LAX MASTER PLAN

COMMUNITY BENEFITS AGREEMENT (CBA)

2018 ANNUAL PROGRESS REPORT

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Los Angeles World Airports

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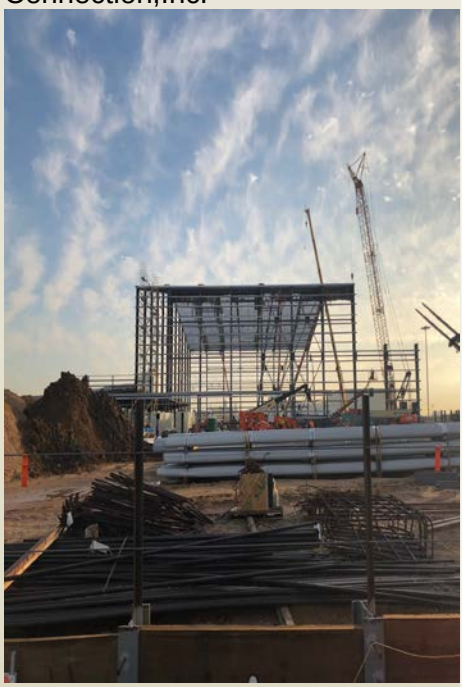

West Aircraft Maintenance Area Construction – 2018

Disclaimer: LAWA obtained data from a variety of sources to generate this report. The reporting team did not have access to each individual primary document and thus was not able to verify all data sets fully against the source documents. Due to these limitations, it is possible that certain numbers may not be accurate.

LAX Master Plan CBA 2018 Annual Progress Report

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1.0 Executive Summary

On December 6, 2004, the Los Angeles World Airports' Board of Airport Commissioners (BOAC) approved an agreement with the LAX Coalition for Economic, Environmental and Educational Justice (Coalition). The agreement will expire upon the conclusion of the LAX Master Plan Program or, no later than December 31, 2020.

The Cooperation Agreement and the Community Benefits Agreement included therein call for measures to mitigate noise, pollutant emissions, and traffic impacts of the Master Plan, as well as benefits such as job training and hiring programs for eligible residents of the Project Impact Area (PIA)[1] and the City of Los Angeles. The agreement precludes Los Angeles World Airports (LAWA) from making expenditures or taking actions prohibited by the Federal Aviation Administration (FAA) or any other regulatory authority. The Cooperation Agreement also prohibits the use of Los Angeles City's General Fund or any other City-controlled non-airport source of funds to meet any of LAWA's obligations under the Agreement.

Section XVI "Miscellaneous" of the Community Benefits Agreement (CBA) requires LAWA to prepare annual reports on the implementation of the CBA and the progress of the LAX Master Plan Program. LAWA is to provide the annual reports to Coalition representatives and make them available for at least one month on the LAWA website. This document is the fourteenth annual report on the progress of the CBA. This document has been provided to Coalition representatives and is available on the LAWA website at https://www.lawa.org/en/lawa-our-lax/studies-and-reports.

2.0 Introduction/Background

The "Community Benefits Agreement" is comprised of several documents:

1. **Cooperation Agreement.** The Cooperation Agreement sets out the legal framework of the Agreement, including conditions, commitments, obligations, enforcement, and more.

2. **Community Benefits Agreement.** The CBA is an attachment to the Cooperation Agreement that details the various proposals of mitigations and benefits. The various proposals include:

   Noise Mitigation

   - Increased Funding for Airport Noise Mitigation Program
   - End-of-Block Soundproofing
   - Suspension of Avigation Easement
   - Limitations on Nighttime Departures

[1] *Project Impact Area or PIA includes the communities immediately surrounding the airport and those most impacted by airport operations, and is comprised of South Los Angeles, El Segundo, Hawthorne, Inglewood, and Lennox.*

Economic Development Benefits

- Job Training Program
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Settlement Agreement with Inglewood Unified School District. The "Settlement Agreement Los Angeles International Airport Master Plan" with Inglewood Unified School District ("IUSD Settlement Agreement") calls for LAWA to (a) fund certain mitigation measures for the Inglewood Unified School District for noise abatement, (b) assist the Inglewood Unified School District in the coordination and dissemination of appropriate information related to emergency preparedness and response of local law

enforcement agencies, emergency response groups, and the local communities in the event of an airport-related emergency, and (c) work collaboratively with the Inglewood Unified School District to support a variety of community programs, such as job training and academic programs.

Settlement Agreement with Lennox School District. The "Settlement Agreement Los Angeles International Airport Master Plan" with Lennox School District ("Lennox Settlement Agreement") calls for LAWA to (a) fund certain mitigation measures for the Lennox School District for noise abatement, (b) assist the Lennox School District in the coordination and dissemination of appropriate information related to emergency preparedness and response of local law enforcement agencies, emergency response groups and the local communities in the event of an airport-related emergency, and (c) work collaboratively with the Lennox School District to support a variety of community programs, such as job training and academic programs.

As described in the Cooperation Agreement and the CBA, LAWA's obligations are conditioned upon FAA approval of these expenditures and use of airport revenues for these specific purposes. Under no circumstance will any of LAWA's obligations under these Agreements require any expenditure from the City's General Fund or any other City-controlled source of funds. The CBA and the IUSD and Lennox School Settlement Agreements will expire upon the conclusion of the LAX Master Plan Program or, no later than December 31, 2020.

The primary purpose of this report is to document and report on the status of current and recently completed commitments set forth in the CBA. This report covers the period January 1, 2018 through December 31, 2018.

3.0 Community Benefits Agreement Progress Update

Section III. Residential Noise Mitigation

Section III.A Funding of Aircraft Noise Mitigation Program (ANMP)

Beginning in fiscal year 2004-2005, LAWA shall fund its Aircraft Noise Mitigation Program (ANMP) at least at the following levels:

- $4.275 million per year for the Inglewood component; and
- $4.275 million per year for the County of Los Angeles component

These funding levels shall be met by LAWA. LAWA shall use additional revenue, including Airport Improvement Program funds, as appropriate. LAWA expenditure of funds under this Section III.A is contingent on the City of Inglewood and the County of Los Angeles complying with all requirements established in BOAC Resolution Nos. 21481 and 21360, and with FAA regulations.

Status → Implemented; continuing to monitor and report:
In late 2018, the FAA awarded $20M in Airport Improvement Program (AIP) grant funds to the City of Inglewood and $10M in AIP grant funds to the County of Los Angeles for the sound insulation of residential dwellings. The City of Inglewood continued to move forward with design and construction for their sound insulation projects using existing LAWA funds, and submitted a request at the end of 2018 to LAWA requesting matching funds for a new AIP grant. The request included an incomplete Grant Implementation Plan that was not revised and resubmitted in 2018; therefore, additional funding will be provided in 2019. LAWA did not provide a new grant to the County of Los Angeles in 2018 as they still had sufficient LAWA funds to match the new FAA AIP grant.

Section III.B Acceleration of Noise-Mitigation Programs for City[2]

Completed. See Appendix A.

Section III.C Acceleration of Noise-Mitigation of Places of Worship

LAWA shall accelerate the program of soundproofing Places of Worship as part of the ANMP in effect as of the effective date of this Agreement. Within eight months of the effective date of this Agreement, LAWA shall conduct a needs assessment for this program, in consultation with the Coalition Representative. LAWA shall provide annual reports on the progress of the program.

Status → No Change
No discussions on this measure occurred in 2018 between LAWA and the Coalition.

[2] "City" refers to the City of Los Angeles.

Section III.D End of Block Soundproofing

Completed. See Appendix A.

Section III.E Suspension of Avigation Easement

Completed. See Appendix A.

Section III.F Compatibility with Local Building Codes

Completed. See Appendix A.

Section III.G Limitations on Nighttime Departures

Completed. See Appendix A.

Section IV. Job Training

Completed. See Appendix A.

Section V. First Source Hiring Program

First Source Hiring Program for Airport Jobs. The First Source Hiring Program shall provide early access to targeted applicants for available Airport Jobs, and employers will receive prompt, cost-free referrals of qualified and trained applicants. Except where City's Worker Retention Policy requires retention of particular workers, LAWA shall require participation in the First Source Hiring Program with regard to all Airport Jobs by any:

- New Airport Contractor, Airport Lessee, and/or Airport Licensee resulting from the approved LAX Master Plan Program;
- Airport Contractor that enters into or receives a new, amended, or renewed Airport Contract, or receives a voluntary extension of an existing Airport Contract;
- Airport Lessee that enters into or receives a new, amended, or renewed lease of any property owned by LAWA, or receives a voluntary extension of an existing lease; and
- Airport Licensee that agrees, receives, or is subject to a new, amended, extended, or revised licensing or permitting agreement or set of requirements.

As of July 1, 2005, LAWA shall ensure that the First Source Hiring Program, attached as Exhibit C, is a material term of all Airport Contracts, lease agreements, and licensing or permitting agreements or sets of requirements that are new, extended, amended, renewed, or revised. Under these Airport Contracts, agreements, or requirements, employer participation in the First Source Hiring Program shall commence on the effective date of the Airport Contract agreement, or requirement in question, or on July 1, 2005, whichever is later.

Status → Implemented; continuing to monitor and report:

The First Source Hiring Program (FSHP) provides residents from the Project Impact Area early access to available airport job opportunities.

FSHP works closely with local Community Organizations such as Work Source Centers, One-Stop Centers, and faith-based organizations to promote airport jobs for LAX employers. FSHP provides training to these organizations on how to apply for jobs at LAX and what is needed to obtain a job with LAX employers. FSHP also promotes jobs through its website platform at www.jobsatlax.org and social media, and currently has approximately 4,566 followers on Facebook. In 2018, LAWA representatives attended 33 job-related/community events.

During 2018, FSHP activity was as follows:

	2018
Job Openings	*5,508*
Registered Job Seekers	*21,173*
Website Visits	*297,382*
LAX Employers	*189*
Community Partners	*123*

For more information on the FSHP, please email the Business, Jobs and Social Responsibility Division (BJSR) at businessandjobs@lawa.org. You may also visit the Jobs@LAX website at www.jobsatlax.org.

Section VI. Living Wage, Worker Retention, and Contractor Responsibility

LAWA shall apply to all Airport Contractors, Airport Lessees, and Airport Licensees the City's Living Wage Ordinance, as set forth in Los Angeles Administrative Code Section 10.37; the City Worker Retention Policy, as set forth in Los Angeles Administrative Code Section 10.36; and the Contractor Responsibility Program set forth in BOAC Resolution No. 21601, in accordance with City policy.

Status → Implemented; continuing to monitor and report:
These provisions apply to LAWA contracts. Effective July 1, 2018, the Living Wage Ordinance (LWO) cash wage increased to $13.75 and the health benefits increased to $5.24. If an airport employer provides benefits of less than $5.24 per hour, the differential must be added to the base hourly rate (total $18.99). Contractors must provide at least 12 compensated days off per year for sick leave, vacation or personal necessity, and at least 10 days of uncompensated time. The LWO is applicable to airport contractors, public lessees/licensees, City financial assistance recipients, and their subcontractors.

Section VII. Air Quality Study

Completed. See Appendix A.

Section VIII. Health Study

Health Study. LAWA shall fund a study to measure and investigate upper respiratory system and hearing loss impacts of LAX operations due to the LAX Master Plan Program. LAWA, in consultation with the Coalition Representative, shall develop a scope of work and objectives for the Health study.

Status → Substitute Program Approved:
In 2015, the FAA notified LAWA that airport revenue may not be used to provide funding for CBA Section VIII. Health Study. Section V.A.5. of the Cooperation Agreement requires LAWA to develop substitute programs or activities designed to achieve equivalent levels of mitigation and/or benefit through an equivalent expenditure of airport revenue.

In lieu of LAWA conducting the CBA Health Study, LAWA developed an incentive program in 2018 to accelerate the deployment of zero emission (ZE) or near-zero emission (NZE) vehicles at LAX. The Board of Airport Commissioners (BOAC) approved the incentive program on December 6, 2018 to assist LAX operators of heavy-duty vehicles to meet the requirements of the LAX Alternative Fuel Vehicle (AFV) Requirement Program by replacing petroleum-derived gasoline or diesel fueled vehicles with clean vehicles. LAWA scheduled implementation of the Incentive Program for early 2019.

Section IX. Community-Based Research Studies as Part of LAWA's Future LAX Master Plan Program Project-Level Analysis

Inclusion in Project-Level Environmental Analysis. LAWA acknowledges that, pursuant to CEQA, it will perform additional environmental review on the various LAX Master Plan Program project components as they are processed for future approval. In undertaking this additional environmental review, LAWA shall require the general contractor preparing the environmental documents for these future project-level analysis to subcontract with an Independent Expert to coordinate community-based research studies as described in Section IX.B (the "Community-Based Studies"), that are designed to become a part of the environmental analysis. LAWA shall expend no less than $300,000 on the Community-Based Studies. As future project-level environmental documents are prepared for LAX Master Plan Program projects, LAWA is not required to utilize the Community-Based Studies as part of each project-level environmental review, and shall have discretion to determine whether a particular project-level analysis would be appropriate for including the Community-Based Studies.

Status → In Progress:
LAWA allocated $300,000 of the environmental analysis contract for LAMP for the Community Based Studies set forth in CBA Section IX. With input from the Coalition, the Community Based Studies focused on how LAWA's investment in the LAMP facilities could generate jobs and provide other benefits to communities in the Project Impact Area. LAWA's consultant completed the Draft Study and it is expected to be finalized in 2019.

