Draft Initial Study/Negative Declaration

SA Recycling
Crane Replacement and Electrification Project

Prepared for:
Los Angeles City Harbor Department
425 S. Palos Verdes Street
San Pedro, CA 90731

APP No.: 151203-136

February 2016

THE PORT OF LOS ANGELES

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January 2016

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INTRODUCTION

The Los Angeles Harbor Department (LAHD) has prepared this Draft Initial Study/Negative Declaration (IS/ND) to address the potential environmental effects of a crane replacement at SA Recycling (SA) located at 901 New Dock Street on Terminal Island (proposed Project). The existing material handler (crane) was put into operation in 1996. The existing crane is a crawler crane on mounted tracks that moves on the wharf over wooden mats. The crane operates with a California Air Resources Board-certified (CARB) Tier 2 diesel engine. CARB identifies engines and sets emission standards based on model year, engine size and fuel type and groups them into "tiers." The new crane is a rubber-tire mounted Mobile Harbor Crane LMH 550 that is a CARB-certified Tier 4 diesel engine with the ability to run on electricity. Tier 4 is a significantly cleaner-burning engine that will be a zero-emission crane as soon as it is electrified. SA has purchased a partially disassembled crane that was loaded on a ship for delivery to SA. The crane will arrive via ship along with other cargo at neighboring Berth 209 and be reassembled by the factory technicians before final delivery to SA at Berth 210. The crane will operate on diesel power until the electrification of the wharf is complete but no later than January 31, 2017. Electrifying the wharf will require the installation of conduit and electrical wires between the existing substation at the facility and the wharf where the crane will be utilized. Wooden mats that are on the wharf for the existing crane will be moved off of the wharf and the existing crane will be scrapped and recycled. SA Recycling is currently listed on the Cortese List by the Los Angeles Regional Water Quality Control Board and has actively been under remediation for groundwater contamination as of 2002. However, the proposed Project does not include any trenching activities or ground disturbance in the area of known contamination.

The new crane has a quieter and less-polluting engine and will result in significant air quality improvement to the South Coast Air Basin and immediate vicinity. The new cleaner operating crane is consistent with the objectives of both the Port's Master Plan Update EIR as well as the Clean Air Action Plan (CAAP). The crane will be electrified by January 31, 2017, at which time it will run as a zero-emission crane with the exception of routine service and maintenance that is expected to occur no more than 12 hours per year. There are no operational expansions or changes as a result of the use of the new crane.

1.1 CEQA PROCESS

LAHD has determined that an IS/ND is the appropriate level of environmental documentation for this Project. An IS/ND is prepared when no significant impacts are anticipated or if the potential impact can be reduced to a level of insignificance through project revisions. This document has been prepared in accordance with CEQA, Public Resources Code Section 21000 *et seq*. and the State CEQA Guidelines, California Code of Regulations (CCR) Section 15000 *et seq*. One of the main objectives of CEQA is to disclose to the public and decision-makers the potential environmental effects of proposed activities. CEQA requires that the potential environmental effects of a project be evaluated prior to implementation. This IS/ND includes a discussion of the proposed Project's effects on the existing environment, including the identification of avoidance and minimization measures. This document is an IS/ND because there are

no impacts associated with the proposed Project that must be mitigated in order to be below significance thresholds.

Under CEQA, the lead agency is the public agency with primary responsibility over approval of a proposed project. Pursuant to Section 15367, the CEQA lead agency for the proposed Project is the LAHD. LAHD has prepared an environmental document that complies with CEQA. LAHD will consider the information in this document when determining whether to approve the proposed Project, including whether to issue a Coastal Development Permit or Harbor Engineer Permit for the proposed project.
The preparation of initial studies is guided by Section 15063 of the State CEQA Guidelines, whereas Sections 15070–15075 guide the process for the preparation of a Negative Declaration or Mitigated Negative Declaration. Where appropriate and supportive to an understanding of the issues, reference will be made to the statute, the State CEQA Guidelines, or appropriate case law.

This IS/ND meets CEQA content requirements by including a project description; a description of the environmental setting; potential environmental impacts; discussion of consistency with plans and policies; and names of the document preparers.

In accordance with the CEQA statutes and Guidelines, this IS/ND is being circulated for a period of 30 days for public review and comment. The public review period for this IS/ND is scheduled to begin on February 3, 2016, and will conclude on March 4, 2016. This Draft IS/ND has specifically been distributed to interested or involved public agencies, organizations, and private individuals for review. The IS/ND has been made available for general public review online at the Port of Los Angeles website at http://www.portoflosangeles.org; at Los Angeles Harbor Department Environmental Management Division at 425 S. Palos Verdes Street, San Pedro; the Los Angeles City Library San Pedro Branch at 931 Gaffey Street, San Pedro; and at the Los Angeles City Library Wilmington Branch at 1300 North Avalon, Wilmington.

Approximately 100 notices were also sent to nearby residents, stakeholders, local and state agencies and neighboring port tenants.

During this 30-day public review period, the public has an opportunity to provide written comments on the information contained within this IS/ND. The public comments on the IS/ND and responses to public comments will be included in the record and considered by LAHD during deliberation as to whether necessary approvals should be granted for the proposed Project. A project will only be approved when LAHD "finds that there is no substantial evidence that the project will have a significant effect on the environment and that the IS/ND reflects the lead agency's independent judgment and analysis."

In reviewing the IS/ND, affected public agencies and interested members of the public should focus on the sufficiency of the document in identifying and analyzing potential project impacts on the environment. Comments on the IS/ND should be submitted in writing prior to the end of the 30-day public review period and must be postmarked by March 4, 2016. Please submit written comments to:

Christopher Cannon, Director
Los Angeles Harbor Department
Environmental Management Division
425 S. Palos Verdes St.
San Pedro, California 90731

Written comments may also be sent via email to ceqacomments@portla.org. Comments sent via email should include the project title in the subject line and a valid mailing address in the email.

For additional information, please contact the LAHD Environmental Management Division at (310) 732-3675.

1.2 DOCUMENT FORMAT

This IS/ND contains eight sections.

Section 1. **Introduction.** This section provides an overview of the proposed Project and the CEQA environmental documentation process.

Section 2. Project Description. This section provides a detailed description of the proposed Project objectives and components.

Section 3. Initial Study Checklist. This section presents the CEQA checklist for all impact areas and mandatory findings of significance.

Section 4. Potential Impacts and Mitigation Measures. This section presents the environmental analysis for each issue area identified on the environmental checklist form. If the proposed Project does not have the potential to significantly impact a given issue area, the relevant section provides a brief discussion of the reasons why no impacts are expected. If the proposed Project could have a potentially significant impact on a resource, the issue area discussion provides a description of potential impacts, and appropriate mitigation measures and/or permit requirements that would reduce those impacts to a less than significant level. This document is an IS/ND because there are no impacts associated with the proposed Project that must be mitigated in order to be below significance thresholds.

Section 5. Proposed Finding. This section presents the proposed finding regarding environmental impacts.

Section 6. References. This section provides a list of reference materials used during the preparation of the IS/ND.

Section 7. Preparers and Contributors. This section provides a list of key personnel involved in the preparation of the IS/ND.

Section 8. Acronyms and Abbreviations. This section provides a list of acronyms and abbreviations used throughout the IS/ND.

The environmental analyses included in Section 4 are consistent with the CEQA IS/ND format presented in Section 3. Impacts are separated into the following categories:

Potentially Significant Impact. This category is only applicable if there is substantial evidence that an effect may be significant, and no feasible mitigation measures can be identified to reduce impacts to a less than significant level. Given that this is an IS/ND, no impacts were identified that fall into this category.

***Less than Significant After Mitigation Incorporated*.** This category applies where the incorporation of mitigation measures would reduce an effect from a "Potentially Significant Impact" to a "Less than Significant Impact." The lead agency must describe the mitigation measure(s), and briefly explain how they would reduce the effect to a less than significant level (mitigation measures from earlier analyses may be cross-referenced). Given that this is an IS/ND, no impacts were identified that fall into this category.

Less than Significant Impact. This category is identified when the proposed Project would result in impacts below the threshold of significance, and no mitigation measures are required.

No Impact. This category applies when a proposed project would not create an impact in the specific environmental issue area. "No Impact" answers do not require a detailed explanation if they are adequately supported by the information sources cited by the lead agency, which show that the impact does not apply to the specific project (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the proposed project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2.0 PROJECT DESCRIPTION

2.1 BACKGROUND AND PROJECT OBJECTIVE

SA Recycling is a full-service ferrous and non-ferrous metal recycler and processor. SA operates approximately 48 facilities throughout California, Texas, Arizona and Nevada with one located at Berths 210-211 at 901 New Dock Street on Terminal Island within the Port of Los Angeles (see Figure 2-1). Services at the facility include general scrap metal processing and recycling of automobiles and appliances. Items for recycling are brought in by the public or businesses and can be accepted by truck, rail, intermodal containers, barge and deep-sea vessels. Once processed, most of the material is loaded onto vessels using a material handler (crane) to be exported overseas.

With coordination assistance by the Los Angeles Harbor Department (LAHD), SA Recycling applied for and received a grant through the U.S. Environmental Protection Agency's Diesel Emissions Reduction Act (DERA) Assistance Program to assist in the purchase of a CARB-certified Tier 4 diesel/electric hybrid rubber tire mounted crane. The new crane can run either exclusively with the onboard Tier 4 diesel engine or exclusively with the on board electric motors. When electrified by January 31, 2017, the crane will only operate on electrical power when on the wharf. If the crane is taken off the wharf for maintenance it will operate on diesel power. The new clean-burning/electric crane will replace the existing CARB certified Tier 2 diesel crane which has been operating at the site since 1996. The new crane will begin immediate operation loading ships powered by the diesel engine until the wharf is electrified. The new crane does not increase the operational capacity of the facility; but rather, allows it to perform its same function with significantly fewer air quality emissions.

Figure 2-1
New Liebherr 550 Mobile Diesel/Electric Hybrid Crane

Figure 2-2
Existing Tier 2 Diesel American Crawler Crane

Figure 2-3
Berths 210-211 – SA Recycling at the Port of Los Angeles

For many years SA Recycling has been committed to turning over its on-site equipment fleet to the cleanest possible alternatives in order to lower its air quality emissions while still performing the function of scrapping and recycling unwanted ferrous and non-ferrous products. The following is a list of other non-diesel fired equipment that SA has been using for several years to keep their emissions and carbon footprint low.

- Shredder – the facility operates a 9,000 horsepower electric shredder that includes several conveyor belts and hydraulic equipment all powered with electricity. The shredder runs at night during nonpeak hours when the demand for electricity is at its lowest.
- Shear – SA's electric shear is completely powered by electricity.
- Metal Recovery Plant (MRP) – this equipment has numerous motors, conveyors and equipment used to separate the nonferrous and ferrous metals. All components of the MRP are powered by electricity.
- Stationary Source Equipment – All stationary source equipment at the facility is powered by electricity.
- Electric charging infrastructure – The site has installed two passenger charging stations for employees to use for their personal electric and hybrid electric vehicles.

Demonstration projects or ongoing testing at the site includes a Balcon all-electric utility tractor rig (yard goat) that has been utilized at the site for approximately one year. In addition, SA Recycling is testing a Trans Power on-road class 8 electric truck. These site improvements and investments are not being identified to take any emission reduction credit for the purposes of this analysis; but rather, to highlight that the addition of an electric crane is another significant investment that SA Recycling is making to better the air quality for its surrounding community and serves as the primary objective of the proposed Project.

2.2 EXISTING CONDITIONS

SA Reycling is an existing industrial facility operating at Berths 210-211 within the Port of Los Angeles. The site encompasses 27 acres including waterfront and backlands and serves as a full-service ferrous and non-ferrous metal recycler and processor. Services at the facility include general scrap metal processing and recycling of automobiles and appliances. Items for recycling are brought in by the public or businesses and can be accepted by truck, rail, intermodal containers, barge and deep-sea vessels. Once processed, most of the material is loaded onto vessels using a material handler (crane) to be exported overseas. It is this crane used to load scrapped material onto vessels that is being replaced with a quieter, lower-emitting crane that is the objective of the proposed Project.

The project site is under a Site Cleanup Program (SCP No. 0305) with Los Angeles Regional Water Quality Control Board (LARWQCB). All trench excavation and filling operations shall be observed for the presence of free petroleum products, or contaminated soil. In addition, soil contamination may be present and is also under review by the LARWQCB. These conditions are currently exist at the facility and are not expected to change as a result of the proposed Project. The site will operate as it does currently with no expansion or change in production from the proposed Project.

2.3 CONSTRUCTION IMPROVEMENTS AT BERTHS 210-211

The electrification of the wharf will require minor infrastructure improvements by installing the necessary conduit and electrical wiring between the wharf and the facility's existing substation which is on-site approximately 400 feet from the wharf. The improvements to electrify the wharf necessitate removing some concrete to trench down approximately 3 feet to install conduit and then replace the removed concrete. The existing Tier 2 diesel crane will be cut up onsite using a shear (with no torch) and processed during the regular course of business at the facility as soon as the new crane is operating successfully. Wood mats are currently on the wharf to protect the concrete wharf from being damaged by the tracks on the existing crane. These mats are replaced periodically as they wear. These mats are not needed for the new crane and they could create some uneven surfaces for the new crane so they will be removed and stored elsewhere on site in the event they are needed for a construction laydown area in the future.

There is minor assembly associated with the crane as it is being delivered in pieces and will be assembled on site. Additionally, the existing crane operates on tracks mounted on the crane and it moves over wooden wear mats placed on the wharf. The wooden mats need to be removed to provide a smooth level surface on the wharf. There is no demolition of existing structures proposed nor is there any in-water work associated with the proposed project.

Infrastructure improvements are necessary at Berths 210-211 to allow for the crane to run on electricity. A new power source will be installed on site and connected to an existing substation at the facility which is approximately 400 feet away. This power installation necessitates trenching the site between the wharf and the substation and installing the necessary wiring approximately 400 feet away. This installation necessitates removal of concrete and trenching between the electrical transformer and the wharf.

2.4 OPERATIONAL CHANGES AT BERTHS 210-211

With the concurrence of the U.S. EPA, the new crane will operate on diesel power for the first nine months with electrification no later than January 31, 2017. No improvements are needed to operate the crane on diesel power. There are no operational changes anticipated at SA Recycling as a result of the proposed project. After electrification, the facility will run with the cleaner-burning/zero emission crane that will perform the same function as its older, diesel replacement. Because the new crane has a 19-foot longer outreach over the channel than the existing crane the applicant has applied for and received a Letter of Permission from the U.S. Army Corps of Engineers (USACE) for this change to the current operations that extend over the water.

Table 2-1
Summary of Project Components

Project Element	Description
Assembly of a new crane after offloading at Berths 206-209.	Partially-assembled Mobile Harbor Crane 550 will be offloaded from nearby Berth 209 from a regularly scheduled vessel call. The manufacturer's representatives will reassemble the crane at Berth 209. The crane will then be moved to Berth 210.
Replacement of the mobile American 12220 Tier 2 diesel-fired crane with the new rubber tire mounted tier 4/electric Mobile Harbor Crane LHM material handler.	The 1996 crane will be replaced with the less polluting diesel/electric hybrid, a new model but operations will remain the same. The crane will operate with a Tier 4 diesel engine for nine months during construction of electrical infrastructure and will then transition to electric power.
Installation of wiring to electrify the wharf to allow the Mobile Harbor Crane LHM to run on electricity.	Trenching will be required to install the necessary wiring to electrify the wharf. Trenching activities are minor and will connect the wharf to the facility's existing substation which is located approximately 400 feet from the wharf.
Scrap the existing American 12220 Tier 2 diesel once the new crane is operating properly.	The existing crane will be scrapped and recycled on site during the normal course of business operations at the facility.

2.5 PROJECT LOCATION

The LAHD operates the Port of Los Angeles under the legal mandates of the Port of Los Angeles Tidelands Trust (Los Angeles City Charter, Article VI, Section 601; California Tidelands Trust Act of 1911) and the California Coastal Act (PRC Division 20 Section 30700 *et seq*.) which identify the Port and its facilities as a primary economic and coastal resource of the State of California and an essential element

of the national maritime industry for promotion of commerce, navigation, fisheries and Harbor operations. Activities should be water dependent and give highest priority to navigation, shipping, and necessary support and access facilities to accommodate the demands of foreign and domestic waterborne commerce. The LAHD is chartered to develop and operate the Port to promote and accommodate maritime uses and it functions as a landlord by leasing Port properties to more than 300 tenants.

2.5.1 Regional Setting

The Port of Los Angeles (Port) is located at the southernmost portion of the City of Los Angeles and comprises 43 miles of waterfront and 7,500 acres of land and water, with approximately 300 commercial berths. The Port is approximately 23 miles south of downtown Los Angeles and is surrounded by the community of San Pedro to the west, the Wilmington community to the north, the Port of Long Beach to the east, and the Pacific Ocean to the south. Figure 2-4, *Regional Location of the Proposed Project*, depicts the regional location of the project site.

Figure 2-4
Regional Setting

The Port is an area of mixed uses, supporting various maritime-related activities. Port operations are predominantly centered on shipping activities, including containerized, break-bulk, dry-bulk, liquid-bulk, and auto. In addition to the large shipping industry at the Port, the Port also supports a cruise ship industry and a commercial fishing fleet. The Port also accommodates boat repair yards and provides slips for approximately 3,950 recreational vessels, 150 commercial fishing boats, 35 miscellaneous small service crafts, and 15 charter vessels that handle sport fishing and harbor cruises. The Port has retail shops and restaurants, primarily along the west side of the Main Channel. It also accommodates recreation, community, and educational facilities, such as a public swimming beach, Cabrillo Beach Youth Waterfront Sports Center, the Cabrillo Marine Aquarium, the Los Angeles Maritime Museum, 22nd Street Park, and the Wilmington Waterfront Park.

2.5.2 Project Setting

SA Recycling is located at 901 New Dock Street on Terminal Island in Master Plan Area 3 within the Port of Los Angeles (please see Figure 2-3). The facility encompasses Berths 210-211 and associated backlands. The East Basin of the Los Angeles Harbor is immediately to the north of the facility at the confluence of the Cerritos Channel and the Consolidated Slip. Berth 206-209 is immediately east of the facility, the Yusen Container Terminal is immediately to the west, and New Dock Street is immediately south, with a rail yard south of New Dock Street. A marina is located approximately750 feet to the north across the water.

Landside access to and from the proposed Project site is provided by a network of freeways and arterial routes. The freeway network consists of the Harbor Freeway (Interstate [I]-110), the Long Beach Freeway (I-710), the San Diego Freeway (I-405), the Terminal Island Freeway (State Route [SR]-103), and Seaside Avenue/Ocean Boulevard (SR-47). The proposed Project is located on Terminal Island and is immediately north of (and located on) New Dock Street off of Henry Ford Avenue.

Waterside access is provided through Berths 210-211which has 800 feet of frontage on the East Basin with a 370-foot wharf and two fender pilings. The waterside access is necessary to load scrapped materials onto vessels for export overseas.

2.6 LAND USE AND ZONING

SA Recycling is located in Planning Area 3 as designated by the Port Master Plan that was adopted in August 2013. Planning Area 3 is the largest planning area, consisting of approximately 1,940 acres and more than 9.5 miles of usable waterfront (excluding Seaplane Lagoon). Of the Port's nine container terminals, six are located in Planning Area 3. This planning area focuses on container operations. Limited open space is currently located along the southern tip of Pier 400 as an environmentally protected nesting site for the California Least Terns and at the urban forest area north of the existing rail loop.

The proposed Project site is located at 901 New Dock Street in San Pedro, CA. The site is identified as Los Angeles County Assessor's Parcel Number (APN) 7440020908 and is zoned for heavy industrial uses ([Q]M3-1) by the City of Los Angeles Zoning Ordinance (City of Los Angeles, 2014). The site is approximately 26.7 acres with approximately 25.5 acres being land the remaining 1.2 acres being wharf.

2.7 CONSTRUCTION SCENARIO

The proposed project includes three, short, construction phases in order to upgrade the facility to allow for the electrification of the crane.

- Phase 1 - Assembly of the new crane (approximately 10-12 working days)
- Phase 2 – Replacement of existing crane with new crane. The crane will operate for the first nine months as a Tier 4 diesel and then operate on electricity when Phase 3 site activities conclude.
- Phase 3 – Concrete break out, trenching and conduit installation from the wharf to the on-site substation.
- Phase 4 – Scrapping of the 1996 Tier 2 diesel crane which will be done during the normal course of business at SA Recycling with no additional equipment or workers needed.

