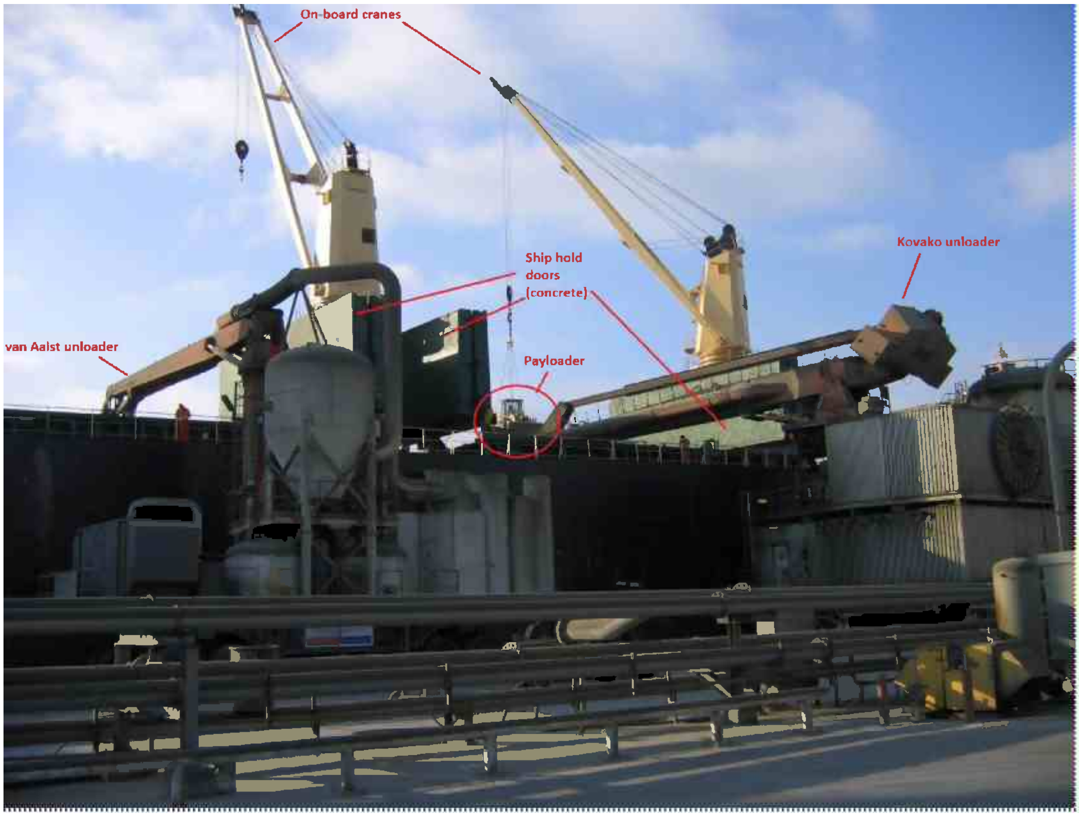
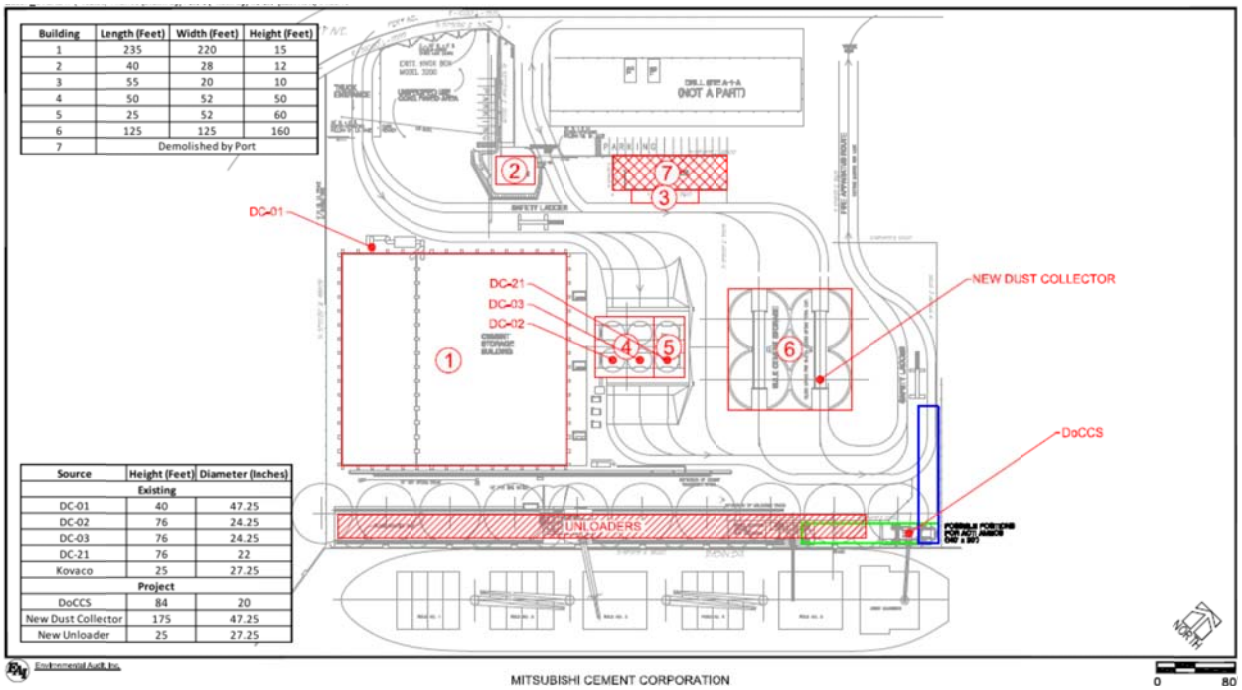

On-board cranes
Ship hold
doors
(concrete)
Kovako unloader
van Aalst unloader
Payloader

Figure 1



Note: AMECS footprint outlined in blue and green in two different possible orientations. Installed parallel to the dock (green), the AMECS would interfere with unloading the number 5 ship hold. Installed perpendicular to the dock (blue) it would directly block truck circulation.

Figure 2