Section X. Air Quality

Section X.A. Electrification of Passenger Gates

Completed. See Appendix A.

Section X.B. Electrification of Cargo Operations Areas

1. Cargo Operations Areas Electrification Schedule. LAWA shall ensure that all, unless determined under procedures described below to be Operationally Infeasible and/or Technically Infeasible, all Cargo Operations Areas are equipped and able to provide electricity sufficient for aircraft needs as following:

    a. All Cargo Operations Areas for which new construction, not maintenance, is completed after the effective date of this Agreement shall be equipped and able to provide electricity to parked aircraft from date of initial operation of the Cargo Operations Area at LAX and at all time thereafter.

    b. Three years from the effective date of this Agreement, and at all times thereafter, at least fifty percent of Cargo Operations Areas at LAX shall be equipped and able to provide electricity to parked aircraft.

    c. Five years from the effective date of this Agreement, and at all times thereafter, one hundred percent of Cargo Operations Areas at LAX shall be equipped and able to provide electricity to parked aircraft.

2. Aircraft in Cargo Operations Areas Use of LAX-Provided Electricity if Available. LAWA shall ensure that electricity sufficient for aircraft needs is provided to all aircraft parked at Equipped Cargo Operations Areas and that all these aircraft use LAX-provided electricity as power in lieu of engine operation of aircraft or ground/mobile auxiliary power units.

3. Assessment of Electrification of Cargo Operation Areas and Feasibility Evaluation. LAWA shall conduct an assessment of Cargo Operations Areas for the purpose of evaluating whether electrification of a particular Cargo Operations Areas is Operationally Infeasible and/or Technically Infeasible. The assessment shall include, but not limited to, inventory utilization, operations, technological trends, and capital and maintenance costs.

Status → In Progress:
LAWA completed an update to the 2013 Gate Electrification Feasibility Study in December 2018. The study identified the remaining cargo, maintenance, remain-over-night, and hangar aircraft parking positions to be electrified for the purposes of developing a workplan to complete electrification at LAX. Electrification of aircraft parking positions at the Imperial Terminal/South Pads and the Imperial Cargo Center projects are included in LAWA's capital improvement program, and are expected to be completed in the summer of 2020/2021, respectively. LAWA anticipates that any future modernization of the Century Cargo Complex would include electrification of the cargo, hangar, and maintenance positions currently in the B1 and C1 cargo areas. The electrification of the Federal Express parking pads are scheduled to be completed by

Federal Express in spring 2020, and Federal Express' two parking pads under lease are estimated to be completed in 2023.

Section X.C. Electrification of LAX Hangars

LAWA shall conduct an assessment of operations at LAX Hangars for the purpose of determining whether electrification of LAX Hangars to provide electricity sufficient for aircraft needs at LAX Hangars is Operationally Infeasible and/or Technically Infeasible. The assessment shall include, but not be limited to, inventory utilization, operations, technological trends, and capital and maintenance costs…

Status → In Progress:
LAWA completed an update to the 2013 Gate Electrification Feasibility Study in December 2018. The study identified the remaining cargo, maintenance, remain-over-night, and hangar aircraft parking positions to be electrified for the purposes of developing a workplan to complete electrification at LAX. Please see measure X.B, above for more information.

Section X.D. FAA Prohibition

If an FAA Determination, as defined in and pursuant to the procedures set out in the Cooperative Agreement, or any other regulatory authority prohibits LAWA from taking actions required by Subsections A through C of this Section X, or threatens to withhold federal funding if LAWA takes actions required by Subsections A through C of this Section, then LAWA shall set aside $1.7 million to the air quality fund described in Section XV.

Status → Not applicable at this time:
Action is required only if the FAA prohibits LAWA from implementing this section.

Section X.E. Reporting

LAWA shall report in writing to the Coalition Representative on the progress of electrification of Passenger Gates, Cargo Operations Areas, and LAX Hangars semiannually. Reports shall include, but not be limited to, the number and types of facilities and areas electrified, operational guidelines issued, a summary of exemptions granted, reports of violations of usage requirements, and actions taken by LAWA to enforce usage requirements.

Status → Implemented; continuing to monitor and report:
LAWA has provided a status of the electrification program in each of the annual CBA reports.

Section X.F. Construction Equipment

Best Available Emission Control Devices Required. LAWA shall require that all diesel equipment used for construction related to the LAX Master Plan Program be outfitted with the best available emission control devices primarily to reduce diesel emissions of PM, including fine PM, and secondarily, to reduce emissions of NOx. This requirement shall apply to diesel-powered off-road equipment (such as construction machinery), on-road equipment (such as trucks) and stationary diesel engines (such as generators).

Status → Implemented; continuing to monitor and report:
LAWA retained an Independent Third Party Monitor to track compliance with the requirements of CBA Section X.F.

The following sections provide an update of activities and findings of the Independent Third Party Monitor as it relates to diesel construction equipment used on the Midfield Satellite Concourse – North (MSC-North) and WAMA Delta Hangar projects:

Section X.F.1 – Best Available Emissions Control Devices Required

All diesel equipment used for construction related to the LAX Master Plan Program is required to be outfitted with best available emission control devices, primarily to reduce diesel particulate matter emissions, including fine particulate, and secondarily to reduce emissions of oxides of nitrogen (NOx). This requirement applies to diesel-powered off-road equipment, on-road equipment, and stationary diesel engines. The emission control devices utilized for the equipment at the LAX Master Plan Program construction shall be verified or certified by the California Air Resources Board (CARB) or Environmental Protection Agency (EPA) for use on on-road or off-road vehicles or engines.

Status → Implemented; continuing to monitor and report:
The Independent Third Party Monitor reviewed documentation submitted by MSC-North and WAMA Delta Hangar contractors for each piece of diesel equipment utilized or planned for possible utilization on the MSC-North and WAMA Delta Hangar projects relative to compliance with CBA Section X.F.1. The Independent Third Party Monitor also conducted periodic site visits to verify compliance. The Independent Third Party Monitor assessed approximately 1,093 pieces of diesel equipment to determine compatibility with CARB-verified or EPA-certified diesel emission control devices.

The Independent Third Party Monitor made the following findings with respect to this Section:

- *MSC-North project - There were a total of 550 on-road trucks associated with the project. LAWA disapproved twenty-four (24) vehicles for failure to comply with CBA requirements. There were a total of 357 pieces of off-road diesel construction equipment on the project. Two hundred thirty-two (232) were certified by the US EPA as compliant with Tier 4 or Tier 4-Interim Emissions Standards – this equipment is configured with a factory-installed VDECS. One hundred eight (108) pieces of equipment were equipped with small displacement engines and were determined to not have a VDECS available at the time construction commenced. LAWA granted a "20-day" exemption for three (3) pieces of equipment in accordance with CBA Section X.F.4.*

- *WAMA Delta Hangar project – There were 50 on-road trucks associated with the WAMA Delta Hangar project. All on-road vehicles met or exceeded the CBA requirements. There were a total of 139 pieces of off-road diesel construction equipment on the project. One hundred twenty five (125) met the CBA requirements and were certified by the US EPA as compliant with Tier 4 or Tier 4-Interim Emissions Standards. LAWA granted a "20-day" exemption for six (6) pieces of equipment in accordance with CBA Section X.F.4.*

Section X.F.2 - Demonstration Projects

Notwithstanding the verification or certification requirement set forth in Section X.F.1, LAWA may allow diesel equipment used for construction related to the LAX Master Plan Program to be outfitted with a new emission control device designated by LAWA as a "Demonstration Project", even if the device has not yet been verified or certified by CARB or EPA for use in on-road or off-road vehicle or engine applications. These devices shall, at a minimum, meet all pollution reduction requirements specified in Section X.F.3.

Status → Not applicable at this time:
The Independent Third Party Monitor did not identify any Demonstration Project opportunities in 2018.

Section X.F.3 - Emission Reduction Standards

Emission control devices used pursuant to Section X.F.1 shall achieve emission reductions no less than what would be achieved by a Level 2 (50 percent particulate matter reduction) diesel emission control strategy for a similar sized engine as defined by CARB regulations. Under no circumstances shall an emission reduction device or strategy used on the LAX Master Plan Program construction site increase the emission of any pollutant above that which is the standard for that engine.

Status → Implemented; continuing to monitor and report:
LAWA's Environmental Monitor, in coordination with the Independent Third Party Monitor, assessed each piece of diesel construction equipment with a VDECS and made the following findings:

- *MSC-North project - approximately 758 vehicles and equipment were equipped with diesel emission control systems that met or exceeded the CARB Level 3 standard of 85 percent or greater reduction in diesel particulate matter.*

- *WAMA Delta Hangar project - approximately 175 vehicles and equipment were equipped with diesel emission control systems that met or exceeded the CARB Level 3 standard of 85 percent or greater reduction in diesel particulate matter.*

- *The Third Party Monitor verified with CARB that the Level 3 devices utilized on the MSC-North and WAMA Delta Hangar projects did not result in an increase of any pollutant above which is standard for that equipment's engine.*

Section X.F.4 – Exemptions

The requirements of Sections X.F.1 through X.F.3 do not apply to a piece of construction related diesel equipment for which the operator provides a written finding, based upon

appropriate market research and approved by LAWA, that the best available emission control device for reducing the emissions of pollutants as required by Sections X.F.1 through X.F.3 is unavailable for that equipment, in which case the contractor shall use whatever technology for reducing exhaust emissions is available and appropriate for that vehicle or engine, if any. In addition, Sections X.F.1 through X.F.3 do not apply to a piece of construction related diesel equipment that is used on LAX Master Plan Program construction sites for fewer than twenty (20) calendar days per calendar year.

Status → Implemented; continuing to monitor and report:
The Third Party Monitor reviewed each piece of diesel construction equipment proposed for use on the MSC-North and WAMA Delta Hangar projects as it pertained to the requirements of Sections X.F.1 and X.F.3 and independently determined if a CARB verified or EPA certified diesel emission control system was compatible. These results were documented and compared with exemptions granted by LAWA, as follows:

- *LAWA granted a "20-day" exemption for three (3) pieces of equipment on the MSC-North project; and six (6) pieces of equipment on the WAMA Delta Hangar project. The Third Party Monitor maintained an independent database of all equipment operating under the 20-day exemption rule, including the date the equipment was moved onsite and the date the equipment was required to be removed from the airfield.;*

- *The Third Party Monitor also independently assessed and documented diesel equipment for which no CARB verified or EPA certified diesel emission control system (VDECS) was available. LAWA granted an exemption for this equipment on the basis of unavailability. One hundred eight (108) pieces of diesel construction equipment on the MSC-North project, and three (3) pieces of diesel construction equipment on the WAMA Delta Hangar project, were granted an exemption on the basis of unavailability of a compatible VDECS. Each piece of exempted equipment is equipped with a small displacement engine for which there is currently no commercially available VDECS.*

Section X.F.5 - Ultra-Low Sulfur Diesel and Other Fuels

All diesel equipment used for construction related to the LAX Master Plan Program shall use only Ultra-Low Sulfur Diesel Fuel (ULSD) with a sulfur content of fifteen (15) parts per million or lower. If adequate supplies of ULSD are not available in the Southern California area, other fuels may be used, provided that the other fuels do not result in greater emissions of fine particulate matter or oxides of nitrogen than that which would be produced by the use of ULSD.

Status → Implemented; continuing to monitor and report:
The Third Party Monitor independently reviews and documents fuel purchase records for diesel used on the MSC-North and WAMA Delta Hangar projects. There was no shortage of ULSD within Southern California during the MSC-North and WAMA Delta Hangar construction activities in 2018. No substitution of any fuel in lieu of 15 ppm ULSD occurred in 2018.

Section X.F.6 - Operational Requirements

Operational Requirements pertaining to excessive vehicle idling and required engine maintenance intervals shall be issued by LAWA and enforced.

Status → Implemented; continuing to monitor and report:
The Independent Third Party Monitor monitored excessive vehicle idling enforcement and compliance with engine maintenance intervals based on independent observation, review of enforcement action documentation, and review of construction firm engine maintenance procedures and records. LAWA did not issue any written violations pertaining to excessive equipment idling on any construction firm in 2018. On infrequent occasions, LAWA instructed contractors to turn off the engines of vehicles deemed to be idling beyond the period of time stipulated in CARB regulations. Formal enforcement actions were not deemed necessary by LAWA.

Section X.F.7 – Enforcement by LAWA

Compliance with all requirements delineated in Sections X.F. is required of all Airport Contractors, Airport Lessees, and Airport Licensees. LAWA shall enforce the findings and determinations of the Independent Third Party Monitor.

Status → Implemented; continuing to monitor and report:
LAWA informed the Independent Third Party Monitor that no formal enforcement actions were taken relative to the requirements set forth in CBA Section X.F.

Section X.F.8 – Independent Third Party Monitor

Compliance with requirements of Section X.F. is required to be monitored, documented, and reported by an Independent Third Party Monitor.

Status → Implemented; continuing to monitor and report:
LAWA retained an Independent Third Party Monitor. The findings of the Independent Third Party Monitor are reported in this document and in Appendix C.