2.8 ANTICIPATED PROJECT PERMITS AND APPROVALS

Under CEQA, the lead agency is the public agency with primary responsibility over approval of a proposed Project. Pursuant to Section 15367, the CEQA lead agency for the proposed Project is LAHD. Anticipated permits and approvals that may be required to implement the proposed Project are listed below:

- LAHD Coastal Development Permit
- LAHD Harbor Engineers Permit
- USACE Letter of Permission
- City of Los Angeles Building Permit

3.0 INITIAL STUDY CHECKLIST

1.	**Project Title:**	SA Recycling LLC
2.	**Lead Agency:**	City of Los Angeles Harbor Department Environmental Management Division 425 S. Palos Verdes St. San Pedro, CA 90731
3.	**Contact Person:**	Tara Tisopulos, Project Manager, Environmental Management Division
4.	**Project Location:**	The proposed Project site is located at 901 New Dock Street on Terminal Island (Berths 210-211) in San Pedro, within the Port of Los Angeles. Terminal Island is designated as Planning Area 3 in the Port Master Plan, which is the largest planning area, consisting of approximately 1,940 acres and more than 9.5 miles of usage waterfront (excluding Seaplane Lagoon).
5.	**General Plan Designation:**	Port of Los Angeles – General/Bulk Cargo (Non-Hazardous Industrial and Commercial)
6.	**Zoning:**	M3-1 – Heavy Industrial Uses; APN #7440020908
7.	**Description of Project:**	The City of Los Angeles Harbor Department (LAHD) is the lead agency under CEQA. The project is necessary to replace an existing 1996 Tier 2 diesel crane with a Tier 4 diesel/electric hybrid crane. The crane is used to load shredded metals onto vessels for export. Infrastructure improvements are necessary at the site to supply electricity to the wharf from the on-site substation.
8.	**Surrounding Land Uses/Setting:**	The overall character of the surrounding area is primarily industrial. The project is located on Terminal Island within the Port of Los Angeles. Landside access to and from the proposed Project site is provided by a network of freeways and arterial routes. The freeway network consists of the Harbor Freeway (Interstate [I]-110), the Long Beach Freeway (I-710), the San Diego Freeway (I-405), the Terminal Island Freeway (State Route [SR]-103), and Henry Ford Avenue and New Dock Street.
9.	**Other Public Agencies Whose Approval is Required:**	• U.S. Army Corps of Engineers Letter of Permission • LAHD Harbor Engineer Permit • LAHD Coastal Development Permit • City of Los Angeles, Department of Building and Safety Permits

3.1 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by the proposed project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Agriculture and Forestry Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Geology/Soils
☐ Greenhouse Gas Emissions	☐ Hazards & Hazardous Materials	☐ Hydrology and Water Quality
☐ Land Use and Planning	☐ Mineral Resources	☐ Noise
☐ Population/Housing	☐ Public Services	☐ Recreation
☐ Transportation and Traffic	☐ Utilities and Service Systems	☐ Mandatory Findings of Significance

3.2 DETERMINATION

Based on this initial evaluation:

I find that the proposed Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared. ☒

I find that although the proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared. ☐

I find that the proposed Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required. ☐

I find that the proposed Project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed. ☐

I find that although the proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required. ☐

Signature
Christopher Cannon, Director
Environmental Management Division
City of Los Angeles Harbor Department

January 26, 2016
Date

	Potentially Significant Impact	*Less than Significant Impact After Mitigation Incorporated*	*Less than Significant Impact*	*No Impact*
1. AESTHETICS. Would the project:				
a. Have a substantial adverse effect on a scenic vista?				X
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X
c. Substantially degrade the existing visual character or quality of the site and its surroundings?				X
d. Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?				X
e. Create a new source of substantial shade or shadow that would adversely affect daytime views in the area?				X
2. AGRICULTURE AND FORESTRY RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, Lead Agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b. Conflict with existing zoning for agricultural use, or a Williamson act contract?				X
c. Conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned timberland production?				X
d. Result in the loss of forest land or conversion of forest land to non-forest use?				X
e. Involve other changes in the existing environment that, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?				X
3. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				

	Potentially Significant Impact	*Less than Significant Impact After Mitigation Incorporated*	*Less than Significant Impact*	*No Impact*
a. Conflict with or obstruct implementation of the applicable air quality plan?				X
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?			X	
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?			X	
d. Expose sensitive receptors to substantial pollutant concentrations?			X	
e. Create objectionable odors affecting a substantial number of people?			X	
4. BIOLOGICAL RESOURCES. Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				X
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				X
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				X
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?				X

	Potentially Significant Impact	*Less than Significant Impact After Mitigation Incorporated*	*Less than Significant Impact*	*No Impact*
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				X
5. CULTURAL RESOURCES. Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5?				X
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?			X	
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?			X	
d. Disturb any human remains, including those interred outside of formal cemeteries?				X
6. GEOLOGY AND SOILS. Would the project:				
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.			X	
ii) Strong seismic ground shaking?			X	
iii) Seismic-related ground failure, including liquefaction?			X	
iv) Landslides?				X
b. Result in substantial soil erosion, loss of topsoil, or changes in topography or unstable soil conditions from excavation, grading, or fill?			X	

	Potentially Significant Impact	*Less than Significant Impact After Mitigation Incorporated*	*Less than Significant Impact*	*No Impact*
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?			X	
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?			X	
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				X
7. GREENHOUSE GAS EMISSIONS: Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			X	
b. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			X	
8. HAZARDS AND HAZARDOUS MATERIALS: Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?				X
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
d. Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?			X	
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?				X

	Potentially Significant Impact	*Less than Significant Impact After Mitigation Incorporated*	*Less than Significant Impact*	*No Impact*
f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				X
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X
h. Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				X
9. HYDROLOGY AND WATER QUALITY. Would the project:				
a. Violate any water quality standards or waste discharge requirements?			X	
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?				X
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of stream or river, in a manner that would result in substantial erosion or siltation on- or off-site?			X	
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?				X
e. Create or contribute runoff water, which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?			X	
f. Otherwise substantially degrade water quality?			X	
g. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				X
h. Place within a 100-year flood hazard area structures that would impede or redirect flood flows?				X

	Potentially Significant Impact	*Less than Significant Impact After Mitigation Incorporated*	*Less than Significant Impact*	*No Impact*
i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				X
j. Inundation by seiche, tsunami, or mudflow?				X
k. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the sea level rise?				X
10. LAND USE AND PLANNING. Would the project:				
a. Physically divide an established community?				X
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?				X
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?				X
11. MINERAL RESOURCES. Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?				X
12. NOISE. Would the project result in:				
a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			X	
b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?			X	
c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?				X

	Potentially Significant Impact	*Less than Significant Impact After Mitigation Incorporated*	*Less than Significant Impact*	*No Impact*
d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?			X	
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				X
f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?				X
13. POPULATION AND HOUSING. Would the project:				
a. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				X
b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				X
c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				X
14. PUBLIC SERVICES.				
a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i) Fire protection?				X
ii) Police protection?				X
iii) Schools?				X
iv) Parks?				X
v) Other public facilities?				X

	Potentially Significant Impact	*Less than Significant Impact After Mitigation Incorporated*	*Less than Significant Impact*	*No Impact*
15. RECREATION.				
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				X
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?				X
16. TRANSPORTATION AND TRAFFIC. Would the project:				
a. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?				X
b. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?				X
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				X
d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				X
e. Result in inadequate emergency access?				X
f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?				X
17. UTILITIES AND SERVICE SYSTEMS. Would the project:				
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?				X

	Potentially Significant Impact	*Less than Significant Impact After Mitigation Incorporated*	*Less than Significant Impact*	*No Impact*
b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X
c. Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?				X
e. Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				X
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?			X	
g. Comply with federal, state, and local statutes and regulations related to solid waste?			X	
18. MANDATORY FINDINGS OF SIGNIFICANCE.				
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?			X	
b. Does the project have impacts that are individually limited, but cumulatively considerable? "Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.			X	
c. Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?				X

4.0 IMPACTS AND MITIGATION MEASURES

4.1 AESTHETICS

The purpose of this section is to identify and evaluate key visual and aesthetic resources in the project area and to determine the degree of visual and aesthetic impacts that would be attributable to the proposed project.

Would the Project:

a) Have a substantial adverse effect on a scenic vista?

No Impact. The proposed project site does not include any protected or designated scenic vistas. The proposed project is located in Planning Area 3 – Terminal Island, as designated by the Port of Los Angeles in its Port Master Plan. This planning area focuses on container operations.

The overall character of the surrounding area is highly industrial with no scenic vistas surrounding the project. The properties surrounding the proposed project are also designated as [Q] M3-1 which is defined as a heavy industrial area.

The proposed project consists of the replacement of a Tier 2 diesel crane used at the wharf to load scrap materials onto vessels for export with a cleaner, Tier 4 diesel/electric hybrid crane. Infrastructure improvements are underground only and are necessary to provide electricity to the wharf where the crane will be located. The new crane will be located in the same location as the existing crane and will be generally the same size as the existing crane so there is no potential for a substantial adverse effect on a scenic vista.

The proposed Project would replace a crane with a newer and cleaner version and add underground infrastructure improvements to the site. Therefore, there are no impacts related to scenic vistas that would occur. No mitigation is required.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. Per the California Department of Transportation (Caltrans), the nearest officially designated state scenic highway is located approximately 34 miles north of the proposed Project (State Highway 2, from approximately 3 miles north of I-210 in La Cañada to the San Bernardino County Line). The nearest eligible state scenic highway is approximately 10 miles northeast of the proposed Project site (State Highway 1, from State Highway 19 near Long Beach to I-5 south of San Juan Capistrano) (Caltrans 2011).

In addition to Caltrans' officially designated and eligible state scenic highways, the City of Los Angeles has city-designated scenic highways that are considered for local planning and development decisions. The proposed Project site is approximately 0.25 mile south of the Vincent Thomas Bridge and is not visible from any city-designated scenic highways. There are no other scenic resources, such as trees, rock outcroppings, or historic buildings, within a scenic highway that could be affected by the proposed Project. Therefore, no impacts related to scenic resources within a state scenic highway would occur. No mitigation is required.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

No Impact. The proposed Project has no potential to degrade the existing visual character of the site or its surroundings. The project involves the functional replacement of an existing crane at the site with a newer, lower-emitting crane. There are no significant differences in height or width and the crane is within the confines of an existing industrial site with other industrial facilities surrounding it. Impacts related to existing visual character and quality of the site would be less than significant. No mitigation is required.

d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?

No Impact. The proposed Project consists of the replacement of an older existing crane with a newer, lower-emitting model to load shredded materials onto vessels for export. The facility does not routinely load vessels at night but it can occur on occasion. Both cranes have similar lighting installed on them; however, the existing crane has more lighting on it than its new replacement. In addition, the new crane light will point toward the ground and not directly out to the channel. The operation of the new crane and its associated lighting will not be any different than as is being conducted with the existing crane and may even result in a lighting benefit. Infrastructure improvements at the site involve minor trenching to install electrical wiring and would occur during daylight hours. There are no impacts to light and glare as a result of the proposed Project. No mitigation is required.

e) Create a new source of substantial shade or shadow that would adversely affect daytime views in the area?

No Impact. The proposed Project replaces one existing crane with a lower-emitting replacement crane. The new crane will be placed at the same location as the existing crane and will be of similar size and shape. As such, the proposed Project would have no impacts related to the creation of shade or shadows that would adversely affect daytime views in the area. No mitigation is required.

4.2 AGRICULTURE AND FORESTRY RESOURCES

The purpose of this section is to identify and evaluate agricultural and forestry resources in the proposed Project area and to determine the degree of impacts that would be attributable to the proposed Project.

Would the Project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No Impact. The California Department of Conservation's Farmland Mapping and Monitoring Program identifies categories of agricultural resources that are significant and therefore require special consideration. According to the Department of Conservation's Important Farmland Map, the project site is not located in an area designated as Prime Farmland, Unique Farmland or Farmland of Statewide Importance. No farmland currently exists on or anywhere near the project site (California DOC, 2006). The project site is designated as a heavy industrial area by the City of Los Angeles. Therefore, no farmland would be converted to accommodate the proposed Project. No mitigation is required.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive property tax assessments, which are much lower than normal because they are based upon farming and open space uses as opposed to full market value.

The proposed Project site is identified as Los Angeles County Assessor's Parcel Number (APN) 7440020908 and is zoned for heavy industrial uses (M3-1) (City of Los Angeles, 2014). The proposed Project site is not located within a Prime Farmland designation, nor does it consist of more than 40 acres of Farmland. The proposed Project site is not within a Williamson Act contract. Thus, the proposed Project would not conflict with existing zoning for agricultural use, or a Williamson Act Contract. No impacts would occur and no mitigation is required.

c) Conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned timberland production?

No Impact. The proposed Project is located on fully developed land within LAHD property. The site does not contain any property designated as forest or timberland. The proposed Project site is zoned for industrial uses and is not in the vicinity of any forest or timberland. Further, the proposed Project would not result in a change in the use of the existing site or surrounding area.

Therefore, the proposed Project would not conflict with existing zoning or cause rezoning of forest or timberland. No impacts would occur and no mitigation is required.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. As discussed in the response to Question 4.2(c), the proposed Project site does not contain any forest land or property designated as forest land. Therefore, the proposed Project would not result in the loss of forest land, nor would it convert forest land to a non-forest use. No impacts would occur and no mitigation is required.

e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?

No Impact. Please see the response provided in 4.2 (a) and (b).

4.3 AIR QUALITY

This section includes a description of existing air quality conditions in the proposed Project area and analyses of potential short-term air quality impacts of the proposed Project. The methods of analysis for construction, operational, local mobile source, odor, and toxic air contaminant (TAC) emissions are consistent with the guidelines of the South Coast Air Quality Management District (SCAQMD) and LAHD's standard air quality protocols.

Would the Project:

a) Conflict with or obstruct implementation of the applicable air quality plan?

No Impact. The proposed Project is located within the South Coast Air Basin (Basin), which includes Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. Due to the combined air pollution sources within the Basin and meteorological and geographical effects that limit dispersion of air pollution, the Basin can experience high air pollutant concentrations. The Basin is currently classified as an extreme nonattainment area for the 8-hour national ambient air quality standard (NAAQS) for ozone (O_3), and a nonattainment area for the NAAQS for particulate matter less than 2.5 microns ($PM_{2.5}$). On June 12, 2013, the U.S. Environmental Protection Agency (USEPA) redesignated the Basin as a maintenance area for the NAAQS for particulate matter less than 10 microns (PM_{10}). The Basin is classified as a maintenance area for the NAAQS for carbon monoxide (CO). The Basin is also classified as a nonattainment area for the California ambient air quality standards (CAAQS) for O_3, $PM_{2.5}$, and PM_{10}.

The SCAQMD is responsible for the development and implementation of air quality plans and programs. Air quality plans describe air pollution control strategies to be implemented within the Basin designed to attain and maintain the NAAQS and CAAQS in accordance with the requirements of the federal and California Clean Air Acts. The most recent AQMP was adopted on December 7, 2012 (SCAQMD, 2012). The 2012 AQMP proposes emission reduction strategies and provides a demonstration that the Basin would attain the federal $PM_{2.5}$ standard in 2014 with implementation of all feasible control strategies. The AQMP also includes specific additional control measures to implement the ozone strategy within the 2007 AQMP that are designed to achieve attainment of the 8-hour NAAQS by 2023. The additional measures are also designed to demonstrate attainment of the revoked 1-hour O3 NAAQS, which is required by the USEPA.

LAHD provides input to SCAQMD regarding its projected mobile source emissions, including truck trips that would be associated with the proposed Project. The proposed Project is a replacement of a Tier 2 diesel crane with a lower-emitting Tier 4 diesel/electric hybrid crane and does not increase or alter truck trips in any way. The proposed Project would be consistent with the assumptions regarding land use and motor vehicle emissions within the 2012 AQMP and

would not obstruct implementation of the plan. Short-term construction would be minimal and would be subject to the requirements of the LAHD's *Sustainable Construction Guidelines.*

Through its Port Leasing Policy, LAHD tenants are required to comply with environmental requirements included in lease agreements to meet the requirements of the CAAP. The new crane will run solely on electricity after January 1, 2017, except for 12 hours per year for maintenance. This shift is consistent with the objectives of the CAAP as well as the Port's Master Plan EIR.

The proposed Project would not conflict with or obstruct implementation of the AQMP. The CARB requirement would ensure compliance with the applicable CAAP measures. Based on the discussion provided above, the proposed Project would have less than significant impacts on applicable air quality plans or clean air programs. No mitigation is required.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

The SCAQMD provides guidance on analysis of the air quality impacts of proposed projects in its CEQA Handbook (SCAQMD 1993). Table 4.3-1 shows the SCAQMD thresholds of significance for potential air quality impacts.

Table 4.3-1
SCAQMD Air Quality Significance Thresholds

Mass Daily Thresholds[a]		
Pollutant	Construction[b]	Operation[c]
NOx	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
$PM_{2.5}$	55 lbs/day	55 lbs/day
PM_{10}	150 lbs/day	150 lbs/day
Sox	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Toxic Air Contaminants (TACs) and Odor Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Chronic & Acute Hazard Index ≥ 1.0 (project increment)	
Odor	Proposed project creates an odor nuisance pursuant to SCAQMD Rule 402	
Ambient Air Quality Standards for Criteria Pollutants[d]		
NO_2 1-hour average Annual arithmetic mean	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state) 0.03 ppm (state) and 0.0534 ppm (federal)	
PM_{10} 24-hour average Annual average	10.4 µg/m^3 (construction)[e] & 2.5 µg/m^3 (operation) 1.0 µg/m^3	
$PM_{2.5}$ 24-hour average	10.4 µg/m^3 (construction)[e] & 2.5 µg/m^3 (operation)	
SO_2		

1-hour average24-hour average	0.25 ppm (state) & 0.075 ppm (federal – 99th percentile) 0.04 ppm (state)
Sulfate 24-hour average	 25 µg/m^3 (state)
CO 1-hour average 8-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) and 35 ppm (federal) 9.0 ppm (state/federal)
Lead 30-day average Rolling 3-month average Quarterly average	 1.5 µg/m^3 (state) 0.15 µg/m^3 (federal) 1.5 µg/m^3 (federal)

[a] Source: SCAQMD CEQA Handbook (SCAQMD 1993)
[b] Construction thresholds apply to both the South Coast Air Basin and Coachella Valley (Salton Sea and Mojave Desert Air Basins).
[c] For Coachella Valley, the mass daily thresholds for operation are the same as the construction thresholds.
[d] Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, Table A-2 unless otherwise stated.
[e] Ambient air quality threshold based on SCAQMD Rule 403.
KEY: lbs/day = pounds per day ppm = parts per million µg/m3 = microgram per cubic meter
≥ = greater than or equal to
Source: SCAQMD 2011

The SCAQMD has also developed Localized Significance Thresholds (LSTs) to assist CEQA lead agencies in analyzing localized air quality impacts from proposed projects (SCAQMD, 2009). LSTs were developed based on a calculation of the maximum emissions from a project that would not cause or contribute to a violation of the most stringent applicable federal or state ambient air quality standard. Accordingly, the LSTs were derived based on the ambient concentration of pollutant versus distance to receptor for each source-receptor area within the Basin. LSTs have been developed for NOx, CO, and particulate matter (PM_{10} and $PM_{2.5}$). The SCAQMD has developed LST look-up tables that apply to projects with an area of 5 acres or less. The proposed Project site is approximately five acres so it is appropriate to use the Localized Significance Thresholds to evaluate ambient air quality impacts from the proposed Project construction activities.

Table 4.3-2
SCAQMD Air Quality Localized Construction Significance Thresholds

Pollutant	Construction Threshold (lbs./day)
NOx	222
CO	4,119
PM_{10}	88
$PM_{2.5}$	35

SCAQMD's *Final Localized Significance Threshold Methodology*, Tables C-1, C-2, C-4 and C-6 based on Source Receptor Area 3 (Southwest Coastal LA County), approximately 5 acres construction area and more than 200 meters to the nearest receptor.

Construction

Less than Significant Impact. Construction emissions are short term and temporary in duration. The first phase of construction will allow for the assembly of the new crane and will take

approximately 10 days total. The crane is being delivered via cargo container as part of routine cargo activities at the neighboring Berths 206-209. It will be partially assembled at Berths 206-209 and then moved to Berths 210-211 under its own power for the completion of the assembly.

Phase two of the construction project involves the infrastructure improvements at the site in order to electrify the wharf so that the new crane can function. Electrification involves trenching approximately 36" inches to install conduit and wiring that will connect the existing substation located in the center of the facility to the wharf. Construction is not expected to occur longer than 18-20 days and involves minimal equipment. As a worst-case analysis, all pieces of equipment were assumed to be operating simultaneously for a 10-hour work day although it is unlikely that this will be the case. The proposed Project will follow the *Sustainable Construction Guidelines* prepared by LAHD for reducing air emissions from all LAHD-sponsored construction projects (POLA, 2009). The air quality calculations are provided in Appendix A.

The last phase of construction activities involves the disposal of the existing 1996 crane. When the new crane is operational, the existing crane will be disposed of as part of normal business operations at the facility. There is no additional equipment needed nor are there any extended hours of operation associated with this activity so there are no emissions occurring as a result of this task.

Table 4.3-3 provides a summary of the emissions associated with proposed Project construction. As shown in Table 4.3-3, the peak daily emissions generated by all aspects of the proposed Project construction would not exceed any of the LST thresholds, nor would they exceed the SCAQMD daily significance thresholds. Accordingly, proposed Project construction would not violate any air quality standard or contribute substantially to an existing or projected air quality violation, and impacts would be less than significant. No mitigation is required.

Table 4.3-3
Daily Emissions from Construction of the Proposed Project

	Peak Daily Emissions, lbs/day					
Construction Activity	ROG	NOx	CO	SOx	PM10	PM2.5
Phase I Construction Impacts	2.6	38.7	17.7	0.1	1.9	1.3
Localized Significance Threshold	NA	222	4,119	NA	88	35
SCAQMD Daily Significance Threshold	75	100	550	150	150	55
Significance Threshold Exceeded	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**
Phase II Construction Impacts	3.2	36.5	19.5	0	10	3
Localized Significance Threshold	NA	222	4,119	NA	88	35
SCAQMD Daily Significance Threshold	75	100	550	150	150	55
Significance Threshold Exceeded	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

lbs/day = pounds per day
[a] Peak daily emissions calculated as maximum daily emissions, considering simultaneous construction activities and 10-hour construction days. Construction phases do not overlap.

Operations

No Impact. The proposed Project is a significant operational air quality benefit to the South Coast Air Basin and the surrounding community. The only operational change at the site is the addition of a Tier 4 diesel/electric hybrid crane. The crane is replacing an existing Tier 2 diesel crane from 1996. The existing crane operates approximately 1,600 hours/year which is not expected to change with the use of the new crane. The DERA grant application submitted to the U.S.EPA to request partial funding for the new crane estimated the emission reductions over its lifetime using EPA's Diesel Emissions Quantifier (DEQ). The emission reductions associated with the crane conversion over the lifetime of the project were calculated as follows:

Table 4.3-4
Emission Reductions Associated with the Replacement of the Existing Crane

Pollutant	**Emissions Reductions (tons reduced over the lifetime of the crane)**
NOx	74
PM	3
HC	3
CO	14

(Table 3 – DEQ Outputs and Outcomes, page 4, *Application for Federal Assistance*, submitted to the U.S, EPA by LAHD, December 2014.)
The crane was assumed to have an operational lifetime of almost 27 years.

As seen above, the proposed Project demonstrates significant air quality benefits which translate into health benefits to the surrounding Port communities of San Pedro and Wilmington as well as throughout the South Coast Air Basin. Throughout the duration of the project, LAHD staff will oversee the project partners/subgrantees to ensure that the electrification is completed in a timely manner. Once the project is completed, emission reductions for the equipment will be tracked annually through the Inventory of Air Emissions. In addition, LAHD will contact the project partner to request regular updates and quarterly reports that will be submitted to EPA. The facility's fleet description will be kept updated through the annual inventories (*Application for Federal Assistance,* page 5, submitted to the U.S. EPA by LAHD, 2014).

The proposed Project would not result in any adverse operational impacts to air quality; but rather, presents a significant air quality benefit to the local community and the region as a whole. No mitigation is required.

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?

As discussed under Question 4.3(a), the Basin is currently classified as an extreme nonattainment area for the 8-hour NAAQS for O_3, and a nonattainment area for $PM_{2.5}$. The Basin is also classified as a nonattainment area for the CAAQS for O_3, $PM_{2.5}$, and PM_{10}.

Construction

Less than Significant Impact. As discussed under Question 4.3(b), construction of the proposed Project would result in the temporary generation of O_3 precursors which are reactive organic gases (ROG) and NOx, and emissions of nonattainment pollutants $PM_{2.5}$ and PM_{10}. Based on the analysis, construction of the proposed Project would not result in emissions that exceed the LSTs or the SCAQMD's daily significance thresholds. Accordingly, construction activities associated with the proposed Project would not contribute to a cumulatively considerable air quality impact. No mitigation is required.

Operation

No Impact. Please see Table 4.3-4 above for the project-related air quality benefits from the crane replacement. No mitigation is required.

d) Expose sensitive receptors to substantial pollutant concentrations?

Less than Significant Impact. For the purposes of a CEQA analysis, the SCAQMD considers a sensitive receptor to be a receptor such as a residence, hospital, school, or convalescent facility where sensitive receptors could be exposed to substantial pollutant concentrations. Commercial

and industrial facilities are not included in the definition of sensitive receptors because employees do not remain on-site for a full 24 hours, and are not considered sensitive.

The nearest sensitive receptors to the proposed Project are residents at the Cerritos Channel Marina that is located across the East Basin approximately 228 meters from the location of the crane. Impacts to sensitive receptors are evaluated in terms of the greatest potential for exposure to toxic air contaminants (TACs). Diesel particulate matter (DPM) is the most prevalent TAC that would be emitted from equipment and/or from diesel-powered vehicles. DPM is considered to be a carcinogenic TAC, and is also considered to have the potential for adverse non-cancer health effects with chronic (i.e., long-term) exposure. According to SCAQMD methodology, health effects from carcinogenic TACs are usually described in terms of individual excess cancer risk based upon a lifetime of exposure, which is based on 30 years.

Construction activities are minor with only 10 pounds per day of PM10 occurring using a worst-case analysis and only between 18 and 20 days of activity during the busiest construction phase. The construction period would be much lower than the 30-year exposure period for which carcinogenic risks are evaluated. Further, the proposed Project's emissions during construction would not exceed the SCAQMD's LSTs for PM_{10} and $PM_{2.5}$ during construction. The proposed Project would follow the *Sustainable Construction Guidelines* prepared by the LAHD for reducing air emissions from all LAHD-sponsored construction projects. The Guidelines require that all on-road heavy-duty diesel trucks with a gross vehicle weight of 19,500 pounds or greater used at LAHD would comply with the USEPA 2007 on-road emission standards for PM_{10} and NOx (0.01 g/bhp-hr and at least 1.2 g/bhp-hr, respectively). Furthermore, the Guidelines require that off-road construction equipment be equipped with engines that meet Tier 3 emission standards. The use of off-road heavy-duty diesel equipment for construction would be temporary and minimal in nature. Construction-related air quality impacts would be minimal and temporary in nature with no potential to exposure sensitive receptors to substantial pollutant concentration.