Section X.F.9 – Reassessments of Emission Control Devices

LAWA shall designate the best available emission control devices annually or more frequently, in consultation with the Coalition Representative and the Independent Third Party Monitor. LAWA, in consultation with the Coalition Representative, shall establish processes to revise these designations and incorporate the requirement to use the emission control devices newly designated as best available into construction bid documents to take into account advances in emission control devices prior to bidding of new construction phases of the LAX Master Plan Program. The process of emission control technology review shall include any new relevant requirements promulgated by CARB or EPA. Results from the reassessments shall not be applied retroactively.

Status → Implemented; continuing to monitor and report:

The LAWA Environmental Monitor, in coordination with the Independent Third Party Monitor reviewed each piece of diesel construction equipment proposed for use on the MSC-North and WAMA Delta Hangar projects for compatibility with newly verified Level 2 and 3 VDECS. It is important to note that a high percentage of equipment utilized on LAX Master Plan Projects is factory-equipped with diesel emission control systems that satisfy CBA requirements in accordance with CBA Section X.F.1.

Section X.G. Ground Service Equipment Diesel Emissions Reduction Incentive Program

GSE Incentive Program. LAWA shall create a program providing incentives for the reduction of GSE diesel emissions ("GSE Incentive Program"). LAWA shall expend at least $500,000 on the GSE Incentive Program. Participation by GSE operators in the GSE Incentive Program shall be voluntary. Funding for the program shall commence in fiscal year 2005-06.

Status → In Progress:
LAWA adopted a Ground Service Equipment (GSE) Emissions Reduction Policy in 2015 (see Section X.I. below) and began implementing that policy shortly thereafter. Since that time, and continuing in 2018, LAWA has been tracking GSE operator compliance with the GSE Emissions Reduction Policy. In 2018, LAWA drafted a GSE Incentive Program and is awaiting approval from the FAA.

Section X.H. Ground Service Equipment Inventory

Completed. See Appendix A.

Section X.I. Requirements for Emissions Reductions by Nonparticipating GSE

In order to achieve emission reductions from GSE operated at LAX by Nonparticipating GSE Operators, LAWA shall issue requirements leading to the use of less-polluting GSE by Nonparticipating GSE Operators, as described in this Section X.I. New, amended, renewed, or extended Airport Contracts, lease agreements, and any relevant LAX licensing or permitting requirements for Nonparticipating GSE Operators shall include language requiring compliance with requirements of this Section X.I. and allowing assessment of liquidated damages as described in this Section X.I against any entity responsible for a violation…

Status → Implemented; continuing to monitor and report:
In April 2015, BOAC adopted a GSE Emissions Policy to reduce emissions at LAX. The Policy includes enforcement measures and actions LAWA may take in the event an LAX GSE operator fails to comply. The Policy calls for GSE operators to:

1. *Reduce their fleet-wide GSE emissions to 2.65 grams per brake horsepower-hour (g/bhp-hr by December 31, 2021;*
2. *Provide LAWA with an interim assessment of the fleet-wide emission as of March 1, 2019;*
3. *Provide LAWA with an annual accounting of the composite HC plus NOx emission factors of their LAX GSE fleet; and*
4. *Provide LAWA with fleet inventory data for their LAX GSE Fleet that is consistent with data provided to the California Air Resources Board (CARB) and in a form or forms as requested by LAWA on an annual basis.*

In 2018, many of the LAX GSE operators had already achieved or exceeded the December 31, 2021 GSE emission target of 2.65 g/bhp-hr. for their fleets. Airport-wide emissions totaled 1.94 g/bhp-h, which is below the 2021 target.

Section X.J. Emission Reductions from On-Road Trucks, Buses, and Shuttles

1. Inventory of On-Road Heavy-Duty Vehicle Traffic and Study of Feasible Mitigation
   a. Heavy-Duty Vehicle Study.

      Completed. See Appendix A.

2. Conversion of Truck, Shuttles, Passengers, Vans and Buses to Alternative Fuel

   a. Covered Vehicles. Requirements established under this Section X.J.2 shall apply to all on-road vehicles, including trucks, shuttles, passenger vans, and buses, that are 8,500 lbs gross vehicle weight rating or more and are used in operations related to LAX ("Covered Vehicles"). Diesel equipment for construction related to the LAX Master Plan Program that is subject to Section X.F. of this Agreement shall be exempt from requirements established pursuant to this Section X.J.2.

   b. Conversion Schedule. LAWA shall ensure that by five years from the effective date of this Agreement, 50 percent of the Covered Vehicles operated by any Airport Contractor, Airport Lessee, and Airport Licensee (collectively "Operators") are Alternative-Fuel Vehicles or Optional Low NOx Standard Vehicles. LAWA shall ensure that by ten years from the date of execution of this Agreement, 100 percent of the Covered Vehicles operated by each Operator are Alternative-Fuel Vehicles or Optional Low NOx Standard Vehicles.

   c. Least-Polluting Available Vehicles. In cases where Operators cannot comply with requirements established pursuant to Section X.J.2.b because neither Alternative-Fuel Vehicles nor Optional Low NOx Standard Vehicles are commercially available for performance of particular tasks, LAWA shall instead require Operators to use Least-Polluting Available Vehicles for such tasks. An Independent Third Party Monitor shall determine on an annual basis whether Alternative-Fuel Vehicles or Optional Low NOx Standard Vehicles are commercially available to perform particular tasks, and, in cases where Alternative-Fuel Vehicles or Optional Low Standard Vehicles are not commercially available for performance of a particular task, shall identify the Least Polluting Available Vehicles for performance of that task.

Status → Implemented; continuing to monitor and report:
For the 2018 calendar year reporting period, 432 operators (or about 80 percent of all operators) complied with the reporting requirement with approximately 72 percent of vehicles compliant with the requirement. In September 2018, LAWA staff began a one-on-one outreach program to educate and assist operators to comply with the reporting and vehicle requirements. Additionally, LAWA developed a web-based tool to help operators find compliance vehicles and available incentives to offset the cost of new vehicle purchases. LAWA released the tool in February 2019 for operator use. Staff continues to reach out to operators who failed to report and/or have non-compliant vehicles.

Section X.K. Particulate Matter (PM 2.5)

Completed. See Appendix A.

Section X.L. Rock-Crushing Operations and Construction Material Stockpiles

LAWA shall locate rock-crushing operations and construction material stockpiles for all construction related to the LAX Master Plan Program in areas away from LAX-adjacent residents to reduce impacts from emissions of fugitive dust. In any project-related review under CEQA or NEPA for a project implementing any component of the LAX Master Plan Program, LAWA shall identify and analyze all potentially significant environmental impacts associated with rock crushing operations and construction material stockpiles. In implementation of any component of the LAX Master Plan Program, LAWA shall adopt and implement mitigation measures to eliminate any significant adverse environmental impacts related to rock crushing or construction material stockpiles and related construction activities.

Status → Implemented; continuing to monitor and report:
LAWA located rock crushing operations within the MSC-North site, including stockpiled raw material, the crusher equipment, and the crushed rock. LAWA maintained soil stockpiles in the northwest portion of the airport, in an area well removed from any residential development that was previously used for soil stockpiling, and a soil sealant was sprayed on the stockpile to minimize, if not completely avoid, dust generation. LAWA did not conduct any additional CEQA or NEPA review of LAX Master Plan Program projects in 2018; therefore, no additional action was required on this measure.

Section X.M. Limits on Diesel Idling

LAWA shall prohibit diesel-powered vehicles from idling or queuing for more than ten consecutive minutes On-Site, unless CARB adopts a stricter standard, in which case LAWA shall enforce that standard. Exemptions to this rule may be granted for safety-related and operational reasons, as defined in CARB regulations.

Status → Implemented; continuing to monitor and report:
Subject requirement was included in construction specifications for the MSC-North project, and the prime contractor extended that requirement to all subcontracts. Additionally, the prime contractor's air quality compliance monitor is onsite full-time and checks for excessive idling. LAWA did not issue any written violations pertaining to excessive equipment idling on any contractor on the MSC-North project. On infrequent occasions, vehicles deemed to be idling beyond the period of time stipulated in CARB regulations were instructed to turn off their engines.

The WAMA Delta Hangar project is subject to the requirements of the MMRP adopted for the WAMA project, which includes the requirement to prohibit idling or queuing of diesel-fueled vehicles and equipment in excess of five minutes. LAWA did not issue any written violations pertaining to excessive equipment idling on the Delta Hangar project in 2018.

Section X.N. Provision of Alternative Fuel

LAWA shall ensure that its infrastructure for providing fuel to Alternative-Fuel Vehicles is sufficient and available, where not Operationally Infeasible and/or Technically Infeasible, to meet all requests for alternative fuel from contractors and other uses of LAX.

Status → Implemented; continuing to monitor and report:
LAWA has a liquefied natural gas (LNG)/compressed natural gas (CNG) facility located on the west side of the airport to service LAWA vehicles. Clean Energy operates three public CNG fueling stations near LAX at 10400 Aviation Blvd, 9601 Aviation Boulevard, and 9131 Aviation Boulevard. All three of Clean Energy's CNG fueling stations dispense Renewable Natural Gas. In 2018, Clean Energy was planning to close its station at 9601 Aviation in 2019 as it is located in path of the new Metro Rail extension right-of-way, and upgrade the remaining two stations to absorb the higher volumes due to the station closure at 9601 Aviation. Clean Energy was also looking at tentative plans to build a new (replacement) station, however these discussions were preliminary.

In 2018, LAWA installed 26 level 2 electric vehicle (EV) chargers at the Administration West parking lot (7289 World Way West), for a total of 156 EV chargers at LAX.

LAWA continued to assess demand and look for appropriate opportunities to expand its alternative fuel infrastructure at LAX. In 2018, LAWA began Phase 2 of an EV charger study to identify different strategies moving forward to meet future demand from EV vehicles at LAX.

Section X.O. Hydrogen Fuel Cell Infrastructure

Completed. See Appendix A.

Section X.P. Cleaner Burning Jet Fuels

Completed. See Appendix A.

Section XI. Green Building Principles

To the extent practical and feasible, in accordance with local building codes and California state codes, and subject to limitation or restrictions in accordance with FAA or Transportation Security Administration standards guidelines, LAWA shall incorporate Leadership in Energy and Environmental Design (LEED) building standards into demolition, design, construction and operation of all aspects of the LAX Master Program. LAWA shall apply the LEED standards for New Commercial and Major Renovations, Version 2.1, as defined by the U.S. Green Building Council.

LAWA shall abide by all applicable City regulations with respect to energy efficiency, sustainability and green building design.

Status → Implemented; continuing to monitor and report:
In addition to LAWA following all applicable City regulations for energy efficiency, sustainability, and green building design, LAWA's Sustainable Design and Construction Policy and Requirements mandates that applicable new building construction and renovation projects be designed to achieve LEED Silver certification or higher. The MSC-North project is pursuing LEED-Silver certification.

Section XII. Traffic

A. Construction Traffic

1. Designated Routes. LAWA shall designate routes for construction equipment, construction-related vehicles, and trucks participating in construction projects related to the LAX Master Plan Program to access LAX. These route designations shall ensure that such construction equipment, construction-related vehicles, and trucks do not travel (i) on 111th Street between Hawthorne Boulevard and Inglewood Avenue; (ii) on 104th Street between Hawthorne Boulevard and Inglewood Avenue; (iii) on Inglewood Avenue between Century Boulevard and Inglewood Ave….

   Status → Implemented; continuing to monitor and report:
   Designated routes for construction-related trucks, vehicles and equipment are specified in LAWA construction contracts, including LAX Master Plan projects undergoing construction in 2018. The designated routes avoid the roadway segments identified in this measure. LAWA inspectors and monitors checked that trucks used the designated routes.

   a. Community Response Program. LAWA shall establish a mechanism for members of the public to report instances of non-compliance with designated truck routes.

      Status → Implemented; continuing to monitor and report:
      LAWA developed and maintains a website at https://www.lawa.org/en/connectinglax/lax-construction-hotline to provide construction information for the public. The general, program-wide construction hotline number to report incidences of non-compliance is (310) 649-LAWA (5292). There were no reported incidents of LAX construction trucks not complying with the designated truck route requirements. Please see Appendix B for a summary of calls in 2018 to the LAX construction hotline.

2. Lennox/405 Interchange.

   Completed; no longer applicable. See Appendix A.

Section XIII. Minority Business Enterprise, Women Business Enterprise, and Small Business Utilization and Retention Program

A. LAWA shall coordinate with the Mayor's Office, CDD, and other relevant business advocacy and assistance organizations to initiate a program to increase participation in the planning, construction, operation and maintenance of LAX by PIA small businesses and minority-owned business enterprises and women-owned business enterprises (MBE/WBE).

Status → Implemented; continuing to monitor and report:
In October 2012, BOAC adopted the Small Business Enterprise (SBE) program to replace the Minority/Women/Other Business Enterprise (M/W/OBE) program. SBE is defined as an independently-owned and operated business that meets criteria set forth by the Federal Small Business Administration, or State of California SBE Program, whichever is greater. LAWA sets a specific, mandatory percentage of small business subcontracting on construction, professional and non-professional projects valued in excess of $150,000; there is a penalty for failure to meet the pledges.

In July 2016, LAWA implemented a SBE (Proprietary) Certification Program, in collaboration with the other proprietary departments, i.e., Department of Water and Power and the Port of Los Angeles.

In November 2016, the BOAC adopted the Local Business Enterprise/Local Small Business Enterprise (LBE/LSBE) Program, and in April 2017, the BOAC amended the LBE/LSBE Ordinance to include the Local-State Disabled Veterans Business Enterprise (DVBE) Program.

In collaboration with the Procurement Services Division, LAWA's Business, Jobs and Social Responsibility (BJSR) Division conducts a monthly workshop, "Doing Business with LAWA." In 2018, approximately 118 business representatives attended the monthly workshops.

Section XIV. Community Preparedness for Airport-Related Emergency

LAWA shall assist in the coordination and dissemination of appropriate information related to emergency preparedness and response of local law enforcement agencies, emergency response groups (e.g., Red Cross, FEMA), and the local communities in the event of an airport-related emergency.

Status → Implemented; continuing to monitor and report:
In 2018, LAWA continued to assist its partner agencies and airport stakeholders in the coordination and dissemination of appropriate information-related active incidents at LAX. Expanding use of mass notification systems and social media platforms continued to increase the ability of LAWA to send emergency notices and crisis messaging.

In 2018, LAWA was granted alerting authority for the issuance of emergency messages and/or warnings on the Wireless Emergency Alert (WEA) system. LAWA now has the capability to send a message to WEA-enabled cellular phones within a defined geographic area. LAWA has established specific areas surrounding LAX for emergency notifications.

Throughout 2018, LAWA continued to develop, update and revise emergency plans. LAWA Emergency Management led a project to update theTerminal Evacuation and Repopulation Plan, Passenger Accountability Plan, Family Assistance Support Plan and revisions of the Airport Emergency Plan. These plans set forth a path to resume and conduct business operations following a disruption.

To test and train personnel on LAWA emergency plans, LAWA conducted a series of trainings and exercises, including a "table top" exercise as part of LAX's Part 139 Airport Certification in April 2018. This exercise brought partners together to review impacts, protocols, and enabled all personnel to network before an incident occurs. Additionally, LAWA cut power to all Northside terminals (Terminals 1, 2 and 3) to exercise emergency and back-up generator power systems. The exercise then restored power, testing LAWA's recovery plans and procedures. On Halloween morning, LAWA repeated the exercise shutting off the power to Tom Bradley International Terminal (TBIT). Both exercises identified LAWA's capabilities and gaps to improve upon when faced with long term power disruptions.

LAWA Emergency Management and the LAFD facilitated a series of "Trunk-Top Exercises" for LAWA. These one (1) hour exercises unite personnel from LAWA, airport partner agencies and stakeholders, and airlines in an effort to collaborate during a simulated incident. The goal of the training is to achieve a common operating picture. In 2018, LAWA Emergency Management hosted a series of Incident Command System 300 trainings. These training provide opportunities for LAWA staff to learn about incident command and interact with one another as well as with LAWA's first responder and partner agencies. In 2018, LAWA trained over 2,000 LAWA security badge holders to respond and recover from an incident.
In 2018, LAWA began training service workers in emergency preparedness, response and recovery. This training will better prepare workers that may be of the front lines of an emergency, and LAWA will be better prepared for any incident.

Section XV. Designated Airport Fund

Where this Agreement provides that LAWA shall contribute airport revenues to job training funds or air quality funds, LAWA will follow the procedures set forth in the Cooperative Agreement regarding "Alternative Job Training and Air Quality Expenditure.

Status → Implemented; not applicable at this time. Continuing to monitor and report:
If an FAA determination, as defined in and pursuant to the procedures set out in the Cooperative Agreement, or any other regulatory authority prohibits LAWA from taking actions required by the CBA Sections V, VII, VIII, IX, X, or threatens to withhold federal funding if LAWA takes actions required by the referenced sections, then LAWA will set aside funds for the Job Training and Air Quality Funds to the extent allowed.

Section XVI. Miscellaneous

A. Implementation Meetings. To facilitate implementation of this Agreement, address concerns, and ensures an ongoing dialogue between the Coalition Representative and LAWA, the Coalition Representative and LAWA shall have regular Implementation Meetings….

B. Annual Reports. LAWA shall prepare annual reports on the implementation of this Agreement and the progress of the LAX Master Plan Program, and shall forward these reports to the Coalition Representative and post the reports on the LAWA website for at least a one-month period….

C. Contract Award Process. Where a provision of this Agreement refers to a Contract Award Process, that process shall be as described in this Section XVI.C. A Contract Award Process is "initiated" on the date the draft protocols and/or scope of work to be included in the RFP are provided to the Coalition Representative…

D. Special Arbitrator…

E. General LAWA Enforcement Responsibility…

Status → Implemented; continuing to monitor and report:
LAWA hosts periodic implementation meetings with the Coalition. LAWA management-level staff attends each meeting. LAWA prepares annual reports on the implementation of the CBA and the progress of the LAX Master Plan Program. The annual reports are posted on LAWA's website at https://www.lawa.org/en/lawa-our-lax/studies-and-reports.

4.0 Lennox School District – Sound Attenuation Measure

LAWA Funding of Certain District Mitigation Measures. Subject to FAA Determination regarding the use of airport funds under the federal anti-revenue diversion laws, LAWA will fund certain mitigation measures for the District not to exceed $111,000,000 for noise abatement. Mitigation measures include replacement of HVAC equipment with pollution abatement, double-paned windows and/or sound reduction windows and doors, roofing upgrades, replacement of relocatable classrooms, and temporary housing during construction.

Security-Related Items. LAWA will assist the District in the coordination and dissemination of appropriate information related to emergency preparedness and response of local law enforcement agencies, emergency response groups (e.g., Red Cross, Federal Emergency Management Agency) and the local communities in the event of an airport-related emergency.

Community Programs. LAWA will work collaboratively with the District to support a variety of community programs, such as job training and academic programs.

Status → Implemented; continuing to monitor and report:
In 2011, LAWA submitted a PFC application to the FAA for authorization to collect and use PFC funds to sound insulate impacted schools in the Lennox School District. The FAA approved the application and authorized the expenditure of up to $34,089,058 in PFC funds to insulate impacted schools in Lennox. LAWA provided over $11 million to Lennox for the first phase of the sound insulation program. In 2014, LAWA authorized an additional $10 million for the second phase of Lennox's sound insulation program.

Since 2011, Lennox has completed sound attenuation work at Dolores Huerta Elementary School, Animo Leadership High School, Lennox Middle School, Felton Elementary School, and part of Jefferson Elementary School.

Lennox completed sound attenuation work at Buford Elementary School in 2018. Lennox initiated the attenuation work for the remaining buildings at Jefferson Elementary School in 2018 and it is scheduled to be completed in 2019.

5.0 Inglewood Unified School District – Sound Attenuation Measure

LAWA Funding of Certain District Mitigation Measures. Subject to FAA Determination regarding the use of airport funds under the federal anti-revenue diversion laws, LAWA will fund certain mitigation measures for the District not to exceed $118,500,000 for noise abatement. Mitigation measures include replacement of HVAC equipment with pollution abatement, double-paned windows and/or sound reduction windows and doors, roofing upgrades, replacement of relocatable classrooms, and temporary housing during construction.

Security-Related Items. LAWA will assist the District in the coordination and dissemination of appropriate information related to emergency preparedness and response of local law enforcement agencies, emergency response groups (e.g., Red Cross, Federal Emergency Management Agency) and the local communities in the event of an airport-related emergency.

Community Programs. LAWA will work collaboratively with the District to support a variety of community programs, such as job training and academic programs; and…

Status → Implemented; continuing to monitor and report:
In 2013, LAWA submitted a PFC application for $64 million dollars to sound insulate impacted schools in the Inglewood Unified School District (IUSD). The FAA approved the application for $44,378,659 to fund sound attenuation projects in the IUSD with PFC funds at the following schools in IUSD:

- *Morningside High School*
- *Oak Street Elementary School*
- *Payne Elementary School*
- *Woodworth Elementary School*
- *Monroe Middle School*
- *Child Development Center at Woodworth Elementary*

In 2015, BOAC approved an initial funding allocation of $10 million for the IUSD's First Work Plan covering Payne Elementary, Woodworth Elementary, and the Child Development Center at Woodworth Elementary.

In 2016, IUSD amended their Work Plan to accommodate for logistical and planning issues. Monroe Middle School and Morningside High School were moved up on the schedule ahead of Woodworth Elementary. The Work Plan now includes Payne Elementary, Monroe Middle School, and Morningside High School. LAWA initiated the process in 2018 to submit a Passenger Facility Charge (PFC) application to the FAA for approval to sound attenuate Inglewood High School, which is bisected by the 2020 Noise Exposure Map (NEM).

IUSD held a Groundbreaking event on May 17, 2018 for Payne Elementary School. Construction was more than 70 percent complete at the end of 2018.

IUSD initiated construction on Monroe Middle School in October 2018. Morningside High and Oak Street Elementary were both in the design phase during 2018.

6.0 Summary

During 2018, LAWA continued to implement, monitor and report on applicable provisions from the Community Benefits Agreement.

APPENDIX A

COMPLETED MEASURES

Section III. Residential Noise Mitigation

Section III.B Acceleration of Noise-Mitigation Programs for City[1]

Within eight months of the effective date of this Agreement, LAWA will provide a written schedule and work program to the Coalition Representative that is designed to achieve completion of the ANMP soundproofing program for the City by the end of 2008, and will take all reasonable steps to timely implement that schedule and work program.

Status → Completed:
LAWA spent approximately $160 million on the City of Los Angeles' Sound Insulation Program. Under this Program, the City of Los Angeles sound insulated over 7,300 dwelling units in the communities of South Los Angeles, Playa del Rey and Westchester. The City of Los Angeles completed and closed its Program in 2014.

Section III.D End of Block Soundproofing

Within one year of the completion of the current ANMP for participating jurisdictions, LAWA shall commence an end-of-block soundproofing program, under which, if any residence on a particular city-block falls within the applicable noise contour for that block, then each residence on that block will be eligible for noise mitigation as described in this Section III.D. Offers of soundproofing shall be made to the owner of each residence, whether or not the owner of that residence chose to participate in previous soundproofing programs. Soundproofing under this program shall reduce interior noise at participating residences to an interior CNEL of 45 decibels or less, within habitable rooms.

City of Los Angeles Status → Completed
The FAA approved 759 homes for inclusion in the end-of-block/block rounding portion of the City of Los Angeles' Sound Insulation Program. Of the 759 eligible homes, 514 participated in the Program and were sound insulated. The City of Los Angeles completed and closed the Program in 2014.

Other Jurisdictions Status → Completed:
In 2016, the FAA approved the 2020 Noise Exposure Map (NEM) and the City of Inglewood and the County of Los Angeles' end-of-block maps for inclusion in these jurisdictions' sound insulation programs. The City of Inglewood and County of Los Angeles are in the process of implementing the end-of-block sound insulation programs. Thus LAWA's role in fulfilling this commitment has been completed.

City of El Segundo Status → Program Terminated
The City of El Segundo suspended its Residential Sound Insulation Program in 2016, and then terminated/closed the Program in July 2018.

[1] "City" refers to the City of Los Angeles.

Section III.E Suspension of Avigation Easement

1. Present Avigation Easement Requirements. All homeowners receiving LAWA provided or funded noise insulation measures within the 65 dBA CNEL noise contour presently must execute express, full avigation easements (as set out in Exhibit A). In return for LAWA's providing these noise insulation benefits, each homeowner presently must sign a full, express avigation easement (as set out in Exhibit A), expressly waiving his or her ability to sue LAWA with respect to the impacts (listed in the avigation easements) that are created by aircraft operations at LAX on the affected residences.

2. Proposed Modified Easement Requirements. In order to promote the cooperation between LAWA and the Coalition that is envisioned by this Agreement, and as long as this Agreement remains in effect, LAWA agrees to suspend its requirement that express, full avigation easements (as set out in Exhibit A) be executed by homeowners receiving LAWA provided or funded noise insulation benefits for particular residences located within the 65 dBA CNEL noise contour in the City of Los Angeles, City of Inglewood, and Los Angeles County communities of Lennox and West Athens, and only under the following circumstances:

    a. Caltrans approves LAWA' compromise position as described in this Agreement during the effective term of this Agreement. This approval is necessary because Caltrans currently requires avigation easements as part of LAWA's ongoing noise variance within its permit from Caltrans to operate LAX;

    b. In lieu of requiring full, express avigation easements (as set out in Exhibit A), the homeowners will execute the Noise Easement attached as Exhibit B. The homeowners will provide, among other things, a written acknowledgment, accompanying the homeowner's authorization to proceed with the installation that the homeowner is aware of the proposed level of noise reduction that the installation is intended to provide. After the installation, the homeowner will execute an acknowledgement that the improvements have been installed and have attenuated the noise.

LAWA promises to make all reasonable efforts to obtain Caltrans' expedited approval of suspension of the requirement for full, express avigation easements (as set out in Exhibit A) and use of the Noise Easement (as set out in Exhibit B) in its place."

Status → Completed:
LAWA did not acquire any avigation easements in 2018, as there was no LAWA funded for construction activity that required easements in the County of Los Angeles or the City of Inglewood

Section III.F Compatibility with Local Building Codes

LAWA shall not require property owners participating in the ANMP to satisfy regulations or standards related to property conditions where these regulations or standards are more stringent than those actually enforced by the local government jurisdiction possessing code enforcement authority over the property in question.

Status → Completed:
No action is required on this provision as LAWA does not impose regulations or standards related to property conditions that are more stringent than those enforced by the local government jurisdiction.