Operational impacts provide a significant project-related health benefit with the reduction of approximately 3 tons of PM over the lifetime of the crane. Impacts from the short-term construction related to the proposed Project are less than significant. No mitigation is required.

e) Create objectionable odors affecting a substantial number of people?

Construction

Less than Significant Impact. Construction activities associated with the proposed Project could result in emissions of odor compounds from diesel exhaust from heavy construction equipment operating on-site. As discussed under Question 4.2(d), the nearest sensitive receptors are located approximately 228 meters feet away from the Project's construction site. This estimate is based on the location of the crane at Berths 210-211 to the nearest boat slip at the Cerritos Channel Marina across the East Basin. The actual construction work will occur between the wharf and the substation located at the center of the facility which is farther from the marina.

Nevertheless, construction activities associated with the proposed Project could result in emissions of odor compounds from diesel exhaust from heavy construction equipment operating on-site.

Due to the temporary nature of the construction activities and the distance to the nearest sensitive receptor, construction would not have the potential to create objectionable odors affecting a substantial number of people. Impacts would be less than significant. No mitigation is required.

Operation

No Impact. The proposed Project will ultimately reduce any potential odor impacts through the conversion of a diesel crane to a diesel/electric hybrid crane. Diesel exhaust has a greater odor potential while an electric equivalent should have no odors associated with it. Furthermore, SCAQMD identifies land uses associated with odor complaints, including agricultural operations, wastewater treatment plants, food processing plants, chemical plants, composting operations, refineries, landfills, dairies and fiberglass molding plants. The proposed Project is a crane replacement project at an existing facility and would not have the potential to generate objectionable odors due to operations. The proposed Project is not an odor source (as defined by SCAQMD); therefore, the proposed Project would not result in significant odor impacts from operations. There are no operational odor impacts associated with the project. No mitigation is required.

4.4 BIOLOGICAL RESOURCES

LAHD conducted biological baseline surveys of the Port area in 1988, 2000, and 2008. Several candidate, sensitive, or special-status species were identified in the Port area. The following description of biological resources incorporates information from previous environmental documents, including information from the most recent surveys. The most recent comprehensive survey was completed in 2008. The 2008 survey studied adult and juvenile fish, ichthyoplankton, benthic invertebrates, riprap-associated organisms, kelp and macroalgae surface canopy, eelgrass, birth and various exotic species. The goal of the biological baseline surveys conducted in 1988, 2000, and 2008 was to provide quantitative information on the physical/chemical and biological conditions within the different marine habitats of both the POLA and the Port of Long Beach.

According to the biological baseline surveys, several candidate, sensitive, or special-status species have been identified in the Port area, which include adult and juvenile fish, ichthyoplankton, benthic invertebrates, riprap-associated organisms, kelp and macroalgae surface canopy, eelgrass, birds, and various exotic species. Two state and federally listed endangered species, the California least tern (*Sterna antillarum browni*) and the state-listed endangered American peregrine falcon (*Falco peregrinus anatum*) regularly use the harbor area (U.S.FWS, 2013). California least tern are a migratory species that nest at Pier 400 between April and September and forage within the shallow waters of the Port. Peregrine falcons have been known to nest on bridges within the Port. Additionally, several other migratory birds protected by the Migratory Bird Treaty Act (MBTA) are known to use the harbor area.

Landside improvements are being conducted on an existing paved facility at Berths 210-211 with no potential for any nesting or foraging to occur. Further, there are no trees or potential habitats being removed as a result of the proposed Project.

There are no waterside improvements associated with the project other than a longer boom that extends over vessels during loading operations.

Would the Project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

No Impact. The proposed Project site is fully developed both for landside and waterside operations and does not contain riparian habitat. The proposed Project is unlikely to affect listed, candidate, or special concern species. There are no significant noise increases during construction and the project will result in a decrease in noise when the crane is converted to electric. No critical habitat for any federally listed species is present at the site. No nesting habitat has been identified at or near the proposed Project site. Any special status species present in the area would still be able to use other areas in the East Basin or Cerritos Channel in the unlikely event that

construction activities caused them to avoid the work area temporarily. Thus, no individuals would be lost and their populations would not be significantly affected by short-term construction activities. Operationally, the new crane will be if a similar size and shape to the existing crane and will not result in operational changes at the facility that could affect any special status species or habitat.

As such, no impacts to individuals or habitat for rare, threatened, endangered, protected or species of special concern would occur as a result of the proposed Project. No mitigation is required.

Project-related construction activities on land are temporary and minor and would not result in a loss of individuals or habitat for rare, threatened, endangered, protected or species of special concern. Further, there are no waterside construction improvements to affect any marine life.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?

No Impact. As discussed in Question 4.4(a) above, the proposed Project site is fully developed both for landside and waterside operations and does not contain riparian habitat. As such, no impacts to riparian habitat or a sensitive natural community would occur as a result of the proposed Project. No mitigation is required.

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact. The proposed Project site does not contain any federally protected wetlands. The closest recognized saltwater wetland is located near the Cabrillo Marina approximately 5.4 miles from the Project site. The proposed Project would not affect any federally protected wetlands as defined by Section 404 of the CWA. No mitigation is required.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

No Impact. Los Angeles and Long Beach Harbors provide valuable habitat for foraging, resting, and breeding by numerous species of birds. Per the baseline surveys, over 100 avian species use the various habitats within the Ports seasonally, year-round, or during migration. A total of 96 species representing 30 families were observed within the Ports during the 2008 study. Of these species, 68 are dependent on marine habitats. Species numbers varied seasonally, with a greater variety of birds present in fall and winter and fewer species during summer, consistent with large-scale migratory patterns. Bird abundance was more variable and was attributed to differences in

bird migratory patterns and nesting activities. Bird abundance along the Southern California coast typically follows a seasonal pattern, with the greatest numbers of individuals and species occurring during fall and winter. The highest numbers of birds were noted in the Long Beach West Basin and main shipping channel of the Los Angeles Harbor, with counts being approximately an order of magnitude lower at small basin and channel zones at inner harbor locations.

The proposed Project site is an existing paved industrial site so it does not contain habitat suitable for wildlife species and is not used by native resident or migratory species for movement or nursery purposes. There are no trees on the site. There are no waterside improvements associated with the project. The only defined migratory species in the Port are birds, which would not be adversely impacted by short-term construction that involves minimal equipment and workers for approximately 18-20 days. No migratory fish or birds would be impacted by the installation of electrical wiring and conduit at the site. As such, there are no impacts to the movement of wildlife species or the use of wildlife nursery sites as a result of the proposed Project. No mitigation is required.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact. The only biological resources protected by City of Los Angeles ordinance pertain to certain tree species. A permit is required for removal or relocations of the following trees:

- Oak tree including valley oak (*Quercus lobata*)
- California live oak (*Quercus agrifolia*)
- Any other tree of the oak genus indigenous to California but excluding the scrub oak (*Quercus dumosa*)
- Southern California black walnut (*Juglans californica* var. *californica*)
- Western Sycamore (*Platanus racemosa*)
- California bay (*Umbellularia californica*).

The proposed Project site is located in a heavily industrial region of the City of Los Angeles. The Project site is entirely paved and requires no tree removal for project construction. As such, the proposed Project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. No impact would occur and no mitigation is required.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. Habitat Conservations Plans (HCPs) are administered by the United States Fish and Wildlife Service (US FWS) and are intended to identify how impacts would be mitigated when a

project impacted an endangered species (U.S. FWS, 2011). There are no HCPs currently in place at the Port of Los Angeles. The County of Los Angeles has established Significant Ecological Areas (SEAs) to preserve a variety of biological communities for public education, research, and other nondisruptive outdoor uses. The proposed Project is not located in a SEA. The closest SEA is the CA Least tern nesting area at the southern tip of Pier 400, approximately 1.2 miles from the Project site.

The nearest Natural Community Conservation Plan (NCCP) to the proposed Project site, the Palos Verdes Peninsula Sub-Regional Plan, is located approximately six miles from the proposed site. Neither the proposed Project site nor any adjacent areas are included as part of an NCCP. No impact would occur and no mitigation is required.

4.5 CULTURAL RESOURCES

This section addresses potential impacts on cultural resources that could result from implementation of the proposed Project. Cultural resources customarily include archaeological resources, ethnographic resources, and those of the built environment (architectural resources). Though not specifically a cultural resource, paleontological resources (fossils predating human occupation) are also considered in this evaluation, as they are discussed in Appendix G of the State CEQA Guidelines (Environmental Checklist Form).

Regulatory Framework

CEQA provides a definition of what constitutes a cultural or historical resource. Cultural resources can include traces of prehistoric habitation and activities, historic-era sites and materials, and places used for traditional Native American observances or places with special cultural significance. In general, it is required to treat any trace of human activity more than 50 years in age as a potential cultural resource.

CEQA states that if a project would have significant impacts on important cultural resources, then alternative plans or mitigation measures must be considered. However, only significant cultural resources (termed "historical resources") need to be addressed. The CEQA Guidelines define a historical resource as a resource listed or eligible for listing on the California Register of Historical Resources (CRHR) (PRC Section 5024.1).

Cultural resources in California are protected by a number of federal, state, and local regulations, statutes, and ordinances. The determination of CRHR significance of a resource is guided by specific legal context outlined in Sections 15064.5 (b), 21083.2, and 21084.1 of the Public Resources Code (PRC), and the CEQA Guidelines (CCR Title 14, Section 15064.5). A cultural resource may be eligible for listing in the CRHR if it:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage:
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region or method of construction or Represents the work of an important creative individual or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

In addition to meeting one or more of the above criteria, historical resources eligible for listing in the CRHR must retain enough of their historic character or appearance to be able to convey the reasons for their significance. Such integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling and association.

The CEQA Guidelines also require consideration of unique archaeological resources (Section 15064.5). As used in the PRC (Section 21083.2), the term "unique archaeological resource" means an

archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type; or
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Would the Project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

No Impact. The National Park Service guidance asserts that properties be completed at least 50 years ago to be considered for eligibility. Properties constructed fewer than 50 years ago must be proven to the "exceptionally important" (criteria consideration G) to be considered for listing. There are no historic resources being altered, demolished or modified as a result of the proposed Project. The infrastructure improvement will be located on an existing industrial facility that is already paved and highly disturbed. There are no known historic resources at the site nor would any be disturbed or compromised as a result of the proposed Project. The proposed Project would have no impact on historical resources. No mitigation is required.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Less than significant impact. The proposed Project is located on an existing industrial site at Berths 210-211 on Terminal Island. The site possesses no known unique geologic features and no paleontological resources are known to exist in or around the project site. Furthermore, construction consists of narrow trenching at 36" depth to install necessary wiring and conduit for electrification of the wharf. Due to the limited nature and scope of trenching necessary, there is very little potential for the construction related to the new waterside pilings to encounter paleontological resources in the Main Channel or West Basin area.

Although impacts to unknown buried resources is remote given the high degree of previous disturbance and the site being underlain by man-made fill, archaeological or ethnographic cultural resources have been encountered throughout the Port in the past. The proposed Project would adhere to CEQA Guidelines (CCR Title 14, Section 15064.5), which states that construction activities would cease in the affected area in the event an archaeological discovery is made. The

Port's construction specifications require that if potentially significant cultural resources (50 years or older) are encountered during construction, construction in the area of the discovery shall immediately cease until authorized to resume by the engineer. Once the find has been evaluated by a qualified archaeologist, (see 36 CFR 800.11.1 and California Code of Regulations Title 14, Section 15064.5 (f)) if the resource is found to not be significant, the work can resume. If the resource is found to be significant, they shall be avoided or shall be treated consistent with Section 106 or State Historic Resource Preservation Officer Guidelines. As such, the proposed Project would not cause a substantial adverse change in the significance of an archaeological resource pursuant to state CEQA Guidelines Section 15064.5. For the reasons discussed above, the proposed Project would have a less than significant impact to archaeological resources with adherence to applicable regulatory requirements. No mitigation measures are required.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less than significant impact. As mentioned in 4.5 (b) above, the proposed Project is located on an existing industrial site on Terminal Island. No paleontological resources are known to exist in this project area. The site is underlain with man-made fill and is already paved and highly disturbed. The area to be disturbed involves narrow trenching for wiring and conduit installation with very little possibility to encounter paleontological resources. These types of resources are typically found in underlying bedrock and geologic formations. The proposed project would have a less than significant impact on paleontological resources. No mitigation is required.

d) Disturb any human remains, including those interred outside of formal cemeteries?

No Impact. The proposed Project is located on a man-made fill area created in the 20th Century. The location is on Terminal Island which has been subject to extensive previous construction activity. There are no human remains known to exist within the Port boundary. Activities associated with the proposed Project will occur at or near the surface within the footprint of previous construction activity and does not have the potential to disturb any human remains.

Discovery of human remains is governed by the California Health and Safety Code, and PRC Sections 5097.94 and 5097.98, and can fall within the jurisdiction of the Native American Heritage Commission (NAHC). Section 7052 of the Health and Safety Code establishes a felony penalty for mutilating, disinterring, or otherwise disturbing human remains, except by relatives. Under Section 7050.5 of the Health and Safety Code If human remains are discovered no further excavation or disturbance at the site shall stop and the county coroner contacted. If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission. There are no potential impacts to the disruption of human remains as a result of the proposed Project. No mitigation is required.

4.6 GEOLOGY AND SOILS

This section describes the regional and local geologic and soil characteristics of the proposed Project area.

Would the Project:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the state geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

Less than Significant Impact. Southern California is recognized as one of the most seismically active areas in the United States. The region has experienced 52 major earthquakes of magnitude 6.0 or higher since 1796. The proposed Project site is located within the seismically active Southern California region and has the potential to be subjected to ground shaking hazards associated with earthquake events on active faults. The proposed Project site is located approximately 0.6 km from the Palos Verdes fault zone and is not located within the Alquist-Priolo Earthquake Fault Zone.

The construction associated with the project is minor and involves the short-term assembly of the new crane as well as minor trenching to electrify the wharf area to accommodate the crane. In addition, the operation of the new crane does not alter throughput or change the capacity or operations at the facility in any way. Therefore, construction and operation of the proposed Project would result in less than significant impacts related to the risk of surface rupture due to faulting. No mitigation is required.

ii) Strong seismic ground shaking?

Less than Significant Impact. Please see the response to 4.6 (a)(i) above. Compliance with existing regulations would minimize risk to ensure a less than significant impact. No mitigation is required.

iii) Seismic-related ground failure, including liquefaction?

Less than Significant Impact. Liquefaction is defined as the transformation of a granular material from a solid state into a liquefied state as a consequence of increase pore pressure, which results in the loss of grain-to-grain contact. Seismic ground shaking is capable of providing the mechanism for liquefaction, usually in fine-grained, loose to medium dense, saturated sands and silts. The effects of liquefaction may be excessive if total and/or differential settlement of structures occurs on liquefiable soils. The proposed Project site has been identified by the City of

Los Angeles General Plan Safety Element as being susceptible to liquefaction. The proposed Project involves minor infrastructure improvements with trenching at 36" at a maximum to install wiring and conduit and then backfill the area and replace the removed concrete. The project must comply with City building and safety guidelines, its Harbor Engineer Permit and all other restrictions and permit conditions.

Due to the minor construction involved and the depth of the trenching and compliance with all applicable regulations, impacts as a result of seismic ground failure or liquefaction are considered less than significant. No mitigation is required.

iv) Landslides?

No Impact. Landslides occur when masses of rock, earth, or debris move down a slope. Landslides are caused by disturbances in the natural stability of a slope. They can accompany heavy rains or follow droughts, earthquakes, or volcanic eruptions. Construction activities, such as grading, can accelerate landslide activity.

The proposed Project site is flat with no significant natural or graded slopes. According to the City of Los Angeles, Department of City Planning, Parcel Profile Report, the proposed Project site is not located within an area susceptible to landslides. The potential for seismically induced landslides in the proposed Project site is considered remote. As such, no impacts would occur and no mitigation is required.

b) Result in substantial soil erosion or the loss of topsoil?

Less than Significant. Construction activities would be limited to the assembly of the new crane and the installation of conduit and wiring over approximately 400 linear feet. The area will be trenched and then backfilled with the removed soil once the wiring is installed. Replacement concrete will then be poured to level off the area and restore it to its previous condition. The proposed Project involves minor infrastructure improvements. In addition, the surrounding area is already paved and would not be disrupted as a result of the project.

The proposed project would not create new areas of impervious surface or generate new sources of runoff. The Harbor Engineer Permit issued for the project will also specify that no process water can enter an open trench nor can there be any disruption from the to the flow of process water to the on-site treatment plant.

Due to the minimal disruption at the site and compliance with these permit conditions listed above, impacts to soil erosion or the loss of topsoil will be less than significant. No mitigation is required.

c) Be located on a geological unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

Less than Significant Impact. As discussed in the response to Question 4.6(a)(iii) and (iv) above, the proposed Project site is not located within an area susceptible to landslides. As discussed in Question 4.6(a)(iii), the proposed Project site is located in an area identified as being susceptible to liquefaction. However, construction is minor and involves trenching a narrow area of approximately 400 linear feet at a depth of 36" for wiring and conduit installation. These minimal improvements have little potential to create a landslide, lateral spreading, subsidence, liquefaction or collapse as a result of the proposed Project. No mitigation is required.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Less than Significant Impact. Expansive soils are clay-based soils that tend to expand (increase in volume) as they absorb water and shrink (lessen in volume) as water is drawn away. However, there is no new construction of structures on the site. The only improvements are 400 linear feet of trenching at approximately 36" depth. Impacts from expansive soil would be less than significant. No mitigation is required.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact. The proposed project site has its own on-site treatment plant. The proposed Project presents no need for additional capacity or any alternative wastewater disposal system as there is no additional land use or operation. Therefore, there are no impacts associated with the use of wastewater disposal systems. No mitigation is required.

4.7 GREENHOUSE GASES

This section includes a description of the potential effects of greenhouse gases (GHGs) and analyses of potential GHG emissions and impacts of the proposed Project. The methods of analysis for construction and operational emissions are consistent with the guidelines of the SCAQMD and LAHD's standard protocols.

Certain gases in the earth's atmosphere, classified as GHGs, play a critical role in determining the earth's surface temperature. A portion of the solar radiation that enters the atmosphere is absorbed by the surface of the earth and a portion of this energy is reflected back toward space as infrared radiation. This infrared radiation released from the earth that otherwise would escape back into space is instead absorbed or "trapped" by GHGs, resulting in a warming of the atmosphere.

GHGs occur in the atmosphere naturally or are emitted by human sources or are formed by secondary reactions in the atmosphere. The most common GHGs emitted from natural processes and human activities include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Examples of GHGs created and emitted primarily through human activities include fluorinated gases (hydro fluorocarbons and per fluorocarbons) and sulfur hexafluoride. 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 value of one. For example, CH_4 has a GWP of 21, which means that it has a global warming effect 21 times greater than CO_2 on an equal-mass basis. Total GHG emissions from a source are often reported as a CO_2 equivalent (CO_2e). The CO_2e is calculated by multiplying the emissions of each GHG by its GWP and adding the results together to produce a single, combined emission rate representing all GHGs.

The SCAQMD has adopted an interim CEQA significance threshold of 10,000 metric tons per year of CO_2e for industrial projects where SCAQMD is the lead agency. For the purpose of this IS/ND, this analysis used the SCAQMD GHG threshold identified above to evaluate proposed project GHG emissions under CEQA. Consistent with SCAQMD guidelines, construction emissions for the proposed Project are amortized over the life of the project (defined as 30 years), added to operational annual emissions, and then compared to this threshold. If estimated GHG emissions remain below this threshold, they would be expected to produce less than significant impacts to GHG levels.

Would the Project:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Construction

Less than Significant Impact. As discussed in Section 4.3, construction emissions are associated with the landside improvements needed to electrify the wharf at Berth 210. Construction will occur at an existing facility and involve the installation of conduit and wiring along approximately 400 linear feet between the substation at the facility to the wharf where the crane

will be located. The proposed Project would follow the *Sustainable Construction Guidelines* prepared by LAHD for reducing air emissions from all LAHD-sponsored construction projects (POLA, 2009).

Construction GHG emissions were calculated using the detailed construction equipment list provided by the applicant. (please see Appendix A). Table 4.7-1 presents a summary of the construction emissions estimated for the proposed Project. As can be seen in Table 4.7-1, GHG emissions are below SCAQMD significance thresholds. Therefore, impacts from the proposed Project are less than significant and no mitigation is required.

Table 4.7-1
Total GHG Emissions from Construction of the Proposed Project

Construction Activity	CO_2 (Metric Tonnes/year)[a]	CO_2e[b] (Metric Tonnes/year)[a]
Total Construction-Related Emissions (Phase I and Phase II)	59.9	60.5
Amortized Emissions[c]	2	
Significance Threshold	10,000	
Exceed Significance Threshold	**NO**	

Notes:

a) One metric ton equals 1,000 kilograms, 2,205 lbs, or 1.1 U.S. (short) tons.
b) CO2e = the carbon dioxide equivalent emissions of all GHGs combined. The carbon dioxide equivalent emission rate for each GHG represents the emission rate multiplied by its global warming potential (GWP). The GWPs are 1 for CO_2; 21 for CH_4; and 310 for N_2O.
c) SCAQMD recommends amortizing construction emissions over a 30-year period to evaluate the contribution of construction to GHG emissions over the lifetime of the project.

Operation

No Impact. As stated in Section 4.3 – Air Quality, the project presents a significant air quality benefit from the initial conversion of a Tier 2 diesel crane to a Tier 4 diesel crane. After January 31, 2017, the benefit increases with the conversion to an electric crane. There are no increases in emissions of GHGs associated with the operation of the proposed Project. No mitigation is required.

b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less than Significant Impact. Statewide GHG emissions must adhere to the requirements of the California Global Warming Solutions Act of 2006, codified at California Health and Safety Code § 38500 et seq. The code establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and establishes a cap on statewide GHG emissions.

In May 2007, the City of Los Angeles Mayor's Office released the Green LA Plan, which is an action plan to lead the nation in fighting global warming. The Green LA Plan presents a citywide framework for confronting global climate change to create a cleaner, greener, sustainable Los Angeles. The Green LA Plan directs the Port to develop an individual Climate Action Plan, consistent with the goals of Green LA, to examine opportunities to reduce GHG emissions from Port operations. In accordance with this directive, LAHD prepared a Harbor Department Climate Action Plan that details GHG emissions related to municipally controlled Port activities (such as Port buildings and Port workforce operations) and outlines current and proposed actions to reduce GHGs from these operations. The Port is a founding member of The Climate Registry (TCR). LAHD completed annual GHG emissions inventories for LAHD-controlled operations beginning in 2006, and they submitted annual GHG inventories for trucks, ships, and rail to TCR (formerly the California Climate Action Registry) beginning in 2008 for year 2006. LAHD is developing a Sustainability Plan in accordance with the Mayor's Office Directive that would incorporate Port environmental programs and reports, including the Port's Climate Action Plan.

As shown in Table 4.7-1 landside infrastructure improvements would not result in significant GHG emissions. Thus, the proposed Project would not violate California Health and Safety Code Section 38500, conflict with Executive Directive No. 10, the City of Los Angeles Green LA Plan, or the Port's Climate Action Plan. Accordingly impacts would be less than significant. No mitigation is required.

4.8 HAZARDS AND HAZARDOUS MATERIALS

This section discusses the potential for the proposed Project to expose people to hazards and hazardous materials. Hazardous substances are defined by state and federal regulations as substances that must be regulated to protect the public health and the environment. Hazardous materials have certain chemical, physical, or infectious properties that cause them to be hazardous. CCR Title 22, Chapter 11, Article 2, Section 66261 provides the following definition:

> A hazardous material is 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 environment when improperly treated, stored, transported, or disposed of or otherwise managed.

According to CCR Title 22 Chapter 11, Article 3, 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 material that has been abandoned, discarded, spilled, contaminated, or stored prior to disposal.

Toxic substances may cause short-term or long-term health effects, ranging from temporary effects to permanent disability or death. Examples of toxic substances include most heavy metals, pesticides, benzene, petroleum, hexane, natural gas, sulfuric acid, lye, explosives, pressurized canisters, and radioactive and biohazardous materials. Soils may also be toxic because of accidental spilling of toxic substances.

The project site is under Site Cleanup Program (SCP No. 0305) with Los Angeles Regional Water Quality Control Board (LARWQCB). All trench excavation and filling operations must be observed for the presence of free petroleum products, or contaminated soil. Discolored/odiferous soil or suspected contaminated soil shall be segregated from light colored soil. The contaminated soil should be stockpiled on visqueen sheeting, covered with visqueen, and characterized and disposed of properly.

LAHD's Director of Environmental Management and LARWQCB must be notified of all observances or occurrences of soil and/or groundwater contamination immediately. All excavations shall be filled with structurally suitable fill material which is free from contamination and meets the LAHD's Environmental Management Division's Soil Import and Reuse Criteria.

Any contaminated materials, including those contaminated with petroleum waste products, shall be properly removed from the project site, treated, and/or disposed at the appropriate facilities in accordance with applicable regulations. Copies of hazardous waste manifests or other documents indicating the amount, nature, and disposition of such materials shall be submitted to the Harbor Department Environmental Management Division within 30 days of project completion.

Would the Project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Construction

Less than significant impact. Landside construction activities would be limited to the trenching of approximately 400 linear feet between the facility's substation and the wharf to electrify the new crane. Construction activities would be temporary in nature and would involve typical construction materials such as fuels and lubricants typically used in construction that are not acutely hazardous. Further, all storage, handling and disposal of these materials are regulated by the California Department of Toxic Substances (DTSC), the United States Environmental Protection Agency, the Los Angeles City Fire Department, the County of Los Angeles Fire Department and the Occupational Safety and Health Administration (OSHA). The transport, use and disposal of any potential construction-related hazardous materials would occur in conformance with all applicable federal, state and local regulations governing such activities. During construction, if any contaminated soils are encountered and/or contaminated groundwater is encountered, it would require testing and proper off-site disposal. Construction impacts would be less than significant with adherence to required regulations and standards. No mitigation is required.

Operation

No Impact. There are no operational changes at the facility as a result of the use of the new crane. Diesel usage would drop substantially once the crane is converted to electricity. No mitigation is required.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

No Impact. Please see the response to section 4.8 (a) above. Construction equipment associated with the project is minor and is equipment already being used on site. The equipment uses diesel or gasoline as its fuel source and will use small amounts for the 18-20 day construction project. The facility is aware of all of construction-related BMPs and will have precautions in place to ensure that there are no fuels spilled in association with the proposed Project's construction activities. Once the crane is electrified, there will significantly less diesel fuel used on-site thereby minimizing the potential for an accident or risk of upset condition. There are no impacts related to exposing the public to hazards as a result of the project and no mitigation is required.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No Impact. The proposed Project location is not within one-quarter mile of an existing or proposed school nor does it emit hazardous emissions or handle hazardous or acutely hazardous materials as a result of the proposed Project. The nearest school is the Port of Los Angeles High School which is located approximately 3 miles west of the proposed Project. No mitigation is required.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Less than Significant Impact. Government Code Section 65962.5 requires the Department of Toxic Substances Control (DTSC) to compile and update as appropriate, but at least annually, a list of all of the following:

(1) All hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code.

(2) All land designated as hazardous waste property or border zone property pursuant to Article 11 (commencing with Section 25220) of Chapter 6.5 of Division 20 of the Health and Safety Code.

(3) All information received by DTSC pursuant to Section 25242 of the Health and Safety Code on hazardous waste disposals on public land.

(4) All sites listed pursuant to Section 25356 of the Health and Safety Code.

(5) All sites included in the Abandoned Site Assessment Program.

The California Environmental Protection Agency (CalEPA) maintains these lists, which collectively make up the Cortese list, on their website at http://www.calepa.ca.gov/sitecleanup/corteselist/. (Government Code Section 65962.5) (CalEPA 2010).

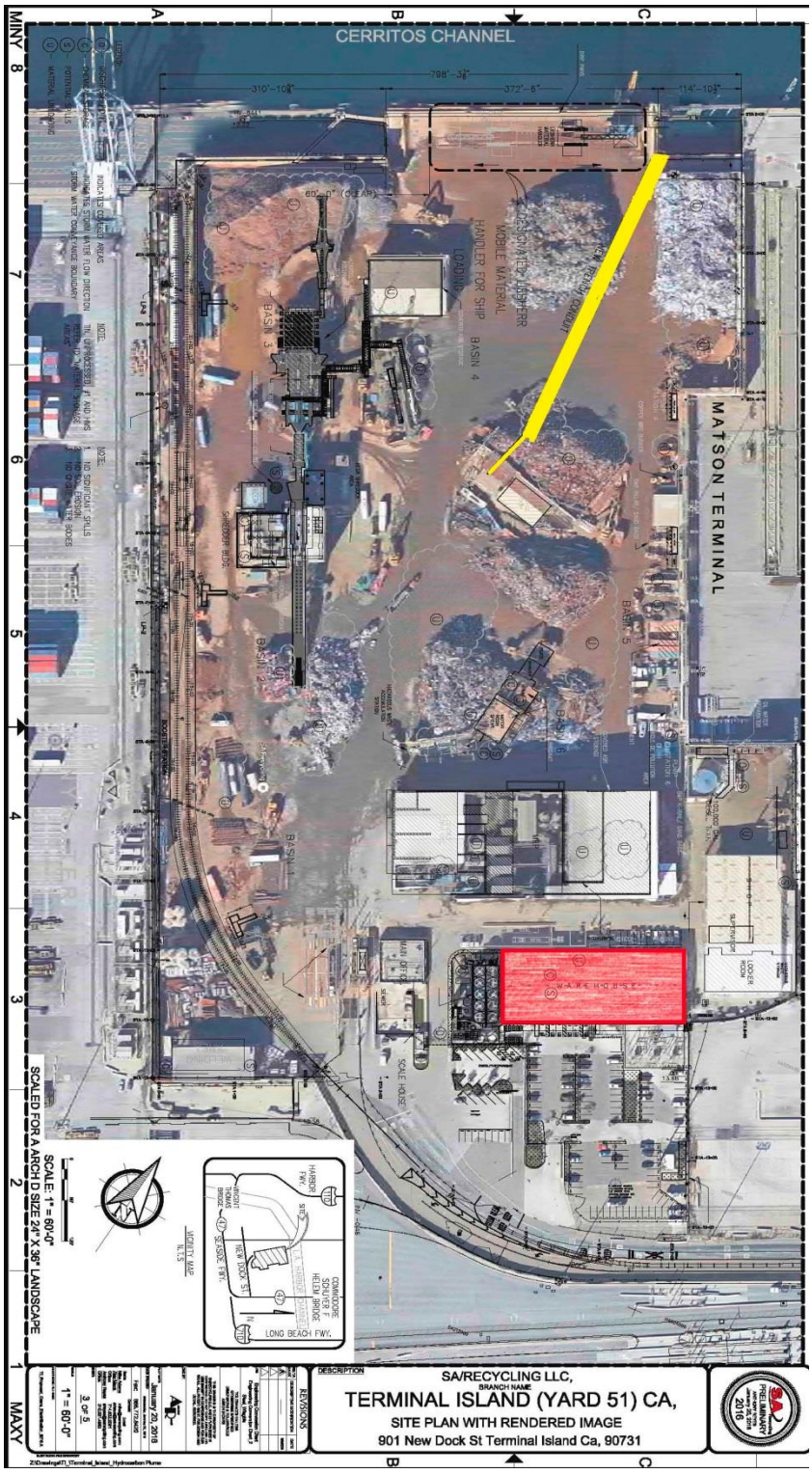
SA Recycling at 901 New Dock Street is currently included on the Cortese List by the Los Angeles Regional Water Quality Control Board. The site is an open remediation site as of 2002 with the contaminants of concern including benzene, diesel, gasoline, MTBE, metals, toluene, xylene, polychlorinated biphenyls (PCBs), etc. The project site has undergone numerous physical changes over many years. Originally, the area consisted of tideland and coastal islands. The area was built up through a succession of dredge and fill operations which began in the early 1900s with some dredge fill placed over debris that included tires, wood, rubber, and glass, from scrap metal recycling operations or possibly from open dumping. On August 26, 1988, the Discharger reported a release of diesel fuel at the site which resulted in a free-phase hydrocarbon plume on the surface of the water table (GeoTracker accessed 2016). Several investigations of subsurface soil and groundwater were conducted from 1990 to 1994 to assess the environmental impact from

long-term scrap metal recycling at the facility. Vadose zone soils were determined to be impacted by petroleum hydrocarbons, metals, PCBs and polycyclic aromatic hydrocarbon.

A baseline risk assessment was completed in January 1995, and the results were used to develop soil cleanup levels for the site. As part of the site remediation, a permanent engineered cap was proposed for all unexcavated soil that met soil cleanup levels criteria. From 1999 to 2002, soils impacted above cleanup levels were excavated, and soil confirmation sampling was completed. Approximately 80,000 cubic yards of soil were excavated and transported off-site for disposal at a legal point of disposal. Concurrent with the excavation and sampling procedures, once an area met established cleanup levels, it was backfilled, graded, and capped with concrete; however, deep contamination is still present. The Regional Board is currently reviewing site data for evaluation of soil closure.

Free-product recovery continues to be implemented at the facility using passive bailers to remediate the diesel release with Quarterly Progress Reports submitted to the LARWQCB. Semi-annual groundwater monitoring is also conducted at the site. Current monitoring results indicate that PAHs, PCBs, and semivolatile organic compounds (SVOCs) results are non-detect. Volatile organic compounds (VOCs) are generally non-detect, though methyl tert-butyl ether (MTBE) and tert-butyl alcohol are detected at low levels in some monitoring wells. MTBE concentrations appear to be relatively low and likely related to an off-site upgradient source. (Ca.gov, Geotracker, 2016).

The facility site is approximately 27 acres. The free product remaining at the site where testing occurs is not located near the trenching activities being conducted to install the wiring and the conduit. As such, there is little potential for the construction improvements to degrade the site or transfer the contaminated wastewater from one location at the site to another. Figure 4.8-1 illustrates where the free product is located at the facility and where groundwater testing continues to occur. The yellow highlighted area illustrates where ground disturbance will occur to install the wiring and the conduit. The red highlighted area illustrates where the remaining free product is located at the site. As can be seen, trenching activities have no potential to disturb the free product area.



4.8-1

Map Depicting the Site Contamination and Trenching

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

No Impact. The proposed Project site is not located within 2 miles of a public airport or private airstrip, nor is it located within an airport land use plan. The closest airport is the helicopter-landing pad at Berth 95 used by the Island Express Company. Therefore, impacts to public safety as a result of the project being located near an airport are less than significant and no mitigation is required.

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

No Impact. Please see the response provided in Question 4.8(e) above.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Impact. The proposed Project involves minor landside improvements to allow the new crane to run on electricity at the wharf. There are no operational changes associated with the proposed Project. All construction activities would conform to the City of Los Angeles Municipal Code. The proposed Project does not impair or physically interfere with an adopted emergency response plan. No mitigation is required.

h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

No Impact. Per the Safety Element of the City of Los Angeles General Plan, the proposed Project site is not located in an area designated as Very High Fire Hazard Severity Zone nor are there any wildlands near the vicinity of the site. The site is currently, and would remain, paved thus limiting the potential for wildland fires due to a lack of vegetation. Construction of the proposed Project would create the potential for wildland fires to occur with the vicinity. Therefore, no impacts related to wildland fires would occur. No mitigation is required.

4.9 HYDROLOGY AND WATER QUALITY

This section describes the existing conditions relating to hydrology and water quality and the potential impacts associated with the proposed Project. In addition, this analysis includes a discussion on the potential sea-level rise (SLR) impacts that may result with implementation of the proposed Project.

Would the Project:

a) Violate any water quality standards or waste discharge requirements?

Construction

Less than Significant Impact. The proposed Project involves minor trenching for the installation of wiring and conduit to electrify the wharf area. Any soil exposure would be solely during the trenching process. The trenching is minor and would be backfilled upon the installation of the wiring with the concrete reapplied where it had to be temporarily removed. Construction activities will not result in substantial soil exposure and no new areas of impervious surface would be created by the project. Permit conditions will be included to specify that process water may not enter exposed soil areas nor can there be any disruption to the on-site treatment plant from active areas of the facility. These activities also will not result in any direct or intentional discharges of wastes or waters to the East Basin or Cerritos Channel. The project received a Letter of Permission from the USACE that specified that detailed engineering drawings of the new electrical system must the submitted to the U.S. ACE for approval prior to the start of construction. This will further ensure that the trenching does not encroach on a water body and potentially violate any water discharge standards and/or regulations. The project further requires a Coastal Development Permit and Harbor Engineer Permit from LAHD; all of which will include conditions, including Best Management Practices, related to the landside improvements.

With compliance with all permit conditions and the use of BMPs throughout the project's duration, impacts to water quality standards or waste discharge requirements would be less than significant. No mitigation is required.

Operation

No Impact. The operation of the new crane poses no potential to violate any water quality standards or waste discharge requirements because the proposed Project site is already developed with structures and pavement. The proposed Project would comply with the City of Los Angeles Municipal Code and all other applicable federal, state and local regulations prior to project approval and would result in less than significant impacts. No mitigation is required.

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

No Impact. Groundwater in the harbor area is south of the Dominquez Gap Barrier and impacted by saltwater intrusion (salinity) and is, therefore, unsuitable for use as drinking water. In addition, the proposed Project site is entirely covered with impermeable surfaces and does not support surface recharge of groundwater. The proposed Project site would involve very little excavation of concrete with it immediate replacement after the wiring and conduit is complete. The project would have no effect on existing groundwater supplies. No impacts would occur and no mitigation is required.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

Less than Significant Impact. The proposed Project is paved and is not within the course of a stream or a river. As such, the construction improvements would not alter the course of a stream or river. Construction would not result in substantial erosion or siltation as minimal areas of soil would be temporarily exposed and then backfilled upon wiring and conduit installation. The surface improvements of portions of the proposed Project site would not substantially alter the drainage pattern of the currently paved site and would continue to direct runoff to the existing storm drain system. Impacts to drainage patterns would be less than significant. No mitigation is required.

d) Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

No Impact. Please see the response to 4.9 (c) above.

e) Create or contribute runoff water, which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Less than Significant Impact. Please see the response for Question 4.9 (a) above.

f) Otherwise substantially degrade water quality?

Less than Significant Impact. As discussed in Question 4.9(a), the construction of the proposed Project would not violate any water quality standards or waste discharge requirements. The proposed Project would comply with the City of Los Angeles Municipal Code and all other applicable federal, state, and local regulations prior to project approval and would result in less than significant impacts. Any potential operational impacts associated with the project would be consistent with activities already occurring at the site. No mitigation is required.

g) Place housing within a 100-year flood hazard area as mapped on a federal flood hazard boundary or Flood Insurance Rate Map or other flood hazard delineation map?

No Impact. The proposed project is not located with a 100-year flood hazard area. No housing will be built as part of the project. No mitigation is required.

h) Place within a 100-year flood hazard area structures, which would impede or redirect flood flows?

No Impact: The project site is not located in a 100-year flood hazard area nor are there any new structures that would impede for redirect flood flows. No mitigation is required.

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

No Impact. There are no dams or levees near the proposed Project nor does the Project have the potential to create or contribute to a risk of a levee or dam failure. There are no impacts to flooding from the failure of a levee or dam as a result of the Project. No mitigation is required.

j) Inundation by seiche, tsunami, or mudflow?

No Impact. The proposed Project is located on Terminal Island within the Port of Los Angeles. The topography of the site and surrounding area is flat. The State of California identifies areas that possess the potential for earthquake induced rock falls, slope failure and debris flow. The site has not been identified as being susceptible to mudflow from landslides. There is no impact from the Project on mudflow and no mitigation is required.

Seiches are oscillations generated in enclosed bodies of water usually as a result of earthquake related ground shaking. A seiche wave has the potential to overflow the sides of a containing basin to inundate adjacent or downstream areas. However, the Pacific Ocean and San Pedro Bay are not of the nature that would result in a seiche. There are no impacts from the Project to a potential seiche. No mitigation is required.

Tsunamis are large ocean waves caused by the sudden water displacement that results from an underwater earthquake, landslide, or volcanic eruption, and affect low-lying areas along the coastline. The Port is open to the ocean and not entirely closed, allowing entry of seismically induced waves. According to the Safety Element of the City of Los Angeles' General Plan, the proposed Project site is located within an area susceptible to tsunami and subject to possible inundation as a result. However, there is no aspect of Project construction that would contribute or exacerbate a tsunami. No mitigation is required.

k) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the sea level rise (SLR)?

No Impact. Due to its geographic location, the infrastructure and operations of the Port would be vulnerable to SLR by nature. Wharves and piers may be damaged in strong storms, waves or surges resulting from SLR.

As part of the climate change research, there have been many recent developments in the science underlying the projection of SLR. Higher temperatures are expected to further raise sea level by expanding ocean water, melting mountain glaciers and small ice caps, and causing portions of Greenland and the Antarctic ice sheets to melt. The International Panel on Climate Change (IPCC) estimates that the global average sea level will rise between 0.6 and 2 feet (0.18 to 0.59 meters) in the next century (IPCC 2007).

Coastal zones are particularly vulnerable to climate variability and change. Rising sea levels inundate wetlands and other low-lying lands; erode beaches; intensify flooding; and increase the salinity of rivers, bays, and groundwater tables. Some of these effects may be further compounded by other effects of a changing climate such as increased frequency and severity of storms and changes in precipitation patterns.

LAHD and the Rand Corporation completed a study in 2012 entitled *"Characterizing Uncertain Sea Level Rise Projections to Support Investment Decisions.*" This study used a robust decision making (RDM) analysis to address two questions: (1) under what future conditions would a Port of Los Angeles decision to harden its facilities against extreme sea level rise at the next upgrade pass a cost-benefit test, and (2) does current science and other available information suggest such conditions are sufficiently likely to justify such an investment? The study examines how to address the potential for presumably low probability but large impact levels of extreme SLR in the Port large infrastructure investment plans. The study conducted an RDM analysis for four distinct locations within POLA's jurisdiction, including Berths 206-209 which is a parcel contiguous to the proposed Project site. The study concluded that only the following location evaluated warranted serious consideration for hardening the site at its next upgrade only for one of the four POLA facilities considered: the Alameda and Harry Bridges Crossing.

Because of the above study findings and the fact that the proposed Project would not involve the construction of any new structures, it is not anticipated that people or structures would be exposed to significant flooding potential due to SLR as a result of the proposed Project. Impacts associated with risks from SLR would be less than significant. No mitigation is required.

4.10 LAND USE AND PLANNING

This section contains a description and analysis of the land use and planning considerations that would result from proposed Project implementation.

Would the Project:

a) Physically divide an established community?

No Impact. The proposed Project adds minor infrastructure improvements to an existing site that operates out of Berths 210-211 in an industrial area on Terminal Island. The site is zoned for heavy-duty industrial activities and is surrounded by other industrial activities including a container terminal and break bulk terminal. No separation of land uses or disruption of access between land use types would occur as a result of the development of the proposed Project. Therefore, implementation of the proposed Project would not divide an established community. No impacts would occur and no mitigation is required.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact. The proposed Project would not conflict with a specific plan, general plan, or zoning ordinance. The proposed Project site is zoned for industrial uses ([Q]M3-1). In addition, the project site is located in Planning Area #3 in the Port Master Plan that includes such land uses as container terminals, liquid bulk terminals, dry bulk terminals, mixed land use, breakbulk and marine support. The proposed Project would not alter the land use of the site or surrounding area, and would not conflict with the Port Master Plan or any applicable land use plans. Therefore, no impact would occur and no mitigation is required.

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

No Impact. As discussed in response to question 4.4(f), the site is not part of any HCP or NCCP. No impacts would occur and no mitigation is required.

4.11 MINERAL RESOURCES

The purpose of this section is to identify and evaluate key mineral resources in the proposed Project area and to determine the degree of impacts that would be attributable to the proposed Project.

Would the Project:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

No Impact. Per the City of Los Angeles Municipal Code, the proposed Project site is an area located in or in proximity to a formerly active oil drilling area and is subject to development regulations relating to oil drilling area hazards. The Wilmington Oil Field is the third largest oil field in the United States based on cumulative production. The Wilmington Oil Field extends from Torrance to the Harbor District of the City of Long Beach, a distance of approximately 13 miles. According to the City of Los Angeles General Plan Safety Element and the California Department of Conservation, Division of Oil, Gas and Geothermic Resources, the proposed Project site is located within the major oil drilling areas of Wilmington Oil Field (City of Angeles, 1996). The proposed Project would not create any obstacles to oil extraction operations associated with the Wilmington Oil Field.

The proposed Project is located on Terminal Island, which is made mostly of man-made fill material. No known valuable mineral resources would be impacted by the proposed Project. According to the California Department of Conservation Division of Mines and Geology mineral resource maps, the nearest non-petroleum mineral resources area is located in the San Gabriel Valley (California Department of Conservation 2014). No impact would occur and no mitigation is required.

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

No Impact. As discussed in Question 4.11(a), the proposed Project site is not located within a mineral resource recovery site delineated in the Port of Los Angeles Master Plan (POLA, 2014). As such, no loss of availability to mineral resources would occur. No mitigation is required.

4.12 NOISE

The purpose of this section is to identify sensitive noise receptors in the proposed Project area and to determine the degree of noise impacts that would be attributable to the proposed Project.

Existing Noise Environment

The site is located on Terminal Island which is part of the Port of Los Angeles and is approximately 20 miles south of downtown Los Angeles. Existing noise levels within the Port complex are from a wide array of sources that include ship engines, operations of bulk loading facilities, container terminal uses, truck traffic, train operations, and vehicle traffic on the local street network and freeways. The proposed Project is located at Berth 210 on Terminal Island within an area designated as "heavy industrial" ([Q] M3-1) uses. The City of Los Angeles' Municipal Code permissible ambient noise levels within areas zoned [Q] M3-1 are 65 A-weighted decibels (dBA) during daytime and nighttime due to light and heavy industrial uses.

Existing noise in the area comes from the many roadways, rail lines, neighboring industrial facilities as well as existing site activities. The nearest sensitive receptors are residents of a neighboring marina across the East Basin located approximately 750 feet away from the wharf.

Noise-sensitive receptors are defined as locations where people reside or where the presences of unwanted sound may adversely affect the use of land. Noise-sensitive land uses are categorized as residences, schools, libraries, churches, hospitals, nursing homes and miscellaneous passive recreational uses.

Chapter 11 of the Municipal Code sets forth noise regulations, including regulations applicable to construction noise impacts, within 500 feet of a residence. Section 112.05 establishes maximum noise levels for powered equipment or powered hand tools. The marina identified as the nearest sensitive receptor is 750 feet from the wharf.