Section III.G Limitations on Nighttime Departures

LAWA and the Coalition agree that restrictions on departures between the hours of midnight and 6:30 a.m. over the communities to the east of LAX would be desirable, when LAX is operating under normal weather conditions (when LAX is either in Over-Ocean Operations or remains in Westerly Operations and excluding times when LAX operates in Easterly Operations). This is known as the "LAX Proposed Restriction.

1. Part 161 Study. By April of 2005, LAWA shall have completed a Contract Award Process for a study on the feasibility of implementing the LAX Proposed Restriction (the "Part 161 Study"). Within 90 days of the contract award, the contract will have commenced. LAWA shall require that the Part 161 Study meet the relevant requirements of 14 C.F.R. Part 161, and that the entity performing the Study provide annual reports to LAWA on study progress and findings...

2. Record of Eastbound Departures. LAWA shall maintain a record of all nighttime eastbound departures during Over-Ocean Operations and Westerly Operations. This record shall be made available to the public on the LAWA website and shall be updated monthly.

3. Community Response Program. LAWA shall operate a community response program through which the public may report nighttime flights in the areas east of LAX. LAWA shall maintain a record of all individual reports, and shall prepare annual reports documenting individual reports, including records of airline, flight, date, and time of each reported flight, where possible. All records of reports, excluding the reporting individual's name and address, shall be maintained as public records and posted on the LAWA website.

Status → Completed:
LAWA began the Part 161 Study in June 2005 to study possible imposition of a nighttime runway use restriction at LAX. In 2014, the FAA rejected LAWA's application for a runway use restriction at LAX. See the 2014 CBA Annual Report for a more information on the Part 161 Study. All materials related to the Study and LAWA's application can be found at http://www.lawa.org/LAXPart161.aspx?id=7203.

Although the Part 161 Study itself is completed, LAWA still maintains the Record of Eastbound Departures and nonconforming East Departures Annual Complaint Reports. These reports are posted on LAWA's website at http://www.lawa.org/LAXNoiseEDR.aspx.

LAWA maintains a community response program for the public to report flights and their related locations. LAWA maintains records of all individual reports and prepares monthly and annual summary reports. All reports are available on the LAWA website at http://www.lawa.org/LAXNoiseEDR.aspx.

Section IV. Job Training

Job Training Program. Beginning in fiscal year 2005-2006, LAWA shall provide $3 million per year for five years, not to exceed $15 million over five years, to fund job training for Airport Jobs and Aviation-Related Jobs, and for Pre-apprenticeship Programs. Any funds unspent in a particular year shall be rolled over to the subsequent year. At the conclusion of the five-year period, any unused funds shall revert to the job training funds described in Section XV…

Status → Completed; Not FAA approved:
The FAA did not approve the proposed job training program set forth in CBA Section IV. Instead, LAWA uses its relationships with various agencies such as Work Source Centers and the Los Angeles Community College District to provide relevant job training.

Section VII. Air Quality Study

Air Quality Study. LAWA shall fund a study by an Independent Expert of toxic air contaminants and criteria air pollutant emissions from jet engine exhaust and other emission sources ("Air Quality Study"). In addition to other contaminant and pollutant emissions, the Air Quality Study shall measure jet engine exhaust emissions and provide chemical composition data from a representative sample of engine types and ages under a variety of conditions that reflect actual operations, and shall include this data and all other relevant study results as part of the final study provided to LAWA.

Status → Completed:
LAWA completed the LAX Air Quality and Source Apportionment Study in 2013. The study and informational materials are posted at https://www.lawa.org/en/lawa-environment/lax/lax-air-quality-and-source-apportionment-study.

Section X. Air Quality

Section X.A. Electrification of Passenger Gates

1. Passenger Gate Electrification Schedule. LAWA shall ensure that all Passenger Gates are equipped and able to provide electricity sufficient for aircraft needs under the following schedule:

All Passenger Gates for which new construction (excluding maintenance) is completed after the effective date of this Agreement shall be equipped and able to provide electricity to parked aircraft from date of initial operation and at all time thereafter.

a. Three years from the effective date of this Agreement, and at all times thereafter, at least fifty percent of Passenger Gates at LAX shall be equipped and able to provide electricity to parked aircraft.

b. Five years from the effective date of this Agreement, and at all times thereafter, one hundred percent of Passenger Gates at LAX shall be quipped and able to provide electricity to parked aircraft.

2. Aircraft Use of Gate-Provided Electricity. LAWA shall ensure that gate-provided electricity is provided to all aircraft parked at Equipped Passenger Gates and, except for the exemptions identified in this section, that all aircraft use the gate-provided electricity in lieu of engine operation of aircraft or mobile/ground auxiliary power units…

3. Assessment of Electrification of Passenger Loading Areas. LAWA shall conduct an assessment of operations at Passenger Loading Areas for the purpose of determining whether electrification of Passenger Loading Areas is Operationally Infeasible. The assessment shall include, but not limited to, inventory utilization, operations, technological trends, and capital and maintenance costs…

4. Commuter Flight Loading and Unloading. By the conclusion of the LAX Master Plan Program, loading and unloading of passengers of commercial aircraft shall be performed only through Passenger Gates.

Status → Completed:
All passenger contact gates are electrified with 400 hertz ground power.

Section X.H. Ground Service Equipment Inventory

1. Scope of GSE Inventory. LAWA shall prepare a study ("GSE Inventory") detailing all GSE operated On-Site. The GSE Inventory shall include, but not be limited to, an inventory of the number, type, sizes, model year, usage history, and identify of operator for all GSE operated On-Site at the time of the GSE Inventory…
2. Determination of 1997 GSE Fleet for Nonparticipating GSE Operators. The GSE Inventory shall include a determination of the number and types of On-Site GSE that were operated On-Site in 1997 by each Nonparticipating GSE Operator…

Status → Completed:
LAWA completed the study in 2007 and completed an update of the inventory and study in 2014.

Section X.J. Emission Reductions from On-Road Trucks, Buses, and Shuttles

1. Inventory of On-Road Heavy-Duty Vehicle Traffic and Study of Feasible Mitigation
   a. Heavy-Duty Vehicle Study. LAWA shall fund a study of on-road Heavy-Duty Vehicle traffic related to LAX Operations. This study shall begin no later than one year from the effective date of this Agreement. The study shall be completed within twelve months of its initiation. The Study shall be conducted by an Independent Expert, selected through a Contract Award Process…

Status → Completed:
LAWA submitted a draft scope of work for the Heavy-Duty Vehicle Study to the Coalition in 2005. In 2016 and 2017, LAWA re-evaluated the heavy-duty vehicles used in operations at LAX as part of the analysis undertaken to update the LAX Alternative Fuel Vehicle Requirement. At the November 6, 2017 CBA coordination meeting, the Coalition representative said that LAWA's commitment to the Heavy-Duty Vehicle Study had been fulfilled, and no further action was needed.

Section X.K. Particulate Matter (PM 2.5)

1. Assessment of PM 2.5. LAWA shall assess and mitigate impacts of PM 2.5 in compliance with all applicable provisions of state and federal law. LAWA's obligation to mitigate PM 2.5 impacts within the context of the CEQA may be limited by feasibility, overriding considerations or other requirements articulated in applicable state and federal laws.

2. Determination of PM 2.5 Significance Thresholds. The assessment and mitigation of PM 2.5 impacts shall comply with the requirements for both attainment of PM 2.5 ambient air quality standards and the mitigation of significant project-related and cumulative impacts under CEQA.

3. Conferring with Applicable Agencies. LAWA shall confer with applicable agencies, including SCAQMD, CARB, and the EPA, to assure compliance with state and federal PM 2.5 ambient air quality standards after guidance for measuring and evaluating exceedances has been established. With respect to projects requiring CEQA analysis, LAWA shall include the SCAQMD as a responsible agency in the review process to seek adherence to the threshold standards to be established.

4. LAWA Project Assessment of PM 2.5. LAWA shall conduct and complete a CEQA assessment of PM 2.5 impacts related to the first LAX Master Plan Program project to be initiated after establishment of applicable thresholds, either by SCAQMD or as outlined above. This assessment shall be completed in consultation with SCAQMD as a responsible agency in the CEQA review process.

Status → Completed:

In 2008, LAWA initiated the environmental analysis of the Crossfield Taxiway Project and published a Draft Environmental Impact Report (EIR) on September 25, 2008. The Draft EIR included an assessment of PM2.5 impacts in its air quality analysis.

Section X.O. Hydrogen Fuel Cell Infrastructure

LAWA shall support efforts to place a hydrogen fuel cell system for the generation of electricity at or near LAX. This fuel cell system shall meet or exceed CARB 2007 distributed generation certification standard.

Status → Completed:

LAWA investigated the use of hydrogen fuel cells for the Central Utility Plant Replacement Project EIR published in 2009. LAWA determined that the use of hydrogen fuel cells was not feasible due to space constraints and energy inefficiency.

Section X.P. Cleaner Burning Jet Fuels

LAWA shall support efforts to encourage the airlines and petroleum industries to embark on a study to promote the use of jet fuels that minimize air pollutant emissions from jet engines.

Status → Completed; continuing to support:

In 2018, LAWA continued to support the use of cleaner burning jet fuels by working with its airline and tenant stakeholders, as well as airport industry organizations and air quality agencies.

United Airlines and KLM received 3.5 million gallons of blended biofuel (70 percent traditional fuel/30 percent biofuel) in 2018 for use by commercial aircraft leaving LAX. This biofuel was dropped into the fuel storage tanks at LAX.

Section XII. Traffic

A. Construction Traffic

2. Lennox/405 Interchange. If LAWA participates in construction of an interchange to the 405 Freeway at Lennox Boulevard, LAWA shall consult with the Coalition Representative and impacted residents in developing mitigation measures that shall be included in the project's Environmental Impact Report, to minimize negative impacts such as residential relocations and the demolition of a community center. These mitigation measures shall include pedestrian and bicycle access over or under the 405 Freeway at Lennox Boulevard, to ensure that local residents can safely access both sides of the 405 Freeway at Lennox Boulevard.

Status → Completed; no longer applicable:
The Lennox Boulevard/I-405 interchange and associated mitigations are not being considered within the context of an overall landside improvement plan for LAX.

APPENDIX B

SUMMARY OF CALLS IN 2018 TO LAX

CONSTRUCTION HOTLINE

Summary of Messages in 2018 to LAX Construction Hotline

Overview: A total of 657 messages including 419 e-mails, 227 phone messages, and 11 web messages, were received on the LAX Construction Hotline in 2018. The vast majority of the calls were not directly related to construction, particularly with regards to not being construction-related complaints and concerns that Los Angeles World Airports could take immediate action to address and resolve. Those types of "non-construction related" calls generally include, but are not limited to, the following:

- Messages regarding the availability of all or certain food and beverage establishments within terminals undergoing construction activities
- Messages asking for walking directions from one particular terminal to another, and the approximate amount of time it would take to walk the route (i.e., would they be in time to catch their scheduled connecting flight)
- Messages inquiring about construction-related employment or offering construction products and services
- Messages regarding malfunctioning equipment within terminals unrelated to construction
- Messages regarding traffic congestion in and around LAX unrelated to construction
- Messages expressing general concerns about LAX overall, including as compared to other specific airports
- Messages, both positive and negative, regarding personal interactions with airport personnel

Messages received on the LAX Construction Hotline that were considered to be "construction-related" generally include, but are not limited to, the following:

- Messages regarding whether specific construction activities would delay their flight or would require additional time to get to their terminal/gate or the nearby parking structure.
- Contractors working on current projects at LAX requesting information related to accessing the worksite
- Messages with other specific concerns directly related to construction, including as related to dust and debris within interior portions of the terminals.

The following provides a breakdown of calls received on the LAX Construction Hotline in 2018

Month	# of Messages Received	Construction Related	Non-Construction Related
January	6	0	6
February	16	2	14
March	22	5	17
April	57	1	56
May	89	12	77
June	86	4	82
July	84	5	79
August	73	5	68
September	62	5	57
October	76	7	69
November	49	1	48
December	37	1	36
Total	657	48	609

LAWA responded to all messages where the person left contact information, regardless of whether the message was construction related or non-construction related.

APPENDIX C

THIRD PARTY MONITOR SEMI-ANNUAL REPORTS DATED DECEMBER 14, 2018 AND MARCH 22, 2019

LAX Master Plan Projects Semiannual Report
Independent Third Party Monitor

Prepared by:

Clean Fuel Connection, Inc.

December 14, 2018

TABLE OF CONTENTS

Cover Photo – WAMA Delta Hangar
Photo Credit - Ray Gorski

SECTION 1 - INTRODUCTION

This Semiannual Report was prepared by Clean Fuel Connection Inc. (CFCI), Independent Third Party Monitor for LAX Master Plan Projects, and is submitted in accordance with Section X.F.8 of the Community Benefits Agreement (CBA)[1]. The purpose is to document CFCI's efforts as they relate to the monitoring of LAX Master Plan construction activities and construction contractor's conformance to requirements specified in CBA Section X.F.