Section 41.40 of the City of Los Angeles Municipal Code prohibits construction work during nighttime and early morning hours. The Municipal Code section states, in part, the following:

> No person shall between the hours of 9 p.m. and 7 a.m. of the following day perform any construction or repair work of any kind upon or any excavating for, any building or structure, where any of the foregoing entails the use of any power driven drill, driven machine, excavator or any other machine, tool, device or equipment which makes loud noises to the disturbance of persons occupying sleeping quarters in the any dwelling, hotel or apartment or other place of residence. In addition, the operation, repair or servicing of construction equipment and the jobsite delivering of construction materials in such areas shall be prohibited during the hours herein specified. Any person who knowingly and willfully violates the foregoing provision shall be deemed guilty of a misdemeanor punishable as elsewhere provided in this code.

Would the Project Result In:

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Construction

Less than Significant Impact. The overall surrounding area of the proposed Project site is industrial. The site is zoned for heavy industrial uses ([Q] M3-1) as are the neighboring berths.

Construction is anticipated to begin in the Spring of 2016 and will take approximately one month to assemble the crane and complete the trenching necessary to install the wiring and conduit. Table 4.12-1 highlights the typical decibel rating for the pieces of construction equipment being used for the proposed Project. It is important to note that these decibel ratings are associated with a sensitive receptor approximately 50 feet from the activity. The nearest receptor is across the East Basin approximately 750 feet away.

Table 4.12-1
Typical Noise Levels for Construction Equipment

Construction Equipment Type	Typical Noise Level (dBA) 50 feet from Source
Backhoe	80
Loader	85
Compactor	82
Rollers	74
Trucks	88

(U.S. DOT, 2006, Table 12-1.)

The currently proposed construction location at the facility is trenching between the wharf (750 feet from the nearest receptor) and the existing substation which is approximately linear 400 feet to the south, further away from the marina receptors. Most of the equipment being used is commonly used at the site for daily operations and should not impact any sensitive receptor. Construction operations will occur during the day only with no activities scheduled between 9 p.m. and 7 a.m. in adherence with the City of Los Angeles Municipal Code. The total construction period for the trenching activities will be 18-20 days.

Potential noise impacts at the nearest sensitive receptor would be unlikely and short-term in duration. The construction equipment would be used at an industrial setting with other operational activities already occurring. All BMPs will be adhered to and noise impacts would be less than significant. No mitigation is required.

Operation

No Impact. SA Recycling has already implemented several measures to ensure that noise at the facility is abated to the maximum extent possible. The facility has already installed noise walls and enclosed its shredder. The replacement of a diesel-powered crane with an electric crane is another mechanism for reducing any potential noise-related impacts at the site. The electric crane will be virtually silent when operational. Further, the Tier 4 engine is fully enclosed which makes it significantly quieter than the existing crane, even when being run on diesel. The proposed project presents an operational noise reduction. No mitigation necessary.

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Less than Significant Impact. As discussed in Section 4.12 (a) above, the project is located in a heavy-industrial area surrounded by heavy-industrial facilities with its nearest receptors located approximately 750 feet away across the East Basin. Construction would result in varying degrees of temporary ground vibration, depending on the specific construction equipment used and operations involved. Ground vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance. The effects of ground vibration may be imperceptible at the lowest levels, with low rumbling sounds; detectable at moderate levels; and damaging to nearby structures at the highest levels. Construction activities that typically generate the highest levels of vibration are blasting and impact pile driving; which are not necessary for the proposed Project.

Any potential impacts related to groundborne noise levels are unexpected but would be short-term from trenching activities that would occur over 18-20 days. Impacts to groundborne noise levels would be less than significant. No mitigation is required.

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

No Impact. As noted in 4.12 (a) above, the proposed Project will result in a noise reduction benefit from the use of a quieter crane that is being utilized at the site presently. There are no permanent impacts that will increase ambient noise in the project vicinity. No mitigation is required.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Less than Significant Impact. Please see the response to Section 4.12 (a).

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or pubic use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. The proposed Project site is not located within 2 miles of a public airport or private airstrip, nor is it located within an airport land use plan. No mitigation is required.

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. Please see response provided in Question 4.12(e).

4.13 POPULATION AND HOUSING

This section describes potential impacts to population and housing associated with the proposed Project.

Would the Project:

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No Impact. The proposed Project is the replacement of an existing crane at Berth 210 with a cleaner, quieter crane to perform the same function as the existing crane. The proposed Project has no potential to increase the population of the region necessitating the construction of additional housing, businesses, or infrastructure. No impacts on population growth would occur. No mitigation is required.

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

No Impact. There is no housing or replacement housing associated with the proposed Project. No impacts would occur and no mitigation is required.

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

No Impact. As discussed in the response to Questions 4.12 (a) and (b) above, the proposed Project would not displace any people. No impacts would occur and no mitigation is required.

4.14 PUBLIC SERVICES

This section evaluates public services impacts associated with the implementation of the proposed Project in terms of fire protection, police protection, schools, parks, and other public services.

Would the Project:

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:

i) Fire Protection?

No Impact. The City of Los Angeles Fire Department (LAFD) provides fire protection and emergency services for the proposed Project site. Fire protection capabilities are based on the distance from the emergency to the nearest fire station and the number of simultaneous emergency or fire-related calls.

LAFD facilities in the vicinity of the proposed Project site include land-based fire stations and fireboat companies. In the Harbor area, Battalion 6 is responsible for all of Wilmington and its waterfronts, Terminal Island and all of the surrounding water, San Pedro, Harbor City, and Harbor Gateway. The closest fire station to Berth 95 is Station 48 which serves San Pedro. The station is located at 1601 South Grand Avenue in San Pedro; approximately two miles from the project site.

The proposed Project is the replacement of an existing crane with a new, cleaner crane. There are no new hazards or hazardous materials nor anything that would create a new impact to fire protection or fire safety. There are no new impacts to fire protection and no mitigation is required.

ii) Police protection?

No Impact. The Los Angeles Police Department (LAPD) provides police protection to the entire City of Los Angeles. The proposed Project site is located within the LAPD Harbor Division Area, which includes a 27.5-square-mile area including Harbor City, Harbor Gateway, San Pedro, Wilmington, and Terminal Island. The LAPD Harbor Division Area is located at 2175 John S. Gibson Boulevard, approximately 6 miles north of the proposed Project site.

The Los Angeles Port Police (Port Police) is the primary law enforcement agency within the Port of Los Angeles. The Port Police are authorized a total of 218 positions for fiscal year 2013–14 including 128 sworn staff. The Port Police are responsible for patrol and surveillance of Port

property including 12 square miles of landside property and 43 miles of waterfront. Port Police headquarters are located at 330 S. Centre Street (between 3rd and 5th Streets), which is approximately 4.4 miles west of the proposed Project site. Dive Unit facility boats and offices/lockers are located on 954 South Seaside Avenue, which is approximately 4.1 miles southwest of the proposed Project site on Terminal Island. Marine Unit boats and a small office are located at Berth 84, with additional offices in the Crowley Building near a Port Police training facility located at 300 Ferry Street, approximately 2.4 miles west of the proposed Project site on Terminal Island. In addition, there is a Wilmington substation at 300 Water Street, approximately 3.2 miles east of the proposed Project site. The Port Police do not estimate the number of employed officers based on proposed development or anticipated population for a given area. Their staff/sworn officer totals are based on current Homeland Security data and levels of security at other ports of corresponding size and activity. Port Police are not a police agency driven by calls for service. Therefore, response times are not used by the Port Police as a metric or measure of services.

Construction of the proposed Project is not anticipated to result in temporary interruption and/or delays for law enforcement. Trip generation during construction is minimal. The proposed Project does not result in roadway closures and all nearby arterials would be retained during construction. The proposed Project construction would not affect demand for law enforcement such that new facilities would be required. There are no impacts to police protection and no mitigation is required.

iii) Schools?

No Impact. No new students would be generated and no increase in demand on local schools would result from implementation of the proposed Project. No impacts to schools would occur and no mitigation is required.

iv) Parks?

No Impact. The proposed Project does not include development of any residential uses and would not generate any new permanent residents that would increase the demand on local parks. Therefore, no impacts related to parks would occur and no mitigation is required.

v) Other public facilities?

No Impact. The proposed Project does not include development of residential uses and would not generate any new permanent residents that would increase the demand on other public facilities. Therefore, no impacts would occur and no further analysis is required. No mitigation is required.

4.15 RECREATION

This section evaluates recreation impacts associated with the implementation of the proposed Project. The analysis addresses construction-related and operational impacts and the associated potential impact to any surrounding local parks or other recreation facilities that would occur as a result of the proposed Project.

Would the Project:

a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

No Impact. The proposed Project does not include development of any residential uses and would not generate new permanent residents. Thus, the proposed Project would not result in an increased demand on existing parks and recreational facilities such that substantial physical deterioration would occur or be accelerated. Therefore, no impact would occur. No mitigation is required.

b) Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

No Impact. The proposed Project does not include any recreational facilities. The proposed Project does not include development of any residential uses and, thus, would not generate new permanent residents that would increase the demand on local recreational facilities. Further, the proposed Project would not promote or indirectly induce new development that would require the construction or expansion of recreational facilities. Therefore, no impact would occur. No mitigation is required.

4.16 TRANSPORTATION AND TRAFFIC

The *City of Los Angeles CEQA Thresholds Guide* has established the following screening criteria to determine if a proposed Project will result in a significant adverse impact to traffic or congestion:

> Would the proposed project generate and/or cause a diversion or shift of 500 or more daily trips or 43 or more p.m. peak hour vehicle trips on the street system? (City of Los Angeles, 2006)
>
> Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio (V/C) on roads, or congestion at intersections. (City of Los Angeles, 2006)
>
> Exceed, either cumulatively or individually, a level of service (LOS) standard established by the county congestion management agency for designated roads or highways. (City of Los Angeles, 2006)

Would the Project:

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

Construction

No Impact. Construction is estimated to take approximately 20-30 days including the two construction phases described in the project description. These two construction phases are not expected to overlap. There will be no more than 10 workers per day throughout the duration of the project some of whom may be existing employees. As such, construction trips associated with the proposed Project would generate less than 43 trips per day during peak hours.

The proposed Project would not result in traffic impacts and would not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system. In addition, the project does not encourage or promote non-motorized transit nor will it adversely impact public transit in any way. Impacts from the construction of the proposed Project would be less than significant and no mitigation measures are required.

Operation

No Impact. There are no additional trips as a result of the operation of the new crane. No mitigation is required.

b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

No Impact. Please see the response to section 4.16 (a) above. No mitigation is required.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that result in substantial safety risks?

No Impact. The proposed Project would not result in any aerial structure that would pose any air traffic safety risk. Further, the project has no potential to increase traffic levels or shift a location of air traffic levels or patterns. No mitigation measures are required.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

No Impact. The proposed Project does not include any alterations to access points or routes to the site or interfere with any existing accesses. Construction and operation of the proposed Project would occur entirely within SA's existing facility footprint. Therefore, the proposed Project would not substantially increase hazards due to a design feature. As such, no impacts would occur and no mitigation measures are required.

e) Result in inadequate emergency access?

No Impact. The proposed Project is currently operational with adequate emergency access. There is no aspect of the proposed Project that would impair or degrade emergency access in any way. Therefore, the proposed Project would not result in inadequate emergency access. No mitigation measures are required.

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

No Impact. The proposed Project would not alter the land use of the site or surrounding area, and would not conflict with any applicable land use plans. Construction and operation of the proposed Project would occur entirely within SA's existing facility footprint. Therefore, the proposed Project would not conflict with policies, plans, or programs supporting alternative transportation, (e.g., bicycles, buses, carpools, vanpools, ridesharing, walking). There are no impacts to public transit; bicycle or pedestrian facilities and no mitigation measures are required.

4.17 UTILITIES AND SERVICE SYSTEMS

This section evaluates impacts related to utilities and service systems associated with the implementation of the proposed Project in terms of water service, wastewater, solid waste and stormwater.

Would the Project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

No Impact. SA Recycling maintains an on-site wastewater treatment plant. In addition, the facility is covered under California's Industrial General Permit and is required to comply with any standards or provisions therein.

There are no new employees or operational changes at the facility that would generate wastewater. The proposed Project includes minor construction and the replacement of an existing crane with a cleaner hybrid diesel/electric crane. There is no excess wastewater associated with the proposed project. No mitigation is required.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

No Impact. Please see the response to 4.17 (a) above. No mitigation is required.

c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

No Impact. Please see the response to 4.17 (a) above. No mitigation measures are required.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

No Impact. Please see the response to 4.17 (a) above. No mitigation measures are required.

e) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

No Impact. Please see the response to section 4.17 (a) above. No mitigation is required.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Less than Significant Impact. The Solid Waste Integrated Resource Plan is a long-range master plan for solid waste management in the City of Los Angeles. It proposes an approach for the City to achieve a goal of diverting 70 percent of solid from landfills by 2013 and 90 percent by 2025. The Solid Waste Integrated Resource Plan recommends a series of policies, programs, and facilities to be implemented over the next 20 years.

Construction

Less than Significant Impact. Minimal solid waste would be generated during construction as the only material requiring disposal is the concrete that must be removed to install the wiring and the conduit. Any soil removed will be backfilled at the site after the conduit and wiring and installed. LAHD's Construction and Maintenance Division recycles asphalt and concrete demolition debris by crushing and stockpiling the crushed material to use on other Port projects. Very little to no material would need to be disposed of as a result of the proposed Project. Construction of the proposed Project is not expected to significantly affect any local landfills' ability to accommodate waste. Impacts are less than significant and no mitigation is required.

Operation

No Impact. Operations associated with the new crane are no different than the existing crane and have no potential to generate any hazardous or solid wasteImpacts to the generation of solid waste would be less than significant and no mitigation is required.

g) Comply with federal, state, and local statutes and regulations related to solid waste?

Less than Significant Impact. The proposed Project would be required to conform to the policies and programs of the Solid Waste Integrated Resource Plan. Compliance with the Solid Waste Integrated Resource Plan would ensure sufficient permitted capacity to service proposed Project. As such, the impact would be less than significant. Further, there is minimal solid waste associated with project-related construction and/or operation. Impacts are less than significant and no mitigation is required.

4.18 MANDATORY FINDINGS OF SIGNIFICANCE

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?

Less Than Significant Impact. As described previously, the proposed Project would have no impacts to biological resources. The proposed Project site is fully developed and paved and is not increasing its leasehold or footprint as a result of the proposed Project. The project has no waterside improvements that would reduce the habitat of a fish or wildlife population or threaten to eliminate a plant or animal community. The site is a heavy industrial site and is not suitable for use by any biological species.

The proposed Project would not have a significant impact on historic resources. There is no demolition of any historic buildings or structures associated with the proposed Project.

The proposed Project would not have a significant impact on cultural resources. The entire Project site is fully developed and zoned for heavy industrial purposes and has been extensively disturbed. Below-surface disturbance would be limited to trenching approximately 36" to install the conduit and the wiring. There is a low potential for discovering archaeological or ethnographic cultural resources due to previous disturbance and man-made fill at the project site as well as the shallow depth of trenching involved to install the wiring. If such discoveries are made, LAHD construction contractors and staff are required to follow standard procedures included in all bid specifications that include the cessation of all construction activities if a discovery is made so that it can be safely unearthed and researched. Based on the above analysis, proposed Project construction activities are not anticipated to result in significant impacts to known archaeological or ethnographic cultural resources under CEQA.

The proposed Project would not degrade the quality of the environment. The impact would be less than significant to biological and cultural resources. As such, the proposed Project would not have the potential to substantially degrade the quality of the environment. No mitigation is required.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

Less than Significant Impact. The proposed Project would not result in any project-specific or cumulatively considerable impacts. As discussed throughout the Chapter 4 analysis, the proposed

Project would result in no impacts to aesthetics, agricultural and forestry resources, biological resources, land use and planning, mineral resources, public services, population and housing, transportation and recreation. Thus, the proposed Project would not contribute to any cumulative impacts related to these areas.

The proposed Project would result in less than significant impacts to air quality, cultural resources, geology and soils, GHG emissions, hazards and hazardous materials, hydrology and water quality, noise and utilities. There are no mitigation measures associated with the proposed Project as impacts remain less than significant without mitigation.

Because of the small scale and localized effects of the proposed Project, the potential incremental contribution from the proposed Project would not be cumulatively considerable. Operations will result in environmental benefits to air quality, GHGs and noise. As such, operational impacts of the proposed Project would not contribute to a cumulative impact. In terms of construction, the only change is the assembly of the new crane and the infrastructure improvements needed to electrify the wharf. The analysis has determined that the proposed Project would not have any individually limited but cumulatively considerable impacts. No mitigation measures are required.

c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?

No Impact. The proposed Project would not result in any adverse effects on human beings. Conversely, the proposed Project presents a significant environmental benefit in terms of reduced air quality emissions and noise impacts. These emission reductions will help the neighboring community as well as the South Coast Air Basin attain National Ambient Air Quality Standards. The project also supports the goals and objectives of the Port's Master Plan as well as the Clean Air Action Plan. There are no adverse impacts to human beings. No mitigation measures are required.

5.0 PROPOSED FINDING

LAHD has prepared this IS/ND to address the environmental effects of the proposed Project. Based on the analysis provided in this IS/ND, LAHD finds that the proposed Project would not have a significant effect on the environment.

6.0 PREPARERS AND CONTRIBUTORS

City of Los Angeles Harbor Department

- Christopher Cannon, Environmental Director
- Lisa Ochsner, Marina Environmental Manager
- Laura Masterson, Marine Environmental Supervisor
- Tara Tisopulos, Project Manager
- Chris Bobo, City Attorney

7.0 ACRONYMS AND ABBREVIATIONS

[Q]M3-1	Heavy Industrial Uses
AB	Assembly Bill
APN	Assessor's Parcel Number
AQMP	Air Quality Management Plan
AWO	American Waterways Operators
BMP	Best Management Practices
CARB	California Air Resources Board
CAAP	Clean Air Action Plan
CAAQS	California Ambient Air Quality Standards
CalEPA	California Environmental Protection Agency
Caltrans	California Department of Transportation
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CHE	Cargo Handling Equipment
CMP	Congestion Management Program
CNEL	community noise equivalent level
CO	carbon monoxide
CO_2e	CO_2-equivalents
CRHR	California Register of Historical Resources
CWA	Clean Water Act
D/C	demand/capacity
dBA	A-weighted decibel
DPM	diesel particulate matter
DERA	Diesel Emissions Reduction Act
DOC	Department of Conservation
DOT	Department of Transportation
DTSC	Department of Toxic Substances
FEMA	Federal Emergency Management Agency
g/bhp-hr	grams per brake-horsepower hour
gpd	gallons per day
GHG	greenhouse gas
GWP	Global Warming Potential
HCP	Habitat Conservation Plan
I	Interstate
IPCC	International Panel on Climate Change
IS	Initial Study
ISM	International Safety Management
LAFD	Los Angeles Fire Department
LAHD	Los Angeles Harbor Department

LAPD	Los Angeles Police Department
lbs/day	pounds per day
LST	Localized Significance Threshold
LID	Low Impact Development
LOS	Level of Service
Metro	Los Angeles County Metropolitan Transportation Authority
MGD	million gallons per day
MW	megawatt
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAS	Naval Air Station
NCCP	Natural Community Conservation Plan
ND	Negative Declaration
NOSC	Naval Operations Support Center
NO_X	nitrogen oxides
NPDES	National Pollution Discharge Elimination System
NRC	National Research Council
O_3	ozone
OSHA	Occupational Safety & Health Administration
PHL	Port Harbor Line
PM_{10}	diesel-emitted particulate matter less than 10 microns
$PM_{2.5}$	directly emitted particulate matter less than 2.5 microns
PRC	Public Resources Code
POLA	Port of Los Angeles
ROG	reactive organic gases
RTG	rubber tired gantry
RCP	Responsible Carrier Program
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SEA	Significant Ecological Area
SLR	sea-level rise
SO_X	sulfur oxides
SR	State Route
TACs	toxic air contaminants
TCR	The Climate Registry
TIWRP	Terminal Island Water Reclamation Plant
TSCA	Toxic Substances Control Act
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
UTR	Utility Tractor Rig

VDECS	Verified Diesel Emissions Control Strategy
V/C	Volume to Capacity Ratio
VMT	Vehicle Miles Traveled
ZI-1192	2000 ft. Buffer Zone for Border Zone Property Site

8.0 REFERENCES

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APPENDIX A – AIR QUALITY CALCULATIONS

SA Recycling Crane Replacement and Electrification Project - Construction Emission Estimates

Construction Emissions (Daily)

	Construction Emissions (lb/day)							
	NOx	VOC	CO	PM10	PM2.5	SO2	CO2	CO2e
Phase 1 (Crane Assembly)	38.7	2.6	17.7	1.9	1.3	0.0	4,829	4,872
Phase 2 (Crane Installation)	36.5	3.2	19.5	10.0	3.0	0.0	4,587	4,628
Max. Daily Emissions*	**38.7**	**3.2**	**19.5**	**10.0**	**3.0**	**0.0**	**4,829**	**4,872**
SCAQMD Significance Threshold	100	75	550	150	55	150	-	-
Significant?	No	No	No	No	No	No	-	-

Significance thresholds from http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2 (2015 revision)

*** Maximum daily average emissions from Phase 1 or Phase 2 (Phase 1 and Phase 2 do not overlap)**

Construction Emissions (Annual)

	Construction Emissions (ton/yr)							
	NOx	VOC	CO	PM10	PM2.5	SO2	CO2	CO2e (metric tons)
Phase 1 (Crane Assembly)	0.2	0.0	0.1	0.0	0.0	0.0	26.6	24.3
Phase 2 (Crane Installation)	0.3	0.0	0.2	0.1	0.0	0.0	39.6	36.2
Annual Emissions	**0.5**	**0.0**	**0.3**	**0.1**	**0.0**	**0.0**	**66.2**	**60.6**
SCAQMD Significance Threshold	-	-	-	-	-	-	-	10,000
Significant?	No	No	No	No	No	No	-	No

"Annual" means project total (project duration is less than 1 month)

Construction Air Emissions Estimates

Phase 1 (Crane Assembly)

Construction Emissions (Daily)

	Construction Emissions (lb/day)							
	NOx	VOC	CO	PM10	PM2.5	SO2	CO2	CO2e
Offroad Diesel Equipment Exhaust	38.6	2.6	16.6	1.4	1.3	0.0	4,530	4,571
Onroad Equipment Exhaust	0.0	0.0	0.0	0.0	0.0	0.0	0	0
Worker Commute Exhaust	0.1	0.0	1.1	0.0	0.0	0.0	299	301
Fugitive Dust	-	-	-	0.4	0.0	-	-	-
Total Emissions	**38.7**	**2.6**	**17.7**	**1.9**	**1.3**	**0.0**	**4,829**	**4,872**
SCAQMD Significance Threshold	100	75	550	150	55	150	-	-
Significant?	**No**	**No**	**No**	**No**	**No**	**No**	-	-

Significance thresholds from http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2 (2015 revision)

Construction Emissions (Annual)

	Construction Emissions (ton/yr)							
	NOx	VOC	CO	PM10	PM2.5	SO2	CO2	CO2e (metric tons)
Offroad Diesel Equipment Exhaust	0.2	0.0	0.1	0.0	0.0	0.0	24.9	22.8
Onroad Equipment Exhaust	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Worker Commute Exhaust	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.5
Fugitive Dust	-	-	-	0.0	0.0	-	-	-
Total Emissions	0.2	0.0	0.1	0.0	0.0	0.0	26.6	24.3
SCAQMD Significance Threshold	-	-	-	-	-	-	-	10,000
Significant?	No	No	No	No	No	No	-	No

Offroad Equipment Emissions

Phase 1 (Crane Assembly)
Construction

								Exhaust Emission Factor (g/hp-hr)							Daily Emissions (lb/day)							Annual Emissions (ton/yr)						
Equipment Description	CARB Off-Road Category	Fuel	Engine Rating (hp)	Qty	hr/ day	day/ yr	Load Factor	NOx	VOC	CO	PM10	PM2.5	SO2	CO2	NOx	VOC	CO	PM10	PM2.5	SO2	CO2	NOx	VOC	CO	PM10	PM2.5	SO2	CO2
Crane	Cranes	Diesel	571	2	8	11	0.2881	4.312	0.286	1.643	0.152	0.140	4.90E-03	510	25.0	1.7	9.5	0.9	0.8	0.0	2961.3	0.1	0.0	0.1	0.0	0.0	0.0	16.3
Forklift	Rough Terrain Forklifts	Diesel	120	2	8	11	0.402	4.280	0.338	3.366	0.247	0.228	4.90E-03	512	7.3	0.6	5.7	0.4	0.4	0.0	871.4	0.0	0.0	0.0	0.0	0.0	0.0	4.8
Aerial Lift	Aerial Lifts	Diesel	251	1	8	11	0.3082	4.621	0.239	0.988	0.102	0.094	4.90E-03	511	6.3	0.3	1.3	0.1	0.1	0.0	697.7	0.0	0.0	0.0	0.0	0.0	0.0	3.8

Notes:
Quantity (Qty), daily operation (hr/day), and annual operation (day/yr) from project description.
Emission factors based on CalEEMod/CARB OFFROAD2011, Scenario Y 2015
Load factors from CARB OFFROAD2011.