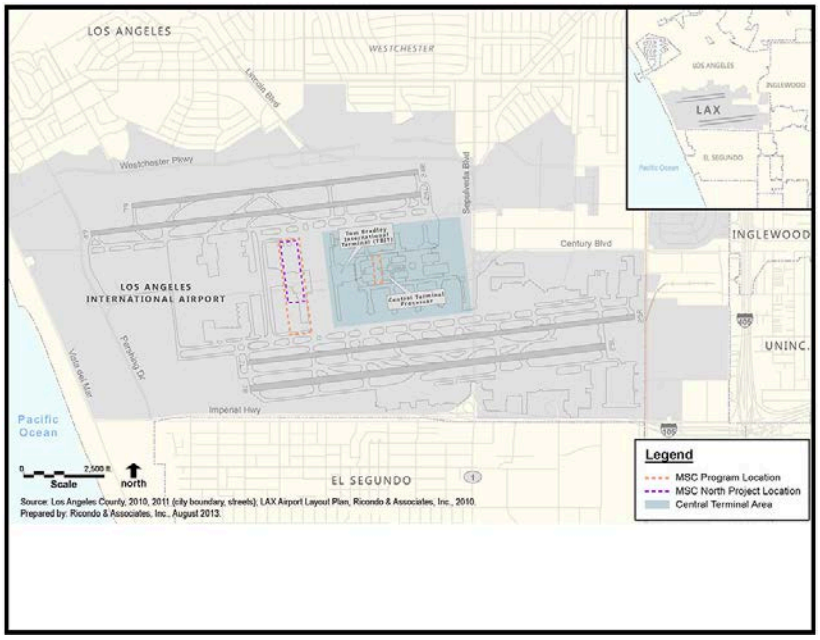
This Semiannual Report covers the period commencing January 1, 2018 and ending June 30, 2018. During this period, two (2) LAX Master Plan Projects had ongoing construction activities. These projects are the Midfield Satellite Concourse North (MSC) and the West Aircraft Maintenance Area (WAMA) Delta Hangar.

The MSC Project includes a new passenger concourse facility approved as part of the LAX Master Plan. The MSC facility is located in the central area of the airfield, west of Tom Bradley International Terminal (TBIT). The MSC Program also includes a Central Terminal Processor, conveyance systems for passengers and baggage, and new taxiways/taxilanes and airport aprons. The construction contractor is Turner/PCL, a Joint Venture in association with Corgan/Gensler.

Figure 1-1 shows the location of the MSC North Project on the LAX airfield.

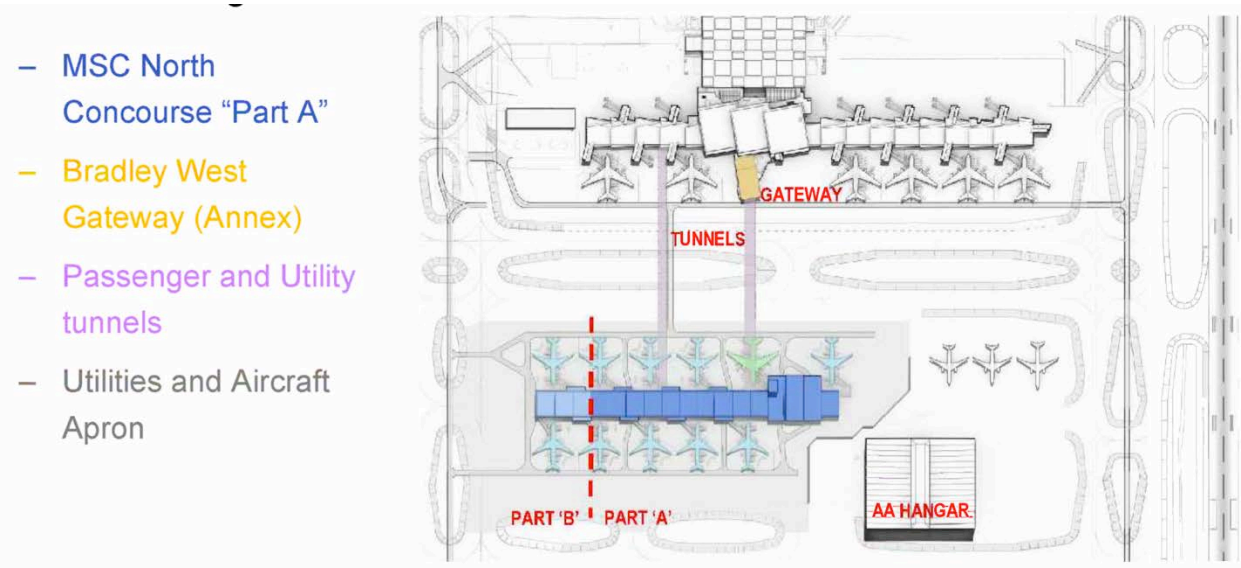
Figure 1-1 – Location of the Midfield Satellite Concourse Project

[1] https://www.lawa.org/en/lawa-our-lax/community-benefits-agreement



Due to the size and scale of the MSC Program, LAWA is developing the MSC in independent phases. Phase 1 ("MSC North Project") of the MSC Program is the construction of the northern portion of the multi-story MSC facility and associated improvements, as shown below in Figure 1-2:

Figure 1-2 –Midfield Satellite Concourse Phase 1 – North Project



The Delta Hangar Project is constructing a new aircraft maintenance facility within the West Aircraft Maintenance area. This new maintenance hangar is located next to the recently completed Qantas Hangar. See Figures 1-3 and 1-4, below:

Figure 1-3 – Location of WAMA Delta Hangar Project Construction

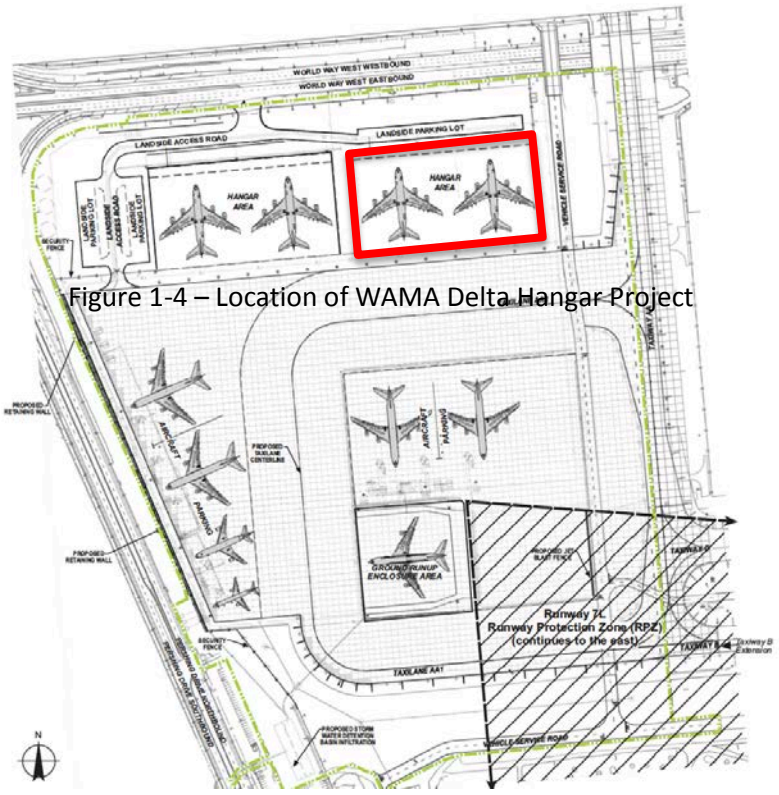


Figure 1-4 – Location of WAMA Delta Hangar Project

This Semiannual Report will discuss adherence to the CBA requirements during MSC-North and WAMA Delta Hangar construction.

Third Party Monitoring - CFCI's efforts in monitoring, documenting, and reporting on the status of CBA Section X.F as it pertains to LAX Master Plan projects include:

- **Development of an Equipment database to include all known equipment utilized in each Master Plan Project**. This database documents the technical specifications of each piece of on and off-road construction equipment. The database documents each piece of equipment relative to compatibility with diesel emission control devices, the emission control device used or planned for use on each piece of construction equipment, or whether the equipment was determined to be incompatible with any available emission control system. The database also documents all equipment operating under an approved Los Angeles World Airports (LAWA) exemption, including but not limited to "20-day" exemptions, driver-visibility safety exemptions, or special circumstance exemptions;
- **Field verification of the equipment database and reconciliation with LAWA's environmental monitor vehicle records**. The construction contractors provide LAWA's environmental monitor with airfield equipment lists on a periodic basis (typically monthly). The Third Party Monitor reviews all available vehicle records for the purpose of verifying compliance with 20-day exemption obligations as well as reconciling LAWA's environmental monitor records with the Third Party Monitor equipment database;
- **Examination and verification of requests for exemptions from installation of Best Available Control Technology (BACT).** As discussed in Section 2 of this Report, CFCI independently reviews each piece of construction equipment proposed for use on a LAX Master Plan project to determine compatibility with a commercially available California Air Resources Board (CARB) or U.S. Environmental Protection Agency (EPA) verified Diesel Emission Control System (VDECS). The results of this independent assessment are documented in each Semiannual Report as well as the equipment database;

- **Examination of fuel purchase records to verify that low sulfur diesel is being used**. This task has been substantially reduced in scope due to enactment of state law that allows only ultra-low sulfur diesel (ULSD) to be sold for on and off-road vehicles in California;
- **Monitoring of installed emission control devices on construction equipment**. This includes physical inspections of diesel construction equipment retrofitted with a VDECS to ensure emission control devices are properly installed and functioning;
- **On-airfield monitoring of construction equipment operations enforcement**. This includes, but is not limited to, observation of construction operations to determine compliance with equipment idling restrictions, fugitive dust emissions mitigation requirements, as well as identification of construction equipment in an apparent state of disrepair due to the presence of visible smoke;
- **Annual Reassessment of Available Emission Control Systems**. On an annual basis, the Third Party Monitor conducts a comprehensive evaluation of available CARB and EPA-verified emission control systems. The purpose of this reassessment is to ensure LAWA incorporates the any newly designated best available control strategies into construction bid documents prior to bidding of new construction phases of the LAX Master Plan Program. The process of emission control technology review also includes any new, relevant requirements promulgated by CARB or EPA. This Semiannual Report includes the results of the Annual Emission Control System Reassessment.

The CFCI project staff is comprised of the following individuals:

- Enid Joffe, founder and owner of Clean Fuel Connection, Inc.;
- Ray Gorski, lead air quality engineer and principal field engineer;
- Lauren Dunlap, air quality engineer and principal analyst in determining compatibility of emission control devices and calculations of emission reductions for VDECS installed on Master Plan project equipment. In addition, Lauren quantifies air quality benefits associated with onsite concrete crushing and batch plant concrete production.

SECTION 2 - TASK-BY-TASK STATUS REPORT

The following section documents CFCI's work during the past reporting period on each of the specific tasks in the Third Party Monitor Scope of Work.

TASK 1: BEST AVAILABLE EMISSIONS CONTROL DEVICES REQUIRED

Section X.F.1 of the Community Benefits Agreement (CBA) for the LAX Master Plan Program requires that all diesel equipment used for construction be outfitted with the best available emission control devices, primarily to reduce diesel particulate matter on the order of 10 microns[2] in diameter (PM_{10}), and fine particulate, which is on the order of 2.5 microns in diameter ($PM_{2.5}$). A secondary objective of this requirement is to reduce oxides of nitrogen emissions (NO_x), which are ozone precursors. Section X.F.1 of the CBA applies the requirement to outfit all diesel equipment, including off-road vehicles such as heavy-duty construction equipment, as well as on-road vehicles such as trucks, street sweepers, etc. The requirement also affects non-mobile diesel sources, such as portable generators, air compressors, and light towers. Thus, the requirement to retrofit diesel equipment used in LAX Master Plan construction projects encompasses every piece of diesel equipment, irrespective of its status as on-road mobile, off-road mobile, or stationary.

Section X.F.1 requires that the diesel emission control systems used to retrofit diesel equipment be verified or certified for use on on-road or off-road vehicles or engines by the California Air Resources Board (CARB), or verified by the U.S. Environmental Protection Agency (EPA) for use on on-road or off-road vehicles or engines. Section X.F.1 further allows CARB and EPA-verified "mobile source" devices to be applied to "stationary sources", such as generator engines, and allows technologies verified for "on-road" engines to be applied to "off-road" equipment. Thus, the overall context of Section X.F.1 is very broad and allows maximum flexibility in matching diesel emission control systems with diesel equipment used in Master Plan construction.

The role and responsibilities of the Independent Third Party Monitor as it relates to Section X.F.1 of the CBA is delineated in the following contract Task statements:

[2] One micron equals $1x10^{-6}$ meter or 0.000001 meter.

- Task 1.1 - Contractor shall develop a monitoring process and database to track each piece of diesel equipment used for construction, including documentation procedures and reporting requirements;
- Task 1.2 – Contractor shall monitor, document, and report independently from LAWA, each construction firm's compliance as it relates to outfitting their diesel construction equipment with the best available emissions control devices available.

The following are the results and findings of the Third Party Monitor as they relate to Tasks 1.1 and 1.2 for the period commencing in January 1, 2018 through June 30, 2018.

Task 1.1 – Monitoring Process, Database Development, and Documentation:

Key elements of the monitoring process include:

- *Review of available documentation* – The principal source of technical information for each vehicle proposed for operation on the MSC project are the equipment reports submitted by the construction contractors for review by LAWA's environmental monitor and environmental management staff. These reports document whether or not a compatible verified diesel emission control system (VDECS) is available for a given piece of diesel equipment;
- *Incorporation of all available data into an Equipment Database* – All relevant information derived from review of the equipment reports or field inspections is documented in the equipment database. This database is the principal tool for performing independent verification and validation of the information contained in the equipment reports reviewed and approved by LAWA;
- *Identification and documentation of missing, inconsistent, or inaccurate data* – The database notes which pieces of information are either missing or whose accuracy is suspect;
- *Request for Additional Information and/or Clarification* – Missing data or data that require validation are compiled, and a request for clarification is issued by the Independent Third Party Monitor to LAWA's environmental monitor staff;
- *Field Inspections* – In specific cases, the Independent Third Party Monitor will request permission to conduct a field inspection of the specific piece of equipment under scrutiny;

- *Task 1.2 Independent Verification and Validation* – For each piece of diesel construction equipment included in the database, an independent determination of whether or not a compatible VDECS device is available is conducted;
- *Documentation of Analysis Results* – For each piece of diesel equipment assessed, the availability and compatibility of a VDECS is recorded in the database;
- *Data Reconciliation* – The Third Party Monitor reconciles information contained in the database with the reports maintained by LAWA's environmental monitor and the construction manager's staff.

The Database Development element of Task 1.1 was conducted in accordance with a single objective – record as much data and supporting information as possible to fully characterize each piece of equipment proposed for operation on an LAX Master Plan construction project. To ensure completeness the database incorporates the following data fields:

- *Equipment ID Number* – Most equipment operating on an LAX Master Plan construction project is marked with a unique identifying number by the equipment owner. It has been the practice of the Independent Third Party Monitor and LAWA's environmental monitor staff to use this unique ID when describing, discussing or documenting a specific piece of equipment. All equipment is tracked and monitored relative to this ID number;
- *Owner* – the owner of the piece of diesel equipment, including prime contractor and name of subcontractor or equipment rental company;
- *Equipment Category* – A brief description for the type of diesel equipment, such as "articulated dump truck";
- *Equipment Manufacturer* – The manufacturer of the piece of equipment, usually the equipment chassis. In most cases the manufacturer of the chassis is different from the engine manufacturer;
- *Equipment Model Year* – The year of manufacture of the equipment or vehicle, usually referring to the chassis and vehicle body. It should be noted that it is common for the equipment chassis or body and diesel engine to be different model years;

- *Equipment Model Number* – The number or other descriptive terminology used by the equipment manufacturer in marketing the vehicle, oftentimes used to differentiate similar products;
- *Equipment Serial Number* – This differs from the Equipment ID number described above. The equipment serial number is the vehicle chassis or body identification number assigned by the equipment manufacturer;
- *Engine Manufacturer* – The manufacturer of the main diesel engine used in the equipment. In some cases, most notably off-road heavy-duty scrapers and on-road street sweepers, the equipment has two diesel engines. The first and second engines are designated #1 and #2, respectively, in the database;
- *Engine Model* – The number or other descriptive terminology used by the manufacturer in engine marketing, used to differentiate similar products;
- *Engine Model Year* – The year of manufacture of the diesel engine, diesel emission control devices are often verified for a specific engine model year;
- *Engine Serial Number* – A unique identification number or alphanumeric code assigned by the engine manufacturer;
- *Engine Displacement* – The total volumetric size of the engine's combustion cylinders, usually described as "cubic inches" or "liters". Displacement expressed in cubic inches is calculated by multiplying the number of cylinders by the piston area (square inches) and by the length of the piston stroke (inches). The commonly used metric designation of "liters" is the total engine displaced volume measured in cubic centimeters (1 liter = 1,000 cubic centimeters);
- *Engine Horsepower* – The rated horsepower of the engine by the engine manufacturer;
- *Engine Family* – Engine Family is a descriptive designation given by CARB to a diesel engine upon certification. It is a code, similar to an automobile Vehicle Identification Number, that identifies the engine model year, engine manufacturer, the engine's displacement, on-road or off-road applicability, emissions equipment included during certification testing. This piece of data, along with engine manufacturer and engine model year, is essential to determine conclusively if a VDECS is compatible with the engine undergoing assessment. With practice, one can quickly ascertain a substantial amount of information about an engine by deciphering the engine family designation;

- *Engine #2 Data* – Similar to the above for Engine #1, data are documented for the second diesel engine on a piece of equipment. In the case of heavy-duty earth moving scrapers, the two engines are front and rear; in the case of street sweepers, the second engine is an auxiliary engine that operates the vehicle's rotary brooms and vacuum system.

  For each piece of diesel equipment, the database also documents:

- Whether that piece of equipment has or is currently operated on a Master Plan project. For equipment that has been removed, the date of removal is recorded if known. This portion of the database is currently undergoing reconciliation with the results of the airfield equipment inventory.

- For equipment operating under a 20-day exemption, the date the equipment was placed on the airfield and the date removed. For more discussion on 20-day exemption status, please refer to the Task 4 Section of this report;

- Each piece of equipment's compatibility with both off-road and on-road Verified Diesel Emission Control Systems available at the time the equipment was originally submitted by the owner for review by environmental monitor staff.

During the period ending June 30, 2018, a total of 841 pieces of construction equipment associated with the MSC-North project was assessed, and a total of 124 pieces of equipment associated with the WAMA Delta Hangar project. The equipment information described herein is based on the equipment lists provided by LAWA environmental management.

<u>Task 1.2 – Independent Monitoring, Documentation, & Reporting of Compliance with CBA Section X.F.1; Best Available Emission Control Devices Required</u>:

The primary objective of this Task is to independently verify and validate the findings of LAWA's environmental monitor and contractor staff as it relates to the availability and compatibility of diesel emission control systems for diesel equipment operating on a Master Plan Project. Using the methodology described under Task 1.1, CFCI staff regularly coordinates with LAWA's environmental monitor, requesting and receiving access to files and records for diesel equipment operating or proposed for operation on a Master Plan project.

Only CARB and/or EPA-verified devices available at the commencement of construction activities on a specific Master Plan project were considered when assessing compliance with CBA Section X.F.1. This is based upon the following language included in the CBA:

- The CBA stipulates in Section X.F.9.a. "Reassessments of Emission Control Devices", that *"the process of emission control technology review shall include any new relevant requirements or regulations promulgated by CARB or EPA. Results from the reassessments shall not be applied retroactively"*;
- CBA Section X.F.9.b. states under "Application of New Requirements", that *"any new designations of emission control devices as best available shall apply only to projects that start after the devices are verified or certified for use by CARB or EPA, or approved for use as part of a Demonstration Project"*.

At the time of commencement of construction activities on the MSC and WAMA Delta Hangar projects, multiple diesel emission control devices were verified by CARB for off-road use. CARB assigns a designation to each diesel emission control device as a function of its effectiveness in reducing diesel particulate matter (PM) emissions. This is referred to as the "Verification Level" of the device; CARB currently recognizes three verification levels, as follows:

- Level 1 – greater than or equal to 25% reduction of diesel PM;
- Level 2 – greater than or equal to 50% reduction in diesel PM;
- Level 3 – greater than or equal to 85% reduction in diesel PM.

As shown above, CARB Level 3 offers the highest level of diesel pollution reduction. In accordance with the CBA, the "Best Available Control Technology" (BACT) is Level 3 verification.

Tier 4 Standards - Tier 4 emission standards, which were phased-in over the period of 2008 - 2015, require that emissions of PM and NOx be reduced by approximately 90% compared to Tier 3 emission levels. These emission reductions are achieved through the use of control technologies—including advanced diesel emission control systems - similar to those required by the 2007-2010 standards for on-road engines. For the purpose of conformance to CBA requirements, equipment and vehicles equipped with an engine certified as "Tier 4 interim" or "Tier 4" final satisfies the diesel particulate matter emission reduction CBA requirements. Tier 4 engines are equipped with diesel PM emission control

systems that meet or exceed the performance of a Level 3 BACT system. Tier 4 engines also achieve NOx emissions approximately 90% lower as compared to Tier 3 engines.

Task 1.2 Results

Each piece of diesel equipment submitted to LAWA's environmental monitor for review was independently assessed by the Third Party Monitor to determine its compatibility with a CARB and/or EPA-verified diesel emission control system. The following sections discuss conformance with Task 1.2 for the MSC-North and WAMA Delta Hangar projects for the six-month period ending June 30, 2018.

1.2.1 Midfield Satellite Concourse North – On-Road Vehicles - During the reporting period, a total of 841 pieces of construction equipment was evaluated. This includes 550 on-road vehicles and 291 pieces of off-road construction equipment. LAWA environmental management reviews each piece of equipment and supporting documentation and makes a determination as to whether or not the propose equipment conforms to LAWA environmental policy and the CBA requirements. Of the 291 pieces of off-road construction equipment submitted for review, 24 pieces were either subsequently withdrawn from airfield use consideration by the construction contractor or were disapproved for airfield use by LAWA environmental management.

Table 1.2.1-1, below, lists the on-road vehicles reviewed under this Semiannual Report:

Table 1.2.1-1: MSC North On-Road Vehicles

Contractor	Identification No.	Description	Year
Granite/Ayala Boring	17688D1	Specialty Crane	2007
Granite/Ayala Boring	17689D1	Specialty Crane	2007
Granite/Ayala Boring	17690D1	Specialty Crane	2007
Granite/Ayala Boring	17687D1	Specialty Crane	2007
Granite/Ayala Boring	17686D1	Specialty Crane	2007
Granite	61603U1	Super 10s	2008
Granite	8W30714	Haul Truck	2008
Bubalo	9F68412	Haul Truck	2008
Granite	87660U1	Haul Truck	2009
Granite	67243X1	Haul Truck	2009
Granite	9F27384	Haul Truck	2010
Granite	9E25940	Haul Truck	2010
Steve Bubalo	7LEW428	Haul Truck	2010
Granite	EP01038	Haul Truck	2010

Contractor	Identification No.	Description	Year
Granite	49741F2	Haul Truck	2010
Granite	9F68951	Haul Truck	2010
Granite	9F17451	Haul Truck	2010
Granite	37930J1	Haul Truck	2010
Granite	01697Z1	Haul Truck	2010
Granite	9F67981	Haul Truck	2010
Granite	91392K1	Super 10s	2010
Granite	26596E2	Super 10s	2010
Premiere Eng. & Grading	96735U1	Haul Truck	2010
Premiere Engineering	9F69549	Haul Truck	2010
Premiere Engineering	9E33437	Haul Truck	2010
Andersen Environmental	WP78377	Haul Truck	2010
Andersen Environmental	XP00432	Haul Truck	2010
Bubalo	9D65806	Haul Truck	2010
Granite	9E51754	Haul Truck	2010
Granite	9E51753	Haul Truck	2010
Granite	9E62588	End Dump	2010
Andersen Environmental	WP78363	Haul Truck	2010
Granite	OZZYSTK	Haul Truck	2010
Granite	9F46379	Haul Truck	2010
Granite	9F27374	Haul Truck	2010
Granite	9F06785	Haul Truck	2010
Granite	9E21679	Haul Truck	2010
Granite	88526K1	Haul Truck	2010
Granite	30367V1	Haul Truck	2010
Griffith	TIERITA	Haul Truck	2010
Helix (RJ&J)	49568P1	Haul Truck	2010
Andersen Environmental	9F16104	Haul Truck	2010
Andersen Environmental	9F00165	Haul Truck	2010
Andersen Environmental	9B38607	Haul Truck	2010
Andersen Environmental	9E93027	End Dump	2010
Andersen Environmental	9E06250	Haul Truck	2010
Bubalo	9F42434	End Dump	2010
Conco	65106X1	Water Truck	2010
Granite	9F27384	Haul Truck	2010
Granite	9E25940	Haul Truck	2010
Steve Bubalo	7LEW428	Haul Truck	2010
Bubalo	8W35813	Haul Truck	2011

Contractor	Identification No.	Description	Year
Bubalo	58240T1	Haul Truck	2011
Bubalo	9F35336	Haul Truck	2011
Premiere Eng. & Grading	9E86461	Haul Truck	2011
Granite	WP97782	Haul Truck	2011
Granite	9F57340	Haul Truck	2011
Granite	9F46603	Haul Truck	2011
Steve Bubalo	9D74787	Haul Truck	2011
Granite	EZHAUL1	Super 10s	2011
Granite	9B46457	Super 10s	2011
Granite	89491S1	Super 10s	2011
Granite	65819V1	Super 10s	2011
Granite	61431P1	Super 10s	2011
Granite	20512M1	Super 10s	2011
Premiere Eng. & Grading	85259A2	Haul Truck	2011
Andersen Environmental	9E37126	Haul Truck	2011
Blois	08772H2	Super 10s	2011
Andersen Environmental	WP54600	Haul Truck	2011
Andersen Environmental	WP20128	Haul Truck	2011
Granite	9F17414	Haul Truck	2011
Granite	49212W1	Haul Truck	2011
Andersen Environmental	9F55649	Haul Truck	2011
Andersen Environmental	WP80349	Haul Truck	2011
Andersen Environmental	WP50044	Haul Truck	2011
Andersen Environmental	VP65754	Haul Truck	2011
Bubalo	9E25169	Haul Truck	2011
Griffith	WP93509	Haul Truck	2011
Griffith	9E72155	Haul Truck	2011
Griffith	9F22237	Haul Truck	2011
Griffith	9F22236	Haul Truck	2011
Griffith	9F43153	Haul Truck	2011
Granite	9F62900	Haul Truck	2011
Granite	9F51151	Haul Truck	2011
Granite	9F43230	Haul Truck	2011
Granite	9F42871	Haul Truck	2011
Granite	9F42669	Haul Truck	2011
Granite	9F42608	Haul Truck	2011
Granite	9F42431	Haul Truck	2011
Granite	9F32549	Haul Truck	2011