Worker Commute Emissions

Phase 1 (Crane Assembly)
Construction

				Exhaust Emission Factor (grams/mile)							Exhaust Emissions (lb/day)							Exhaust Emissions (ton/yr)						
Description	Engine Model Year	EMFAC Vehicle Class	Fuel	NOx	VOC	CO	PM10	PM2.5	SO2	CO2	NOx	VOC	CO	PM10	PM2.5	SO2	CO2	NOx	VOC	CO	PM10	PM2.5	SO2	CO2
Worker commuting	All	LDA	Gas	0.110	0.036	1.250	0.002	0.002	0.003	338.5	0.1	0.0	1.1	0.0	0.0	0.0	298.5	0.0	0.0	0.0	0.0	0.0	0.0	1.6

Notes:
Emission factors from CARB's EMFAC2014 model for calendar year 2015, and assume aggregated speeds and vehicle model years.
Fugitive dust estimate includes brake wear, tire wear, and travel on paved roads.

Assumptions:

Parameter	Value		Basis
Equipment workers	8	worker trips/day	Project description
Trip VMT:	50	miles roundtrip/worker	Project description
Daily VMT:	400	VMT/day	Calc
Working days	11	days	Project description
Total VMT during project:	4,400	VMT	Calc

VMT = vehicle miles traveled

Fugitive PM Emissions

Phase 1 (Crane Assembly)
Construction

				Daily Emissions		Annual Emissions	
Description	Mean Vehicle Weight (lb)	Uncontrolled PM10 EF (lb/ VMT)	Uncontrolled PM2.5 EF (lb/ VMT)	Controlled PM10 (lb/ day)	Controlled PM2.5 (lb/day)	Controlled PM10 (ton/yr)	Controlled PM2.5 (ton/yr)
Commute vehicle travel on paved ro	3500	0.001	0.0003	0.42	0.02	2.3E-03	1.1E-04

Notes:
VMT = vehicle miles travelled
Daily and annual vehicle fugitive emissions estimates include road dust, brake wear, and tire wear.

General

Onsite fugitive dust (PM10/PM2.5) control: 0% (no water truck for fugitive dust control)

PM2.5 / PM10 fraction for Paved Roads: 0.169 (CARB-approved California Emission Inventory and Reporting System (CEIDARS) PM size speciation profile database.)

Paved Roads

Empirical formula from AP42, Section 13.2.1 (Paved Roads, 1/11):
PM10 Emissions (lb/VMT) = k * [(sL)^(0.91)] * [(W)^(1.02)]

PM10 particle size multiplier (k): 0.0022 (AP42, Table 13.2.1-1, Particle Size Multipliers for Paved Road Equation)
PM2.5 particle size multiplier (k): 0.00054 (AP42, Table 13.2.1-1, Particle Size Multipliers for Paved Road Equation)
Road surface silt loading (sL): 0.24 grams/m2. For Los Angeles County: Local Road = 0.24 g/m2, Freeway = 0.02 g/m2 (CARB, Section 7.9, Table 3 (Silt Loadings and Emission Factors for California Entrained Paved Road Dust Estimates)
Average weight of vehicle (W): See above tons.

Construction Air Emissions Estimates

Phase 2 (Crane Installation)

Construction Emissions (Daily)

	Construction Emissions (lb/day)							
	NOx	VOC	CO	PM10	PM2.5	SO2	CO2	CO2e
Offroad Diesel Equipment Exhaust	26.8	2.8	16.8	1.7	1.5	0.0	2,649	2,673
Onroad Equipment Exhaust	9.6	0.4	1.6	0.2	0.2	0.0	1,640	1,654
Worker Commute Exhaust	0.1	0.0	1.1	0.0	0.0	0.0	299	301
Fugitive Dust	-	-	-	8.1	1.3	-	-	-
Total Emissions	**36.5**	**3.2**	**19.5**	**10.0**	**3.0**	**0.0**	**4,587**	**4,628**
SCAQMD Significance Threshold	100	75	550	150	55	150	-	-
Significant?	**No**	**No**	**No**	**No**	**No**	**No**	-	-

Significance thresholds from http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2 (2015 revision)

Construction Emissions (Annual)

	Construction Emissions (ton/yr)							
	NOx	VOC	CO	PM10	PM2.5	SO2	CO2	CO2e (metric tons)
Offroad Diesel Equipment Exhaust	0.2	0.0	0.2	0.0	0.0	0.0	23.8	21.8
Onroad Equipment Exhaust	0.1	0.0	0.0	0.0	0.0	0.0	13.1	12.0
Worker Commute Exhaust	0.0	0.0	0.0	0.0	0.0	0.0	2.7	2.5
Fugitive Dust	-	-	-	0.1	0.0	-	-	-
Total Emissions	0.3	0.0	0.2	0.1	0.0	0.0	39.6	36.2
SCAQMD Significance Threshold	-	-	-	-	-	-	-	10,000
Significant?	No	No	No	No	No	No	-	No

Offroad Equipment Emissions

Phase 2 (Crane Installation)
Construction

								Exhaust Emission Factor (g/hp-hr)							Daily Emissions (lb/day)							Annual Emissions (ton/yr)						
Equipment Description	CARB Off-Road Category	Fuel	Engine Rating (hp)	Qty	hr/ day	day/ yr	Load Factor	NOx	VOC	CO	PM10	PM2.5	SO2	CO2	NOx	VOC	CO	PM10	PM2.5	SO2	CO2	NOx	VOC	CO	PM10	PM2.5	SO2	CO2
Meco 35 Flat Saw	Surfacing Equipment	Diesel	35	1	10	18	0.4154	5.255	1.028	4.692	0.402	0.370	5.50E-03	577	1.7	0.3	1.5	0.1	0.1	0.0	184.9	0.0	0.0	0.0	0.0	0.0	0.0	1.7
Rubber Tire Loader 966K	Rubber Tired Loaders	Diesel	258	1	10	18	0.3618	5.020	0.415	2.332	0.190	0.174	4.80E-03	506	10.3	0.9	4.8	0.4	0.4	0.0	1042.0	0.1	0.0	0.0	0.0	0.0	0.0	9.4
Backhoe 430 CAT	Tractors/Loaders/Backhoes	Diesel	107	3	10	18	0.3685	5.422	0.569	3.832	0.424	0.390	4.90E-03	517	14.1	1.5	10.0	1.1	1.0	0.0	1349.2	0.1	0.0	0.1	0.0	0.0	0.0	12.1
Generator 8000 Watt	Generator Sets	Diesel	11	1	10	18	0.4154	5.141	0.747	3.658	0.280	0.280	8.00E-03	568	0.5	0.1	0.4	0.0	0.0	0.0	57.2	0.0	0.0	0.0	0.0	0.0	0.0	0.5
Rammer Compactor	Plate Compactors	Diesel	3	1	10	18	0.4154	4.142	0.661	3.469	0.161	0.161	8.00E-03	568	0.1	0.0	0.1	0.0	0.0	0.0	15.6	0.0	0.0	0.0	0.0	0.0	0.0	0.1

Notes:
Quantity (Qty), daily operation (hr/day), and annual operation (day/yr) from project description.
Emission factors based on CalEEMod/CARB OFFROAD2011, Scenario Y: 2015
Load factors from CARB OFFROAD2011.

Onroad Equipment Emissions

Phase 2 (Crane Installation)
Construction

				Exhaust Emission Factor (grams/vehicle-mile)							Exhaust Emissions (lb/day)							Controlled Exhaust Emissions (ton/yr)					
Equipment Category	Avg Engine Model Year	EMFAC Vehicle Class	Fuel (DSL or GAS)	NOx	VOC	CO	PM10	PM2.5	SO2	CO2	NOx	VOC	CO	PM10	PM2.5	SO2	CO2	NOx	VOC	CO	PM10	PM2.5	SO2
Cement trucks	Aggregated	T7 tractor construction	DSL	9.9180	0.4609	1.6917	0.2223	0.2127	0.0161	1690	8.309	0.386	1.417	0.186	0.178	0.013	1416.120	0.07	0.00	0.01	0.00	0.00	0.00
Haul truck	Aggregated	T7 tractor construction	DSL	9.9180	0.4609	1.6917	0.2223	0.2127	0.0161	1690	1.312	0.061	0.224	0.029	0.028	0.002	223.598	0.00	0.00	0.00	0.00	0.00	0.00

Notes:
Emission factors from CARB's EMFAC2014 emissions database, http://www.arb.ca.gov/emfac/
Road dust, brake wear, and tire wear PM10 and PM2.5 emissions included in Fugitive Dust emissions estimates.

CO2
12.75
0.34

Worker Commute Emissions

Phase 2 (Crane Installation)
Construction

				Exhaust Emission Factor (grams/mile)							Exhaust Emissions (lb/day)							Exhaust Emissions (ton/yr)						
Description	**Engine Model Year**	**EMFAC Vehicle Class**	**Fuel**	**NOx**	**VOC**	**CO**	**PM10**	**PM2.5**	**SO2**	**CO2**	**NOx**	**VOC**	**CO**	**PM10**	**PM2.5**	**SO2**	**CO2**	**NOx**	**VOC**	**CO**	**PM10**	**PM2.5**	**SO2**	**CO2**
Worker commuting	All	LDA	Gas	0.110	0.036	1.250	0.002	0.002	0.003	338.5	0.1	0.0	1.1	0.0	0.0	0.0	298.5	0.0	0.0	0.0	0.0	0.0	0.0	2.7

Notes:
Emission factors from CARB's EMFAC2014 model for calendar year 2015, and assume aggregated speeds and vehicle model years.
Fugitive dust estimate includes brake wear, tire wear, and travel on paved roads.

Assumptions:

Parameter	Value		Basis
Equipment workers	8	worker trips/day	Project description
Trip VMT:	50	miles roundtrip/work	Project description
Daily VMT:	400	VMT/day	Calc
Working days	18	days	Project description
Total VMT during project:	7,200	VMT	Calc

VMT = vehicle miles traveled

Fugitive PM Emissions

Phase 2 (Crane Installation)
Construction

				Daily Emissions		Annual Emissions	
Description	Mean Vehicle Weight (lb)	Uncontrolled PM10 EF (lb/ VMT)	Uncontrolled PM2.5 EF (lb/ VMT)	Controlled PM10 (lb/ day)	Controlled PM2.5 (lb/day)	Controlled PM10 (ton/yr)	Controlled PM2.5 (ton/yr)
Cement trucks travel on paved roads	45000	0.015	0.004	5.55	0.94	5.0E-02	8.4E-03
Haul truck travel on paved roads	45000	0.015	0.004	0.88	0.15	1.3E-03	2.2E-04
Commute vehicle travel on paved ro	3500	0.001	0.0003	0.42	0.02	3.8E-03	1.8E-04
Demolition (concrete)	-	-	-	0.09	0.01	1.3E-04	2.0E-05
Debris loading/unloading	-	-	-	1.22	0.18	1.8E-03	2.8E-04

Notes:
VMT = vehicle miles travelled
Daily and annual vehicle fugitive emissions estimates include road dust, brake wear, and tire wear.

General

Onsite fugitive dust (PM10/PM2.5) control: 0% (no water truck for fugitive dust control)

PM2.5 / PM10 fraction for Paved Roads: 0.169 (CARB-approved California Emission Inventory and Reporting System (CEIDARS) PM size speciation profile database.)

Paved Roads

Empirical formula from AP42, Section 13.2.1 (Paved Roads, 1/11):
PM10 Emissions (lb/VMT) = k * [(sL)^(0.91)] * [(W)^(1.02)]
PM10 particle size multiplier (k): 0.0022 (AP42, Table 13.2.1-1, Particle Size Multipliers for Paved Road Equation)
PM2.5 particle size multiplier (k): 0.00054 (AP42, Table 13.2.1-1, Particle Size Multipliers for Paved Road Equation)
Road surface silt loading (sL): 0.24 grams/m2. For Los Angeles County: Local Road = 0.24 g/m2, Freeway = 0.02 g/m2 (CARB, Section 7.9, Table 3 (Silt Loadings and Emission Factors for California Entrained Paved Road Dust Estimates)
Average weight of vehicle (W): See above tons.

Demolition

CalEEMod and AP42, Section 13.2.4 (Aggregate Handling and Storage Piles, 11/06):
PM10 Emissions (lb/ton) = k * (0.0032) * [(u / 5)^(1.3) / (M / 2)^(1.4)) – Note: equation is the same as that provided in Table 9-9-G of the 1993 CEQA Handbook–, where:
PM10 particle size multiplier (k): 0.35 unitless.
PM2.5 particle size multiplier (k): 0.053 unitless.
Mean wind speed (u): 6.2 mi/hr. Average wind speed for Los Angeles County = 6.2 mi/hr (EPA Tanks v4)
Material moisture content (M): 2 %. Default assumption in CalEEMod based on M1988 Midwest Research Institute report. (See also Table 9-9-G-1, 1993 CEQA Handbook (D

Load Factors for Offroad Equipment
Source: CARB OFFROAD2011 Model

EquipmentTypeID	Adj ARB LF
A/C Tug Narrow Body	0.536
A/C Tug Wide Body	0.536
Baggage Tug	0.3685
Belt Loader	0.335
Bobtail	0.3685
Cargo Loader	0.335
Cargo Tractor	0.3618
Forklift (GSE)	0.201
Lift (GSE)	0.335
Other GSE	0.335
Bore/Drill Rigs	0.5025
Cranes	0.2881
Crawler Tractors	0.4288
Excavators	0.3819
Graders	0.4087
Off-Highway Tractors	0.4355
Off-Highway Trucks	0.3819
Other Construction Equipment	0.4154
Pavers	0.4154
Paving Equipment	0.3551
Rollers	0.3752
Rough Terrain Forklifts	0.402
Rubber Tired Dozers	0.3953
Rubber Tired Loaders	0.3618
Scrapers	0.4824
Skid Steer Loaders	0.3685
Surfacing Equipment	0.3015
Tractors/Loaders/Backhoes	0.3685
Trenchers	0.5025
Aerial Lifts	0.3082
Forklifts	0.201
Other General Industrial Equipment	0.3417
Other Material Handling Equipment	0.3953
Drill Rig (Mobile)	0.5025
Workover Rig (Mobile)	0.5025
Sweepers/Scrubbers	0.4556
Passenger Stand	0.3953

CalEEMod OFFROAD Equipment Emission Factors (g/bhp-hr)

Source: Table 3.4, CalEEMod Appendix D

Equipment Type	Year	Low HP	High HP	TOG	ROG	CO	NOX	SO2
Aerial Lifts	2015	6	15	0.295589	0.2484	3.23342	3.93284	0.0054
Aerial Lifts	2015	16	25	0.295589	0.2484	3.23342	3.93284	0.0054
Aerial Lifts	2015	26	50	0.295589	0.2484	3.23342	3.93284	0.0054
Aerial Lifts	2015	51	120	0.226785	0.1906	3.21782	3.1134	0.0049
Aerial Lifts	2015	251	500	0.284874	0.2394	0.98755	4.62077	0.0049
Aerial Lifts	2015	501	750	37.246	0.278	1.13	3.38	0.005
Air Compressors	2015	6	15	2.191	0.84	3.658	5.196	0.008
Air Compressors	2015	16	25	4.662	0.894	2.666	4.89	0.007
Air Compressors	2015	26	50	15.015	1.868	5.968	5.223	0.007
Air Compressors	2015	51	120	13.925	0.821	3.84	5.19	0.006
Air Compressors	2015	121	175	18.243	0.571	3.218	4.504	0.006
Air Compressors	2015	176	250	18.067	0.381	1.207	3.967	0.006
Air Compressors	2015	251	500	29.662	0.354	1.198	3.455	0.005
Air Compressors	2015	501	750	46.316	0.358	1.198	3.586	0.005
Air Compressors	2015	751	1000	71.885	0.409	1.37	5.157	0.005
Bore/Drill Rigs	2015	6	15	1.007942	0.847	4.73461	5.30345	0.0056
Bore/Drill Rigs	2015	16	25	1.007942	0.847	4.73461	5.30345	0.0056
Bore/Drill Rigs	2015	26	50	1.007942	0.847	4.73461	5.30345	0.0056
Bore/Drill Rigs	2015	51	120	0.378573	0.3181	3.3349	4.02775	0.0047
Bore/Drill Rigs	2015	121	175	0.359562	0.3021	3.03526	3.90422	0.0049
Bore/Drill Rigs	2015	176	250	0.253803	0.2133	1.17834	3.3245	0.0048
Bore/Drill Rigs	2015	251	500	0.237097	0.1992	1.25564	3.00307	0.0048
Bore/Drill Rigs	2015	501	750	0.19253	0.1618	1.10541	2.37558	0.005
Bore/Drill Rigs	2015	751	1000	0.130029	0.1093	0.95583	2.99386	0.0049
Cement and Mortar Mixers	2015	6	15	1.079	0.663	3.469	4.168	0.008
Cement and Mortar Mixers	2015	16	25	3.664	0.811	2.531	4.712	0.007
Concrete/Industrial Saws	2015	16	25	1.532	0.685	2.339	4.332	0.007
Concrete/Industrial Saws	2015	26	50	6.027	1.47	5.165	4.989	0.007
Concrete/Industrial Saws	2015	51	120	6.878	0.683	3.647	4.789	0.006

Concrete/Industrial Saws	2015	121	175	10.333	0.475	3.077	4.112	0.006
Cranes	2015	26	50	2.483294	2.0867	7.12517	6.07491	0.0053
Cranes	2015	51	120	1.444394	1.2137	4.88366	10.0604	0.0048
Cranes	2015	121	175	0.930749	0.7821	3.91821	8.3254	0.0049
Cranes	2015	176	250	0.764242	0.6422	2.65334	7.62156	0.0049
Cranes	2015	251	500	0.565318	0.475	4.10962	6.12404	0.0049
Cranes	2015	501	750	0.340293	0.2859	1.64279	4.31183	0.0049
Cranes	2015	1001	9999	0.156078	0.1311	0.95679	2.29477	0.0049
Crawler Tractors	2015	26	50	2.990271	2.5127	8.07628	6.37736	0.0053
Crawler Tractors	2015	51	120	1.05262	0.8845	4.18907	7.4938	0.0049
Crawler Tractors	2015	121	175	0.751623	0.6316	3.47922	6.84937	0.0049
Crawler Tractors	2015	176	250	0.536796	0.4511	1.81586	6.14312	0.0049
Crawler Tractors	2015	251	500	0.485596	0.408	2.84505	5.48324	0.0049
Crawler Tractors	2015	501	750	0.41802	0.3513	1.66415	4.88301	0.0049
Crawler Tractors	2015	751	1000	0.570092	0.479	2.08783	7.46329	0.0049
Crushing/Proc. Equipment	2015	26	50	4.722	1.796	5.996	5.195	0.007
Crushing/Proc. Equipment	2015	51	120	3.959	0.797	3.859	5.04	0.006
Crushing/Proc. Equipment	2015	121	175	5.614	0.562	3.247	4.343	0.006
Crushing/Proc. Equipment	2015	176	250	5.585	0.382	1.201	3.801	0.006
Crushing/Proc. Equipment	2015	251	500	8	0.358	1.184	3.304	0.005
Crushing/Proc. Equipment	2015	501	750	12.614	0.358	1.176	3.422	0.005
Crushing/Proc. Equipment	2015	1001	9999	32.981	0.422	1.343	5.019	0.005
Dumpers/Tenders	2015	16	25	0.831	0.696	2.35	4.402	0.007
Excavators	2015	16	25	0.991068	0.8328	4.92488	4.91817	0.0054
Excavators	2015	26	50	0.991068	0.8328	4.92488	4.91817	0.0054
Excavators	2015	51	120	0.60346	0.5071	3.67943	5.01907	0.0048
Excavators	2015	121	175	0.456597	0.3837	3.16762	4.4807	0.0049
Excavators	2015	176	250	0.343545	0.2887	1.33148	4.18222	0.0049
Excavators	2015	251	500	0.276143	0.232	1.31662	3.21395	0.0049
Excavators	2015	501	750	0.28808	0.2421	1.35372	3.47287	0.0048
Forklifts	2015	26	50	2.466892	2.0729	7.29982	5.93143	0.0054
Forklifts	2015	51	120	0.914509	0.7684	4.06346	6.60091	0.0049

Forklifts	2015	121	175	0.673169	0.5656	3.51969	6.13482	0.0049
Forklifts	2015	176	250	0.672054	0.5647	2.32501	6.69668	0.0049
Forklifts	2015	251	500	0.539875	0.4536	3.29951	5.33227	0.0049
Generator Sets	2015	6	15	1.984	0.747	3.658	5.141	0.008
Generator Sets	2015	16	25	3.639	0.793	2.666	4.89	0.007
Generator Sets	2015	26	50	10.213	1.281	4.538	4.858	0.007
Generator Sets	2015	51	120	13.208	0.651	3.499	4.769	0.006
Generator Sets	2015	121	175	16.277	0.44	2.938	4.138	0.006
Generator Sets	2015	176	250	15.884	0.287	1.104	3.633	0.006
Generator Sets	2015	251	500	22.677	0.258	1.114	3.231	0.005
Generator Sets	2015	501	750	37.88	0.267	1.114	3.347	0.005
Generator Sets	2015	1001	9999	95.984	0.351	1.269	4.822	0.005
Graders	2015	26	50	3.711306	3.1185	9.14399	6.56967	0.005
Graders	2015	51	120	1.474627	1.2391	4.88439	9.73775	0.0048
Graders	2015	121	175	1.004333	0.8439	3.95849	8.63742	0.005
Graders	2015	176	250	0.471304	0.396	1.46577	5.72754	0.0049
Graders	2015	251	500	0.388063	0.3261	1.79107	3.72122	0.0049
Graders	2015	501	750	16.846	0.414	1.42	3.501	0.005
Off-Highway Tractors	2015	51	120	0.802587	0.6744	3.96474	6.06726	0.0049
Off-Highway Tractors	2015	121	175	0.478075	0.4017	3.26419	4.72365	0.0049
Off-Highway Tractors	2015	176	250	0.476529	0.4004	1.60534	5.52773	0.0049
Off-Highway Tractors	2015	501	750	0.312134	0.2623	1.17195	3.87437	0.0049
Off-Highway Tractors	2015	751	1000	0.114305	0.096	0.96003	2.29983	0.0049
Off-Highway Trucks	2015	121	175	0.604782	0.5082	3.48853	5.10449	0.0048
Off-Highway Trucks	2015	176	250	0.563373	0.4734	1.89994	5.24228	0.0048
Off-Highway Trucks	2015	251	500	0.457555	0.3845	2.0367	4.52794	0.0049
Off-Highway Trucks	2015	501	750	0.537539	0.4517	2.61969	5.12427	0.0049
Off-Highway Trucks	2015	751	1000	0.489174	0.411	1.77206	6.28012	0.0049
Other Construction Equipment	2015	6	15	1.557753	1.3089	5.68113	5.56397	0.0054
Other Construction Equipment	2015	16	25	1.557753	1.3089	5.68113	5.56397	0.0054
Other Construction Equipment	2015	26	50	1.557753	1.3089	5.68113	5.56397	0.0054
Other Construction Equipment	2015	51	120	0.860334	0.7229	3.9159	6.53649	0.0049

Other Construction Equipment	2015	121	175	0.66302	0.5571	3.38183	6.2305	0.0048
Other Construction Equipment	2015	251	500	0.386006	0.3244	2.40724	4.41519	0.0049
Other General Industrial Equipment	2015	6	15	1.779268	1.4951	6.32452	5.52435	0.0054
Other General Industrial Equipment	2015	16	25	1.779268	1.4951	6.32452	5.52435	0.0054
Other General Industrial Equipment	2015	26	50	1.779268	1.4951	6.32452	5.52435	0.0054
Other General Industrial Equipment	2015	51	120	0.905303	0.7607	4.0811	6.50163	0.0048
Other General Industrial Equipment	2015	121	175	0.589015	0.4949	3.45434	5.3974	0.0049
Other General Industrial Equipment	2015	176	250	0.538134	0.4522	1.9257	5.64293	0.0049
Other General Industrial Equipment	2015	251	500	0.420225	0.3531	2.43603	4.42481	0.0049
Other General Industrial Equipment	2015	501	750	0.298831	0.2511	1.49062	3.36512	0.0049
Other General Industrial Equipment	2015	751	1000	0.422901	0.3554	1.09391	6.44797	0.0049
Other Material Handling Equipment	2015	26	50	2.062891	1.7334	6.75642	5.7994	0.0054
Other Material Handling Equipment	2015	51	120	0.628094	0.5278	3.75787	4.98312	0.0049
Other Material Handling Equipment	2015	121	175	0.624881	0.5251	3.43301	5.6445	0.0049
Other Material Handling Equipment	2015	176	250	0.503855	0.4234	1.74236	5.5323	0.0049
Other Material Handling Equipment	2015	251	500	0.396328	0.333	1.91761	4.27243	0.0049
Other Material Handling Equipment	2015	1001	9999	0.1762	0.1481	0.98449	3.45753	0.0049
Pavers	2015	16	25	2.205076	1.8529	6.34019	5.63731	0.0054
Pavers	2015	26	50	2.205076	1.8529	6.34019	5.63731	0.0054
Pavers	2015	51	120	0.809163	0.6799	3.78832	6.14096	0.0048
Pavers	2015	121	175	0.582419	0.4894	3.11546	5.53669	0.0049
Pavers	2015	176	250	0.254974	0.2142	1.03121	4.16051	0.0049
Pavers	2015	251	500	0.209561	0.1761	0.97787	2.91741	0.0048
Paving Equipment	2015	16	25	1.166929	0.9805	4.86895	5.02757	0.0054
Paving Equipment	2015	26	50	1.166929	0.9805	4.86895	5.02757	0.0054
Paving Equipment	2015	51	120	0.786628	0.661	3.83329	6.14454	0.0049
Paving Equipment	2015	121	175	0.48887	0.4108	3.10403	4.96561	0.0049
Paving Equipment	2015	176	250	0.374849	0.315	1.37947	4.77176	0.0049
Plate Compactors	2015	6	15	0.79	0.661	3.469	4.142	0.008
Pressure Washers	2015	6	15	2.059	0.747	3.657	5.141	0.008
Pressure Washers	2015	16	25	3.196	0.793	2.666	4.89	0.007
Pressure Washers	2015	26	50	7.868	0.976	3.833	4.685	0.007

Pressure Washers	2015	51	120	7.703	0.567	3.336	4.551	0.006
Pressure Washers	2015	121	175	27.567	0.427	2.917	4.115	0.006
Pressure Washers	2015	176	250	9.864	0.121	0.986	0.69	0.006
Pumps	2015	6	15	1.831	0.84	3.658	5.196	0.008
Pumps	2015	16	25	5.112	0.894	2.666	4.89	0.007
Pumps	2015	26	50	13.946	1.384	4.775	4.916	0.007
Pumps	2015	51	120	15.537	0.679	3.554	4.842	0.006
Pumps	2015	121	175	18.983	0.461	2.983	4.202	0.006
Pumps	2015	176	250	17.881	0.302	1.122	3.693	0.006
Pumps	2015	251	500	27.722	0.273	1.134	3.272	0.005
Pumps	2015	501	750	47.213	0.281	1.134	3.389	0.005
Pumps	2015	1001	9999	144.304	0.363	1.293	4.878	0.005
Rollers	2015	6	15	1.559602	1.3105	5.29043	5.36547	0.0054
Rollers	2015	16	25	1.559602	1.3105	5.29043	5.36547	0.0054
Rollers	2015	26	50	1.559602	1.3105	5.29043	5.36547	0.0054
Rollers	2015	51	120	0.813228	0.6833	3.80891	6.27158	0.0049
Rollers	2015	121	175	0.433087	0.3639	3.00605	4.63035	0.0049
Rollers	2015	176	250	0.41293	0.347	1.65049	4.93191	0.0049
Rollers	2015	251	500	0.441373	0.3709	3.24549	5.03147	0.0049
Rough Terrain Forklifts	2015	26	50	1.414803	1.1888	4.93325	5.18984	0.0054
Rough Terrain Forklifts	2015	51	120	0.401892	0.3377	3.36619	4.28003	0.0049
Rough Terrain Forklifts	2015	121	175	0.25808	0.2169	2.85917	3.42042	0.0049
Rough Terrain Forklifts	2015	176	250	0.166466	0.1399	1.01164	2.4626	0.0049
Rough Terrain Forklifts	2015	251	500	0.207111	0.174	0.95822	3.52067	0.0048
Rubber Tired Dozers	2015	121	175	1.147937	0.9646	4.23794	9.84425	0.0049
Rubber Tired Dozers	2015	176	250	0.866859	0.7284	2.7204	7.9837	0.0049
Rubber Tired Dozers	2015	251	500	0.842228	0.7077	6.10151	7.99736	0.0049
Rubber Tired Dozers	2015	501	750	0.616719	0.5182	2.76062	7.15777	0.0049
Rubber Tired Dozers	2015	751	1000	9.895	0.661	2.901	6.556	0.005
Rubber Tired Loaders	2015	16	25	2.508512	2.1078	7.83443	6.11232	0.0054
Rubber Tired Loaders	2015	26	50	2.508512	2.1078	7.83443	6.11232	0.0054
Rubber Tired Loaders	2015	51	120	1.018295	0.8557	4.27362	7.01153	0.0048

Rubber Tired Loaders	2015	121	175	0.708161	0.5951	3.58815	6.09735	0.0049
Rubber Tired Loaders	2015	176	250	0.482642	0.4056	1.47986	5.36927	0.0048
Rubber Tired Loaders	2015	251	500	0.494223	0.4153	2.33208	5.0195	0.0048
Rubber Tired Loaders	2015	501	750	0.469822	0.3948	1.78908	4.55578	0.0047
Rubber Tired Loaders	2015	751	1000	0.499538	0.4198	1.46167	6.71262	0.0049
Scrapers	2015	51	120	0.869823	0.7309	4.13678	7.10509	0.005
Scrapers	2015	121	175	0.849601	0.7139	3.80865	7.76471	0.0049
Scrapers	2015	176	250	0.868271	0.7296	3.00753	8.66317	0.0048
Scrapers	2015	251	500	0.561967	0.4722	3.788	6.08577	0.0049
Scrapers	2015	501	750	0.427981	0.3596	2.68469	4.83862	0.0049
Signal Boards	2015	6	15	1.04	0.661	3.469	4.142	0.008
Signal Boards	2015	26	50	13.489	1.461	5.068	4.943	0.007
Signal Boards	2015	51	120	14.067	0.687	3.624	4.791	0.006
Signal Boards	2015	121	175	18.694	0.474	3.052	4.136	0.006
Signal Boards	2015	176	250	20.523	0.38	1.371	4.365	0.007
Skid Steer Loaders	2015	16	25	0.760751	0.6392	4.00436	4.43612	0.0054
Skid Steer Loaders	2015	26	50	0.760751	0.6392	4.00436	4.43612	0.0054
Skid Steer Loaders	2015	51	120	0.349713	0.2939	3.33751	3.8106	0.0049
Surfacing Equipment	2015	26	50	1.223408	1.028	4.69178	5.25471	0.0055
Surfacing Equipment	2015	51	120	0.651534	0.5475	3.57496	5.37414	0.0049
Surfacing Equipment	2015	121	175	0.568	0.4773	3.02727	5.73307	0.0049
Surfacing Equipment	2015	176	250	0.36864	0.3098	1.44156	5.11205	0.0049
Surfacing Equipment	2015	251	500	0.286581	0.2408	1.51303	3.90037	0.0048
Surfacing Equipment	2015	501	750	0.211433	0.1777	1.02353	3.28678	0.0049
Sweepers/Scrubbers	2015	6	15	2.151059	1.8075	6.75408	5.77191	0.0054
Sweepers/Scrubbers	2015	16	25	2.151059	1.8075	6.75408	5.77191	0.0054
Sweepers/Scrubbers	2015	26	50	2.151059	1.8075	6.75408	5.77191	0.0054
Sweepers/Scrubbers	2015	51	120	0.991855	0.8334	4.09682	6.8863	0.0049
Sweepers/Scrubbers	2015	121	175	0.998266	0.8388	3.98239	8.69682	0.0049
Sweepers/Scrubbers	2015	176	250	0.610252	0.5128	2.07774	6.7446	0.0048
Tractors/Loaders/Backhoes	2015	16	25	1.555682	1.3072	5.79091	5.32019	0.0053
Tractors/Loaders/Backhoes	2015	26	50	1.555682	1.3072	5.79091	5.32019	0.0053

Tractors/Loaders/Backhoes	2015	51	120	0.677539	0.5693	3.83198	5.4221	0.0049
Tractors/Loaders/Backhoes	2015	121	175	0.501434	0.4213	3.2559	4.83599	0.0048
Tractors/Loaders/Backhoes	2015	176	250	0.387795	0.3259	1.37366	4.7831	0.0049
Tractors/Loaders/Backhoes	2015	251	500	0.371246	0.3119	1.88403	4.34833	0.0049
Tractors/Loaders/Backhoes	2015	501	750	0.36596	0.3075	1.823	4.1848	0.0048
Trenchers	2015	6	15	1.498018	1.2588	5.32346	5.40567	0.0054
Trenchers	2015	16	25	1.498018	1.2588	5.32346	5.40567	0.0054
Trenchers	2015	26	50	1.498018	1.2588	5.32346	5.40567	0.0054
Trenchers	2015	51	120	0.972367	0.8171	4.01434	7.17857	0.0049
Trenchers	2015	121	175	0.829448	0.697	3.68389	7.67382	0.0048
Trenchers	2015	176	250	0.597101	0.5017	2.0797	6.50988	0.0049
Trenchers	2015	251	500	0.370644	0.3114	2.05093	4.38344	0.0048
Trenchers	2015	501	750	0.135272	0.1137	0.96532	1.62336	0.0049
Welders	2015	6	15	2.109	0.84	3.658	5.196	0.008
Welders	2015	16	25	4.078	0.894	2.666	4.89	0.007
Welders	2015	26	50	17.994	1.715	5.562	5.113	0.007
Welders	2015	51	120	12.337	0.772	3.738	5.077	0.006
Welders	2015	121	175	21.139	0.532	3.133	4.408	0.006
Welders	2015	176	250	16.976	0.352	1.178	3.88	0.006
Welders	2015	251	500	21.953	0.324	1.176	3.398	0.005

PM10	PM2.5	CO2	CH4
0.136	0.1251	568.8305	0.1698
0.136	0.1251	568.8305	0.1698
0.136	0.1251	568.8305	0.1698
0.1431	0.1316	511.457	0.1527
0.1023	0.0941	511.3924	0.1527
0.098	0.098	568.299	0.025
0.311	0.311	568.299	0.075
0.27	0.27	568.299	0.08
0.459	0.459	568.299	0.168
0.446	0.446	568.299	0.074
0.245	0.245	568.299	0.051
0.121	0.121	568.299	0.034
0.113	0.113	568.3	0.032
0.116	0.116	568.299	0.032
0.142	0.142	568.299	0.036
0.3792	0.3489	585.1707	0.1747
0.3792	0.3489	585.1707	0.1747
0.3792	0.3489	585.1707	0.1747
0.2393	0.2201	496.9494	0.1484
0.1756	0.1615	517.2068	0.1544
0.0996	0.0916	506.5047	0.1512
0.0959	0.0882	499.9023	0.1492
0.0807	0.0743	520.4733	0.1554
0.0585	0.0538	511.2533	0.1526
0.171	0.171	568.3	0.059
0.24	0.24	568.299	0.073
0.162	0.162	568.299	0.061
0.386	0.386	568.299	0.132
0.372	0.372	568.3	0.061

0.207	0.207	568.299	0.042
0.6005	0.5525	561.2236	0.1675
0.7467	0.6869	508.8366	0.1519
0.4501	0.4141	514.2598	0.1535
0.3479	0.3201	512.4484	0.153
0.2534	0.2331	511.1972	0.1526
0.1518	0.1397	510.3342	0.1524
0.0554	0.051	511.3924	0.1527
0.7408	0.6816	558.8878	0.1669
0.63	0.5796	516.8433	0.1543
0.3758	0.3457	511.3059	0.1526
0.2369	0.2179	512.8973	0.1531
0.2124	0.1954	515.3725	0.1539
0.1788	0.1645	512.5402	0.153
0.22	0.2024	514.83	0.1537
0.446	0.446	568.299	0.162
0.43	0.43	568.299	0.071
0.237	0.237	568.299	0.05
0.117	0.117	568.299	0.034
0.109	0.109	568.299	0.032
0.111	0.111	568.299	0.032
0.14	0.14	568.299	0.038
0.187	0.187	568.299	0.062
0.3747	0.3447	569.5116	0.17
0.3747	0.3447	569.5116	0.17
0.3735	0.3436	506.1727	0.1511
0.2212	0.2035	511.6869	0.1528
0.1331	0.1224	512.0555	0.1529
0.1042	0.0959	509.8675	0.1522
0.1129	0.1039	506.6816	0.1513
0.6428	0.5914	569.2736	0.17
0.5545	0.5101	510.8225	0.1525

0.3348	0.308	511.4484	0.1527
0.2978	0.274	512.7693	0.1531
0.2368	0.2178	513.083	0.1532
0.28	0.28	568.299	0.067
0.256	0.256	568.299	0.071
0.353	0.353	568.299	0.115
0.347	0.347	568.299	0.058
0.191	0.191	568.299	0.039
0.1	0.1	568.3	0.025
0.094	0.094	568.299	0.023
0.096	0.096	568.299	0.024
0.124	0.124	568.299	0.031
0.8737	0.8038	533.6812	0.1593
0.8131	0.7481	509.597	0.1521
0.4857	0.4468	522.2182	0.1559
0.1856	0.1708	517.1275	0.1544
0.1442	0.1327	512.0975	0.1529
0.124	0.124	568.299	0.037
0.4942	0.4547	515.3203	0.1538
0.2393	0.2201	512.6079	0.153
0.1989	0.183	509.1896	0.152
0.1262	0.1161	511.0814	0.1526
0.0558	0.0513	511.3924	0.1527
0.2844	0.2616	508.7011	0.1519
0.2267	0.2086	507.8087	0.1516
0.173	0.1591	515.8419	0.154
0.2085	0.1918	514.6436	0.1536
0.1846	0.1698	511.1369	0.1526
0.5034	0.4631	573.0198	0.1711
0.5034	0.4631	573.0198	0.1711
0.5034	0.4631	573.0198	0.1711
0.5118	0.4709	510.1706	0.1523

0.3264	0.3003	509.3069	0.152
0.1626	0.1496	515.1953	0.1538
0.5324	0.4898	570.0241	0.1702
0.5324	0.4898	570.0241	0.1702
0.5324	0.4898	570.0241	0.1702
0.5528	0.5086	509.1664	0.152
0.294	0.2704	511.171	0.1526
0.2295	0.2111	512.6584	0.153
0.1671	0.1537	512.3397	0.153
0.1092	0.1004	512.9191	0.1531
0.1714	0.1577	511.3924	0.1527
0.5863	0.5394	567.3512	0.1694
0.3827	0.352	513.0541	0.1532
0.306	0.2815	511.5709	0.1527
0.2071	0.1905	510.7722	0.1525
0.1655	0.1523	509.4887	0.1521
0.0682	0.0627	511.3924	0.1527
0.5791	0.5327	571.0859	0.1705
0.5791	0.5327	571.0859	0.1705
0.4794	0.441	509.3767	0.1521
0.2774	0.2552	511.6457	0.1527
0.1066	0.098	513.4682	0.1533
0.0968	0.0891	506.0973	0.1511
0.4067	0.3742	563.5534	0.1682
0.4067	0.3742	563.5534	0.1682
0.4707	0.4331	513.1672	0.1532
0.2423	0.2229	509.8942	0.1522
0.1587	0.146	511.6544	0.1528
0.161	0.161	568.299	0.059
0.28	0.28	568.299	0.067
0.256	0.256	568.299	0.071
0.3	0.3	568.299	0.088

0.297	0.297	568.299	0.051
0.187	0.187	568.299	0.038
0.01	0.01	568.299	0.01
0.311	0.311	568.299	0.075
0.27	0.27	568.299	0.08
0.371	0.371	568.3	0.124
0.364	0.364	568.3	0.061
0.2	0.2	568.299	0.041
0.104	0.104	568.299	0.027
0.097	0.097	568.299	0.024
0.099	0.099	568.299	0.025
0.127	0.127	568.299	0.032
0.4811	0.4427	569.9207	0.1701
0.4811	0.4427	569.9207	0.1701
0.4811	0.4427	569.9207	0.1701
0.4674	0.43	513.5052	0.1533
0.2155	0.1982	511.3935	0.1527
0.1708	0.1572	512.8234	0.1531
0.195	0.1794	517.2848	0.1544
0.4314	0.3969	569.4875	0.17
0.2474	0.2276	512.0859	0.1529
0.1326	0.122	510.8541	0.1525
0.0582	0.0535	512.1638	0.1529
0.0771	0.071	506.4349	0.1512
0.5643	0.5192	513.0549	0.1532
0.3939	0.3624	514.7359	0.1537
0.3731	0.3433	519.1472	0.155
0.2587	0.238	512.5253	0.153
0.222	0.222	568.299	0.059
0.6746	0.6206	567.672	0.1695
0.6746	0.6206	567.672	0.1695
0.6061	0.5576	505.0231	0.1508

0.3407	0.3134	510.4677	0.1524
0.1833	0.1686	508.9127	0.1519
0.1895	0.1744	506.3723	0.1512
0.1791	0.1648	495.31	0.1479
0.1967	0.181	510.0449	0.1523
0.5348	0.4921	524.5601	0.1566
0.415	0.3818	518.8294	0.1549
0.3952	0.3636	507.5699	0.1515
0.2458	0.2261	511.9471	0.1528
0.1818	0.1673	512.0837	0.1529
0.161	0.161	568.299	0.059
0.382	0.382	568.299	0.131
0.371	0.371	568.299	0.062
0.205	0.205	568.299	0.042
0.127	0.127	686.695	0.034
0.2674	0.246	571.4195	0.1706
0.2674	0.246	571.4195	0.1706
0.2202	0.2026	511.595	0.1527
0.4019	0.3698	576.7706	0.1722
0.378	0.3478	510.1417	0.1523
0.2756	0.2536	510.5481	0.1524
0.1506	0.1385	516.058	0.1541
0.1265	0.1164	508.3985	0.1518
0.104	0.0957	511.1157	0.1526
0.6111	0.5622	569.1058	0.1699
0.6111	0.5622	569.1058	0.1699
0.6111	0.5622	569.1058	0.1699
0.6103	0.5614	513.6254	0.1533
0.4792	0.4409	512.5489	0.153
0.2676	0.2462	509.3035	0.152
0.477	0.4389	558.7085	0.1668
0.477	0.4389	558.7085	0.1668

0.4244	0.3904	517.3652	0.1545
0.2443	0.2248	508.6819	0.1519
0.1554	0.1429	509.6269	0.1521
0.1491	0.1372	511.8685	0.1528
0.152	0.1399	506.1469	0.1511
0.4934	0.4539	571.6674	0.1707
0.4934	0.4539	571.6674	0.1707
0.4934	0.4539	571.6674	0.1707
0.5616	0.5167	515.3955	0.1539
0.3958	0.3642	506.9434	0.1513
0.26	0.2392	512.4325	0.153
0.1626	0.1496	508.3296	0.1518
0.0531	0.0489	514.4002	0.1536
0.311	0.311	568.299	0.075
0.27	0.27	568.299	0.08
0.43	0.43	568.3	0.154
0.419	0.419	568.299	0.069
0.23	0.23	568.299	0.048
0.116	0.116	568.299	0.031
0.108	0.108	568.299	0.029

EMFAC2014 (v1.0.7) Emission Rates

Region Type: Air District
Region: South Coast AQMD
Calendar Year: 2015
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HTSK and RUNLS, g/vehicle/day for IDLEX, RESTL and DIURN

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Population	VMT	Trips	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_HOTSO	ROG_RUNLO
South Coast AQMD	2015	All Other	Aggregated	Aggre	DSL	3455.79169	224390.476	0	0.14263704	0.1219136	0	0	0
South Coast AQMD	2015	LDA	Aggregated	Aggre	GAS	5785047.06	199305362	36367193.6	0.03595269	0	0.20751695	0.18538576	0.36697719
South Coast AQMD	2015	LDA	Aggregated	Aggre	DSL	36744.6005	1391190.39	222133.362	0.05197286	0	0	0	0
South Coast AQMD	2015	LDA	Aggregated	Aggre	ELEC	24945.3963	1196066.24	162099.416	0	0	0	0.00488399	0
South Coast AQMD	2015	LDT1	Aggregated	Aggre	GAS	539386.435	17799424.7	3262444.7	0.11090721	0	0.45813282	0.43606147	1.52851731
South Coast AQMD	2015	LDT1	Aggregated	Aggre	DSL	835.769292	22179.0232	4350.03411	0.21694945	0	0	0	0
South Coast AQMD	2015	LDT1	Aggregated	Aggre	ELEC	494.09913	15635.3402	3011.88505	0	0	0	0.00488399	0
South Coast AQMD	2015	LDT2	Aggregated	Aggre	GAS	1993222.18	73851064.2	12553732.1	0.04409841	0	0.24059552	0.17954375	0.57500827
South Coast AQMD	2015	LDT2	Aggregated	Aggre	DSL	1996.74225	91661.9221	12888.5598	0.0237636	0	0	0	0
South Coast AQMD	2015	LHD1	Aggregated	Aggre	GAS	158435.523	4973493.18	2360453.22	0.08897726	0.38078292	0.59005741	0.16892318	1.14669788
South Coast AQMD	2015	LHD1	Aggregated	Aggre	DSL	81588.8465	3016397.22	1026285.05	0.12504876	0.1097597	0	0	0
South Coast AQMD	2015	LHD2	Aggregated	Aggre	GAS	28011.0766	976807.86	417323.305	0.05665431	0.38967398	0.49284963	0.13398964	0.9383976
South Coast AQMD	2015	LHD2	Aggregated	Aggre	DSL	31314.5819	1245014.58	393898.047	0.10535616	0.1097597	0	0	0
South Coast AQMD	2015	MCY	Aggregated	Aggre	GAS	241010.846	1665377.55	481973.49	2.68416223	0	2.17574168	0.77951895	2.77194309
South Coast AQMD	2015	MDV	Aggregated	Aggre	GAS	1485183.39	50447503.5	9297140.73	0.07572478	0	0.4072914	0.1938889	0.59818016
South Coast AQMD	2015	MDV	Aggregated	Aggre	DSL	11493.0124	499940.996	73643.5438	0.02309351	0	0	0	0
South Coast AQMD	2015	MH	Aggregated	Aggre	GAS	43984.5752	354096.271	4400.2169	0.33374383	0	0.94638856	0.14432533	2.77614343
South Coast AQMD	2015	MH	Aggregated	Aggre	DSL	9972.34145	88265.3456	997.234145	0.09661338	0	0	0	0
South Coast AQMD	2015	Motor C	Aggregated	Aggre	DSL	883.130036	128089.728	0	0.26633595	4.3839272	0	0	0
South Coast AQMD	2015	OBUS	Aggregated	Aggre	GAS	7192.85446	348422.79	143914.632	0.09268494	0.62022073	0.60687273	0.02444562	0.23837465
South Coast AQMD	2015	PTO	Aggregated	Aggre	DSL	0	177848.693	0	0.82725446	0	0	0	0
South Coast AQMD	2015	SBUS	Aggregated	Aggre	GAS	1686.27327	66404.688	6745.09308	0.20015794	8.74078215	1.41917108	0.11343233	1.02933935
South Coast AQMD	2015	SBUS	Aggregated	Aggre	DSL	5065.95299	186211.926	0	0.22153065	0.4965031	0	0	0
South Coast AQMD	2015	T6 Ag	Aggregated	Aggre	DSL	478.079031	8754.41758	0	0.92508629	0.98313233	0	0	0
South Coast AQMD	2015	T6 CAIRF	Aggregated	Aggre	DSL	192.906934	11132.7243	0	0.1081033	0.08401844	0	0	0
South Coast AQMD	2015	T6 CAIRF	Aggregated	Aggre	DSL	543.856418	34174.7158	0	0.20791313	0.12662602	0	0	0
South Coast AQMD	2015	T6 instat	Aggregated	Aggre	DSL	3496.22476	195247.911	0	0.27813562	0.22174786	0	0	0
South Coast AQMD	2015	T6 instat	Aggregated	Aggre	DSL	8904.02717	520842.677	0	0.26410461	0.15201689	0	0	0
South Coast AQMD	2015	T6 instat	Aggregated	Aggre	DSL	25396.5473	1431588.55	0	0.14569624	0.11290257	0	0	0
South Coast AQMD	2015	T6 instat	Aggregated	Aggre	DSL	63473.9435	3701559.28	0	0.28525542	0.16038265	0	0	0
South Coast AQMD	2015	T6 OOS I	Aggregated	Aggre	DSL	111.461344	6378.63261	0	0.06418029	0.04674629	0	0	0
South Coast AQMD	2015	T6 OOS s	Aggregated	Aggre	DSL	311.609289	19580.8278	0	0.20791313	0.12662602	0	0	0
South Coast AQMD	2015	T6 Public	Aggregated	Aggre	DSL	6195.47644	97598.2049	0	0.06169201	0.08872479	0	0	0

EMFAC2014 (v1.0.7) Emission Rates

Region Type: Air District
Region: South Coast AQMD
Calendar Year: 2015
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HTSK and RUNLS, g/vehicle/day for IDLEX, RESTL and DIURN

South Coast AQMD	2015	T6 utility	Aggregated	Aggre DSL	1358.32563	26331.1715	0	0.04004637	0.03484086	0	0	0
South Coast AQMD	2015	T6TS	Aggregated	Aggre GAS	20153.1309	988789.757	403223.842	0.21045687	0.80486246	1.30535546	0.15142553	0.67799241
South Coast AQMD	2015	T7 Ag	Aggregated	Aggre DSL	392.868541	6532.9138	0	1.52760731	5.2404928	0	0	0
South Coast AQMD	2015	T7 CAIRF	Aggregated	Aggre DSL	8410.25369	1796800.19	0	0.20989583	6.81357087	0	0	0
South Coast AQMD	2015	T7 CAIRF	Aggregated	Aggre DSL	627.759581	138507.38	0	0.30604505	8.26416086	0	0	0
South Coast AQMD	2015	T7 NNOC	Aggregated	Aggre DSL	9202.61344	2228034.47	0	0.09419022	4.46429052	0	0	0
South Coast AQMD	2015	T7 NOOS	Aggregated	Aggre DSL	3330.07865	709735.544	0	0.15660579	6.93989959	0	0	0
South Coast AQMD	2015	T7 POLA	Aggregated	Aggre DSL	12744.6672	1694947.32	0	0.24653972	2.25193991	0	0	0
South Coast AQMD	2015	T7 Public	Aggregated	Aggre DSL	7104.53846	162779.75	0	0.10710047	2.32648447	0	0	0
South Coast AQMD	2015	T7 Single	Aggregated	Aggre DSL	11745.197	895681.567	0	0.35502533	2.21386364	0	0	0
South Coast AQMD	2015	T7 single	Aggregated	Aggre DSL	4714.37819	358300.368	0	0.32566832	1.87068823	0	0	0
South Coast AQMD	2015	T7 SWCV	Aggregated	Aggre DSL	6464.34754	297694.363	0	0.26571621	1.47148406	0	0	0
South Coast AQMD	2015	T7 tractc	Aggregated	Aggre DSL	14108.3188	2143541.99	0	0.30006731	1.45268403	0	0	0
South Coast AQMD	2015	T7 tractc	Aggregated	Aggre DSL	3567.03131	267139.407	0	0.46092685	1.76581392	0	0	0
South Coast AQMD	2015	T7 utility	Aggregated	Aggre DSL	593.699076	13586.3468	0	0.07383669	1.38230111	0	0	0
South Coast AQMD	2015	T7IS	Aggregated	Aggre GAS	802.983097	90211.2381	16066.0858	0.88137699	0	3.22289085	0.26941884	1.0459181
South Coast AQMD	2015	UBUS	Aggregated	Aggre GAS	1998.10325	237898.61	7992.41301	1.2857612	0	3.19281619	0.39344038	2.7261576
South Coast AQMD	2015	UBUS	Aggregated	Aggre DSL	5830.93573	690920.601	23323.7429	1.24645202	0	0	0	0

ROG_RESTLO	ROG_DIURN	TOG_RUNEX	TOG_IDLEX	TOG_STREX	TOG_HOTSO/	TOG_RUNLO!	TOG_RESTLO	TOG_DIURN	CO_RUNEX	CO_IDLEX	CO_STREX	NOx_RUNEX
0	0	0.16238141	0.13878936	0	0	0	0	0	0.42875398	0.88906083	0	4.52420398
0.40542812	0.51477057	0.04853344	0	0.22704327	0.18538576	0.36697719	0.40542812	0.51477057	1.24806931	0	2.5764082	0.11019108
0	0	0.05916765	0	0	0	0	0	0	0.40078761	0	0	0.26426643
0.00843567	0.02438172	0	0	0	0.00488399	0	0.00843567	0.02438172	0	0	0	0
0.94890304	1.32066096	0.14608848	0	0.50114667	0.43606147	1.52851731	0.94890304	1.32066096	3.38134255	0	5.87315487	0.31742109
0	0	0.24698252	0	0	0	0	0	0	1.20344214	0	0	1.21466533
0.00781207	0.02311002	0	0	0	0.00488399	0	0.00781207	0.02311002	0	0	0	0
0.4220545	0.50218228	0.06052444	0	0.26330495	0.17954375	0.57500827	0.4220545	0.50218228	1.64106471	0	3.24563839	0.19258894
0	0	0.02705328	0	0	0	0	0	0	0.17636301	0	0	0.08643152
0.04474245	0.08563	0.12699425	0.55488042	0.64577407	0.16892318	1.14669788	0.04474245	0.08563	2.20489914	3.18575687	6.10663164	0.47316555
0	0	0.1423597	0.12495413	0	0	0	0	0	0.78416628	0.90974508	0	4.41540978
0.03464277	0.06639581	0.08183648	0.56837137	0.5395244	0.13398964	0.9383976	0.03464277	0.06639581	1.42547104	3.23784428	5.15824054	0.37618327
0	0	0.11994098	0.12495413	0	0	0	0	0	0.63556848	0.90974508	0	3.47172803
1.4730858	2.4302315	3.22919243	0	2.36550703	0.77951895	2.77194309	1.4730858	2.4302315	22.3022547	0	9.49448693	1.14733072
0.48488229	0.54424561	0.10336879	0	0.44573759	0.1938889	0.59818016	0.48488229	0.54424561	2.46241249	0	4.83184615	0.30906273
0	0	0.02629043	0	0	0	0	0	0	0.26809311	0	0	0.08840157
0.08317509	0.22235099	0.42772338	0	1.03219075	0.14432533	2.77614343	0.08317509	0.22235099	10.0574559	0	13.2628596	1.00645698
0	0	0.10998791	0	0	0	0	0	0	0.45073726	0	0	5.72300416
0	0	0.30320321	4.99076741	0	0	0	0	0	0.89926227	19.5657013	0	8.2630059
0.01956683	0.04257734	0.13285355	0.90294223	0.66377088	0.02444562	0.23837465	0.01956683	0.04257734	2.45421251	5.08640799	9.3291473	0.63481592
0	0	0.94176623	0	0	0	0	0	0	2.83994462	0	0	11.9200033
0.02397066	0.06228052	0.29206999	12.7545288	1.55381369	0.11343233	1.02933935	0.02397066	0.06228052	4.78072968	71.8653771	26.2492349	0.94791135
0	0	0.25219579	0.56523099	0	0	0	0	0	0.56807269	3.66873167	0	9.62086136
0	0	1.05314032	1.11922132	0	0	0	0	0	2.57179078	5.25249416	0	11.9275409
0	0	0.12306738	0.09564859	0	0	0	0	0	0.35074533	0.71509444	0	3.15904133
0	0	0.23669327	0.14415408	0	0	0	0	0	0.68621062	1.32627848	0	3.78459844
0	0	0.31663624	0.25244306	0	0	0	0	0	0.84403804	1.85556568	0	6.65957912
0	0	0.30066299	0.17305966	0	0	0	0	0	0.8391537	1.56432815	0	4.68699684
0	0	0.16586408	0.12853098	0	0	0	0	0	0.44892055	0.93348539	0	3.89367465
0	0	0.32474159	0.18258344	0	0	0	0	0	0.9052439	1.66762272	0	4.90861538
0	0	0.07306437	0.0532171	0	0	0	0	0	0.21735587	0.3956506	0	2.80561268
0	0	0.23669327	0.14415408	0	0	0	0	0	0.68621062	1.32627848	0	3.78459844
0	0	0.07023165	0.10100641	0	0	0	0	0	0.1863416	0.55938707	0	7.34216777

0	0	0.04558974	0.03966367	0	0	0	0	0	0.14206792	0.29326348	0	2.25166112
0.0434891	0.0805341	0.29677562	1.1647106	1.42672674	0.15142553	0.67799241	0.0434891	0.0805341	5.60380634	12.2866251	19.7717141	1.20436073
0	0	1.73906464	5.96590214	0	0	0	0	0	6.22083237	14.9777191	0	18.9346205
0	0	0.23895042	7.75673178	0	0	0	0	0	0.79244232	21.788511	0	5.93525433
0	0	0.348409	9.40811806	0	0	0	0	0	1.09650995	24.0080255	0	8.196748
0	0	0.1072284	5.08225492	0	0	0	0	0	0.42301296	16.0391598	0	3.36252503
0	0	0.17828377	7.90054741	0	0	0	0	0	0.59977156	24.4170122	0	5.54758708
0	0	0.28066671	2.56366217	0	0	0	0	0	0.78178456	9.06210724	0	6.90578456
0	0	0.12192574	2.64852548	0	0	0	0	0	0.44968512	8.08319	0	12.649576
0	0	0.40416931	2.52031523	0	0	0	0	0	1.35218521	8.13374899	0	9.2216265
0	0	0.37074859	2.12963615	0	0	0	0	0	1.20296299	7.48457344	0	9.0410866
0	0	2.97708176	2.37512964	0	0	0	0	0	5.39426096	9.52036719	0	13.6650403
0	0	0.34160379	1.65377019	0	0	0	0	0	1.07898898	5.78173026	0	7.68360291
0	0	0.52473014	2.01024473	0	0	0	0	0	1.69172227	7.18073665	0	9.91832371
0	0	0.08405745	1.57364459	0	0	0	0	0	0.28797703	5.81292132	0	4.50228627
0.05703054	0.09463613	1.22421583	0	3.51575814	0.26941884	1.0459181	0.05703054	0.09463613	38.9972294	0	70.7157445	4.24082662
0.04775112	0.09291248	1.82305686	0	3.49378849	0.39344038	2.7261576	0.04775112	0.09291248	14.4653727	0	44.4079767	2.49314283
0	0	5.76796356	0	0	0	0	0	0	15.8566502	0	0	19.6773133

NOx_IDLEX	NOx_STREX	CO2_RUNEX	CO2_IDLEX	CO2_STREX	PM10_RUNE	PM10_IDLEX	PM10_STREX	PM10_PMTV	PM10_PMBV	PM2_5_RUN	PM2_5_IDLE	PM2_5_STRE
7.18590319	0	1185.05843	714.193999	0	0.05716335	0.03119748	0	0.012	0.13034004	0.05469048	0.02984789	0
0	0.18555879	338.485351	0	70.3532656	0.00207033	0	0.00265579	0.008	0.03675001	0.00190789	0	0.00244919
0	0	316.06474	0	0	0.03436066	0	0	0.008	0.03675001	0.03287423	0	0
0	0	0	0	0	0	0	0	0.008	0.03675001	0	0	0
0	0.34851809	391.381235	0	81.034679	0.00484085	0	0.00531876	0.008	0.03675001	0.00446842	0	0.00491069
0	0	412.159762	0	0	0.16302967	0	0	0.008	0.03675001	0.15597708	0	0
0	0	0	0	0	0	0	0	0.008	0.03675001	0	0	0
0	0.32535622	454.741347	0	94.4780728	0.00204103	0	0.00246966	0.008	0.03675001	0.00188086	0	0.00227597
0	0	396.57311	0	0	0.00869917	0	0	0.008	0.03675001	0.00832284	0	0
0.03200667	1.84968353	749.737306	116.346899	56.8918465	0.00177273	0	0.00230522	0.008	0.07644002	0.00163278	0	0.00212818
2.59609421	0	512.964915	141.543646	0	0.028524	0.02872813	0	0.012	0.07644002	0.02729006	0.02748536	0
0.03284822	1.74143882	821.745975	135.318863	66.6612911	0.00133462	0	0.00168668	0.008	0.08918003	0.00122796	0	0.00155357
2.59609421	0	563.779543	226.037572	0	0.02462903	0.02866469	0	0.012	0.08918003	0.02356359	0.02742467	0
0	0.30884426	176.427147	0	48.6884559	0.00175254	0	0.00471873	0.004	0.01176	0.00165291	0	0.00448221
0	0.48828024	590.646638	0	122.063503	0.00218824	0	0.00283169	0.008	0.03675001	0.00201838	0	0.0026109
0	0	520.69039	0	0	0.01170599	0	0	0.008	0.03675001	0.01119959	0	0
0	1.36769302	1166.0574	0	93.8392981	0.00341573	0	0.00439025	0.012	0.13034004	0.00318001	0	0.00412636
0	0	997.984885	0	0	0.16355789	0	0	0.016	0.13034004	0.15648245	0	0
127.904142	0	1746.01088	11924.6986	0	0.08609705	0.38516283	0	0.012	0.13034004	0.08237253	0.36850085	0
0.05236307	1.48224606	1177.643	375.254523	79.390778	0.00071636	0	0.00118894	0.012	0.13034004	0.00066026	0	0.00110846
0	0	2217.6255	0	0	0.27065867	0	0	0	0	0.25895009	0	0
0.74137107	1.94556874	676.268512	2514.93547	127.474118	0.0018791	0	0.00221057	0.008	0.74480021	0.00172776	0	0.00203254
52.9172648	0	1317.15821	3731.53554	0	0.09684241	0.14887585	0	0.012	0.74480021	0.09265305	0.14243554	0
9.94671922	0	1108.89639	621.32608	0	0.60156885	0.31605182	0	0.012	0.13034004	0.57554524	0.30237955	0
6.13511215	0	1133.64835	707.51002	0	0.05356602	0.02103082	0	0.012	0.13034004	0.05124877	0.02012103	0
7.63503659	0	1148.3861	705.78329	0	0.15509241	0.04167856	0	0.012	0.13034004	0.14838318	0.03987556	0
9.64754303	0	1147.44275	696.363237	0	0.15924996	0.07355289	0	0.012	0.13034004	0.15236088	0.07037102	0
8.4140882	0	1157.84542	708.735599	0	0.17446878	0.05059369	0	0.012	0.13034004	0.16692134	0.04840503	0
7.13132273	0	1146.90407	713.272469	0	0.06628791	0.02969983	0	0.012	0.13034004	0.06342032	0.02841503	0
8.90429482	0	1157.46914	708.520692	0	0.19227247	0.05475323	0	0.012	0.13034004	0.18395485	0.05238463	0
5.64973444	0	1138.10185	709.896695	0	0.02130945	0.00731235	0	0.012	0.13034004	0.02038761	0.00699602	0
7.63503659	0	1148.3861	705.78329	0	0.15509241	0.04167856	0	0.012	0.13034004	0.14838318	0.03987556	0
9.03717108	0	1166.94999	673.333278	0	0.03894158	0.02632137	0	0.012	0.13034004	0.03725698	0.02518272	0

5.06473904	0	1188.85801	711.004612	0	0.0099153	0.00238238	0	0.012	0.13034004	0.00948637	0.00227932	0
0.06898224	2.55255074	1181.53713	536.253599	125.577621	0.00146954	0	0.00364161	0.012	0.13034004	0.00135804	0	0.0034017
24.2736734	0	1705.33919	1932.22355	0	0.99129804	0.95576052	0	0.03600001	0.06174002	0.94841493	0.91441475	0
149.981872	0	1618.3527	25892.4275	0	0.07569674	0.55798404	0	0.03600001	0.06174002	0.07242213	0.5338459	0
156.106224	0	1697.13988	22468.5848	0	0.13323423	0.92330413	0	0.03600001	0.06174002	0.12747058	0.88336241	0
124.925543	0	1557.20433	32526.3142	0	0.02051116	0.14193412	0	0.03600001	0.06174002	0.01962385	0.13579411	0
187.511679	0	1617.50222	33151.6083	0	0.04258377	0.34904736	0	0.03600001	0.06174002	0.04074162	0.33394773	0
65.2672307	0	1790.00901	9694.02058	0	0.03135937	0.01410161	0	0.03600001	0.06174002	0.03000278	0.01349158	0
95.9284372	0	1758.4399	8082.52944	0	0.07298464	0.34064074	0	0.03600001	0.06174002	0.06982735	0.32590477	0
30.8882377	0	1695.07833	3045.5662	0	0.19051332	0.31381045	0	0.03600001	0.06174002	0.1822718	0.30023515	0
30.4539334	0	1683.01191	3156.12384	0	0.15822672	0.24272788	0	0.03600001	0.06174002	0.15138191	0.23222758	0
89.7495692	0	4264.41208	8115.95785	0	0.01487395	0.28813313	0	0.03600001	0.06174002	0.01423051	0.27566862	0
35.9702945	0	1648.78339	4467.22711	0	0.10548058	0.10827647	0	0.03600001	0.06174002	0.10091754	0.10359248	0
31.7790077	0	1690.37779	3201.21608	0	0.22232737	0.22152021	0	0.03600001	0.06174002	0.21270959	0.21193734	0
60.5179458	0	1692.92429	8183.36288	0	0.01661678	0.04144793	0	0.03600001	0.06174002	0.01589794	0.03965491	0
0	4.94782026	1834.05245	0	194.621041	0.00130094	0	0.00744788	0.02000001	0.06174002	0.00121366	0	0.00705014
0	5.30233753	1718.40687	0	317.631553	0.00380777	0	0.00404867	0.012	0.13034004	0.00352874	0	0.00375063
0	0	2227.65089	0	0	0.27408048	0	0	0.012	0.84182024	0.26222388	0	0

PM2_5_PMT	PM2_5_PMB	SOx_RUNEX	SOx_IDLEX	SOx_STREX
0.003	0.05586002	0.01130601	0.00681374	0
0.002	0.01575	0.00339968	0	0.00074955
0.002	0.01575	0.00301735	0	0
0.002	0.01575	0	0	0
0.002	0.01575	0.003964	0	0.00091619
0.002	0.01575	0.00393473	0	0
0.002	0.01575	0	0	0
0.002	0.01575	0.00456663	0	0.00100195
0.002	0.01575	0.00378593	0	0
0.002	0.03276001	0.007522	0.00122755	0.00068325
0.003	0.03276001	0.00489708	0.00135126	0
0.002	0.03822001	0.00822723	0.00141813	0.00076267
0.003	0.03822001	0.00538219	0.00215789	0
0.001	0.00504	0.00220591	0	0.0007064
0.002	0.01575	0.00593735	0	0.00130772
0.002	0.01575	0.00497083	0	0
0.003	0.05586002	0.01180962	0	0.00117596
0.004	0.05586002	0.00952738	0	0
0.003	0.05586002	0.01665776	0.1137672	0
0.003	0.05586002	0.01179734	0.00385189	0.00095892
0	0	0.02115718	0	0
0.002	0.31920009	0.00683388	0.02660374	0.00173129
0.003	0.31920009	0.01256631	0.03560059	0
0.003	0.05586002	0.01057939	0.00592774	0
0.003	0.05586002	0.01081554	0.00674998	0
0.003	0.05586002	0.01095614	0.0067335	0
0.003	0.05586002	0.01094714	0.00664363	0
0.003	0.05586002	0.01104639	0.00676167	0
0.003	0.05586002	0.010942	0.00680495	0
0.003	0.05586002	0.0110428	0.00675962	0
0.003	0.05586002	0.01085802	0.00677275	0
0.003	0.05586002	0.01095614	0.0067335	0
0.003	0.05586002	0.01113325	0.00642391	0

0.003	0.05586002	0.01134226	0.00678332	0
0.003	0.05586002	0.01189041	0.00557955	0.00160686
0.009	0.02646001	0.01626973	0.01843432	0
0.009	0.02646001	0.01543984	0.24702586	0
0.009	0.02646001	0.01619151	0.2143608	0
0.009	0.02646001	0.01485646	0.31031624	0
0.009	0.02646001	0.01543173	0.31628184	0
0.009	0.02646001	0.01707752	0.09248549	0
0.009	0.02646001	0.01677634	0.07711111	0
0.009	0.02646001	0.01617184	0.02905613	0
0.009	0.02646001	0.01605672	0.0301109	0
0.009	0.02646001	0.02614458	0.04410811	0
0.009	0.02646001	0.01573016	0.04261943	0
0.009	0.02646001	0.01612699	0.0305411	0
0.009	0.02646001	0.01615129	0.07807311	0
0.005	0.02646001	0.01895463	0	0.00315832
0.003	0.05586002	0.01743299	0	0.00397305
0.003	0.3607801	0.00910361	0	0