Contractor	Identification No.	Description	Year
Granite	9F32379	Haul Truck	2011
Granite	9E88431	Haul Truck	2011
Granite	9D30822	Haul Truck	2011
Granite	93050S1	Haul Truck	2011
Granite	8Y35500	Haul Truck	2011
Andersen Environmental	WP71809	Haul Truck	2011
Andersen Environmental	9F69725	Haul Truck	2011
Andersen Environmental	9F14989	Haul Truck	2011
Andersen Environmental	WP71082	Haul Truck	2011
Andersen Environmental	4QIV566	Haul Truck	2011
Helix (RJ&J)	WP31368	Haul Truck	2011
Andersen Environmental	9F61543	Haul Truck	2011
Andersen Environmental	9F45706	Haul Truck	2011
Andersen Environmental	9F11903	Haul Truck	2011
Andersen Environmental	25965T1	Haul Truck	2011
Andersen Environmental	WP29583	End Dump	2011
Austin Enterprises (Granite)	86331D1	Haul Truck	2011
Austin Enterprises (Granite)	0G39781	Haul Truck	2011
Andersen Environmental	XP00441	Haul Truck	2011
Andersen Environmental	XP00440	Haul Truck	2011
Bubalo	58240T1	Haul Truck	2011
Bubalo	8W35813	Haul Truck	2011
Bubalo	9F35336	Haul Truck	2011
Premiere Engineering	9E86461	Haul Truck	2011
Granite	WP97782	Haul Truck	2011
Granite	9F57340	Haul Truck	2011
Granite	9F46603	Haul Truck	2011
Steve Bubalo	9D74787	Haul Truck	2011
Control Air	47882M1	Haul Truck	2012
Bubalo	49995F2	Haul Truck	2012
Bubalo	27062E2	Haul Truck	2012
Bubalo	93300D2	Haul Truck	2012
Bubalo	18917U1	Haul Truck	2012
Bubalo	37668Z1	Haul Truck	2012
Bubalo	50188G2	Haul Truck	2012
Bubalo	64121Z1	Haul Truck	2012
Bubalo	37062E2	Haul Truck	2012
Granite	9F87769	Haul Truck	2012

Contractor	Identification No.	Description	Year
Granite	3068E2	Haul Truck	2012
Premiere Engineering	34057A2	Super 10s	2012
Bubalo	63532T1	Haul Truck	2012
Granite	76960Y1	Super 10s	2012
Granite	9D18023	Haul Truck	2012
Granite	9F70057	Haul Truck	2012
Andersen Environmental	9E80676	Haul Truck	2012
Andersen Environmental	BEJAC3	Haul Truck	2012
Granite	86263B2	Haul Truck	2012
Granite	02903U1	Super 10s	2012
Granite	9F55426	Super 10s	2012
Granite	9F431136	Super 10s	2012
Granite	64963R1	Super 10s	2012
Granite	63196Z1	Super 10s	2012
Granite	59667U1	Super 10s	2012
Granite	04822Z1	Super 10s	2012
Premiere Engineering	9F46036	Haul Truck	2012
Premiere Engineering	9F56692	Haul Truck	2012
Conco	A4337	Haul Truck	2012
Andersen Environmental	XP09037	Haul Truck	2012
Blois	70708Z1	Super 10s	2012
Andersen Environmental	WP72022	Haul Truck	2012
Andersen Environmental	WP71954	Haul Truck	2012
Andersen Environmental	WP43148	Haul Truck	2012
Andersen Environmental	XP07563	Haul Truck	2012
Andersen Environmental	XP00464	Haul Truck	2012
Andersen Environmental	9F55722	Haul Truck	2012
Andersen Environmental	3QZB408	Haul Truck	2012
Granite	9D80158	Haul Truck	2012
Granite	31455E2	Haul Truck	2012
Granite	86948D2	Haul Truck	2012
Bubalo	9F59307	Haul Truck	2012
Andersen Environmental	9F65244	Haul Truck	2012
Andersen Environmental	9F61544	Haul Truck	2012
Andersen Environmental	9F46361	Haul Truck	2012
Andersen Environmental	9F02427	Haul Truck	2012
Andersen Environmental	WP85683	Haul Truck	2012
Andersen Environmental	WP76834	Haul Truck	2012

Contractor	Identification No.	Description	Year
Andersen Environmental	WP65542	Haul Truck	2012
Andersen Environmental	WP63865	Haul Truck	2012
Andersen Environmental	WP50041	Haul Truck	2012
Andersen Environmental	9F60989	Haul Truck	2012
Andersen Environmental	9F56421	Haul Truck	2012
Andersen Environmental	9F46363	Haul Truck	2012
Griffith	9E25613	Haul Truck	2012
Griffith	9E14325	Haul Truck	2012
Granite	85503R1	Super 10s	2012
Griffith	9F59264	Haul Truck	2012
Griffith	9E70220	Haul Truck	2012
Granite	9F68207	Haul Truck	2012
Granite	9F35132	Haul Truck	2012
Granite	65296R1	Haul Truck	2012
Granite	08293Y1	Haul Truck	2012
Griffith	JGROD19	Haul Truck	2012
Griffith	JGROD15	Haul Truck	2012
Griffith	JGROD12	Haul Truck	2012
Granite	90623A2	Super 10s	2012
Griffith/Cal-Earth	01643U1	Super 10s	2012
Conco	CP74872	Gravel Truck	2012
Conco	CP74871	Gravel Truck	2012
Conco	CP74870	Gravel Truck	2012
Conco	CP74869	Gravel Truck	2012
Conco	CP74863	Gravel Truck	2012
Conco	CP74862	Gravel Truck	2012
Conco	70253H1	Gravel Truck	2012
Conco	56094H1	Gravel Truck	2012
Conco	56093H1	Gravel Truck	2012
Conco	CP91650	Gravel Truck	2012
Conco	CP85792	Gravel Truck	2012
Conco	56662F1	Gravel Truck	2012
Conco	56573F1	Gravel Truck	2012
Conco	56572F1	Gravel Truck	2012
Conco	56571F1	Gravel Truck	2012
Conco	11532E1	Gravel Truck	2012
Conco	11531E1	Gravel Truck	2012
Conco	11530E1	Gravel Truck	2012

Contractor	Identification No.	Description	Year
Conco	11529E1	Gravel Truck	2012
Andersen Environmental	XP02136	Haul Truck	2012
Andersen Environmental	WP58089	Haul Truck	2012
Andersen Environmental	WP50691	Haul Truck	2012
Andersen Environmental	9F45933	Haul Truck	2012
Andersen Environmental	9F33810	Haul Truck	2012
Andersen Environmental	9F11667	Haul Truck	2012
Andersen Environmental	9F06621	Haul Truck	2012
Andersen Environmental	WP94057	Haul Truck	2012
Andersen Environmental	WP92254	Haul Truck	2012
Helix (RJ&J)	XP02233	Haul Truck	2012
Helix (RJ&J)	CP99924	Haul Truck	2012
Helix (RJ&J)	25553T1	Haul Truck	2012
Andersen Environmental	JSUA4	Haul Truck	2012
Andersen Environmental	9F68191	Haul Truck	2012
Andersen Environmental	9F51641	Haul Truck	2012
Andersen Environmental	9F35126	Haul Truck	2012
Andersen Environmental	9F32399	Haul Truck	2012
Andersen Environmental	9F29353	Haul Truck	2012
Andersen Environmental	9E63910	Haul Truck	2012
Andersen Environmental	9E42269	Haul Truck	2012
Andersen Environmental	9D18020	Haul Truck	2012
Andersen Environmental	9B80616	Haul Truck	2012
Andersen Environmental	251401Z	Haul Truck	2012
Austin Enterprises (Granite)	72035H1	Haul Truck	2012
Andersen Environmental	9F61107	Haul Truck	2012
Andersen Environmental	9F17467	Haul Truck	2012
Granite	87477G2	Super 10s	2012
Bubalo	49995F2	Haul Truck	2012
Bubalo	27062E2	Haul Truck	2012
Bubalo	37062E2	Haul Truck	2012
Bubalo	64121Z1	Haul Truck	2012
Bubalo	50188G2	Haul Truck	2012
Bubalo	37668Z1	Haul Truck	2012
Bubalo	18917U1	Haul Truck	2012
Bubalo	93300D2	Haul Truck	2012
Granite	9F87769	Haul Truck	2012
Granite	3068E2	Haul Truck	2012

Contractor	Identification No.	Description	Year
Premiere Engineering	34057A2	Super 10 truck	2012
Bubalo	63532T1	Haul Truck	2012
Allied Steel	72567H1	Field Truck	2012
Granite	76960Y1	Super 10 trucks	2012
Granite	Z042224	110-Ton Crane	2012
Granite	9D18023	Haul Truck	2012
Granite	9F70057	Haul Truck	2012
Granite	EP02498	Haul Truck	2013
Control Air	58870C2	Haul Truck	2013
Granite	OBIGRED	Haul Truck	2013
Granite	STAREDE	Haul Truck	2013
Granite	37053J2	Super 10s	2013
Granite	9F17116	Haul Truck	2013
Granite	9E46603	Haul Truck	2013
Granite	9F46037	Haul Truck	2013
Granite	XP12377	Haul Truck	2013
Granite	98194E2	Haul Truck	2013
Granite	54576G2	Haul Truck	2013
Andersen Environmental	9F61064	Haul Truck	2013
Granite	19354C2	Haul Truck	2013
Granite	R627452	Haul Truck	2013
Bubalo	9F41928	Haul Truck	2013
Conco	A4446	Haul Truck	2013
Conco	A4434	Haul Truck	2013
Conco	A4398	Haul Truck	2013
Conco	A4378	Haul Truck	2013
Steve Bubalo	9F12787	Haul Truck	2013
Steve Bubalo	9F12786	Haul Truck	2013
Blois	80835Y1	Super 10s	2013
SE Pipeline	WP15538	Haul Truck	2013
Bubalo	9F60101	Haul Truck	2013
Granite	58441C2	Haul Truck	2013
Andersen Environmental	9F19583	Haul Truck	2013
Griffith	9E86035	Haul Truck	2013
Griffith	9E61055	Haul Truck	2013
Griffith	9F28544	Haul Truck	2013
Griffith	9E25620	Haul Truck	2013
Griffith	27428V1	Haul Truck	2013

Contractor	Identification No.	Description	Year
Granite	WP84500	Haul Truck	2013
Granite	9E04716	Haul Truck	2013
Granite	70109H1	Haul Truck	2013
Granite	31656E2	Haul Truck	2013
Griffith	JGROD18	Haul Truck	2013
Griffith	JGROD17	Haul Truck	2013
Blois	7J28350	Haul Truck	2013
Griffith/Cal-Earth	9E90690	Super 10s	2013
Conco	CP87839	Gravel Truck	2013
Conco	79681H1	Gravel Truck	2013
Conco	79680H1	Gravel Truck	2013
Conco	79426H1	Gravel Truck	2013
Conco	79422H1	Gravel Truck	2013
Conco	79421H1	Gravel Truck	2013
Conco	70292H1	Gravel Truck	2013
Conco	70291H1	Gravel Truck	2013
Conco	70290H1	Gravel Truck	2013
Conco	70289H1	Gravel Truck	2013
Conco	47408H1	Gravel Truck	2013
Andersen Environmental	WP88698	Haul Truck	2013
Andersen Environmental	9F61106	Haul Truck	2013
Griffith	50172K1	Haul Truck	2013
Andersen Environmental	WP47201	Haul Truck	2013
Andersen Environmental	9F66037	Haul Truck	2013
Andersen Environmental	9F42648	Haul Truck	2013
Andersen Environmental	9E83229	Haul Truck	2013
Andersen Environmental	9E77508	Haul Truck	2013
Andersen Environmental	9E70034	Haul Truck	2013
Andersen Environmental	9D66121	Haul Truck	2013
Andersen Environmental	9D66067	Haul Truck	2013
Andersen Environmental	3165600	Haul Truck	2013
Bubalo	9F32616	End Dump	2013
Granite	77731F2	Haul Truck	2013
Bubalo	9F51621	Haul Truck	2013
Granite	35520H2	Super 10s	2013
Murray	58254P1	Water Truck	2013
Granite	90268R1	Water Truck	2013
Granite	26046M2	Truck	2013

Contractor	Identification No.	Description	Year
Granite	OBIGRED	Haul Truck	2013
Granite	STAREDE	Haul Truck	2013
Granite	37053J2	Super 10 trucks	2013
Granite	9F17116	Haul Truck	2013
Granite	9E46603	Haul Truck	2013
Granite	9F46037	Haul Truck	2013
Steve Bubalo	12868C2	Haul Truck	2013
Granite	XP12377	Haul Truck	2013
Granite	98194E2	Haul Truck	2013
Granite	54576G2	Haul Truck	2013
Granite	37052J2	Haul Truck	2014
Granite	89973G2	Haul Truck	2014
Control Air	90811K2	Haul Truck	2014
Conco	85867S1	Haul Truck	2014
Conco	85866S1	Haul Truck	2014
Granite	LBZREDY	Haul Truck	2014
Granite	87583G2	Haul Truck	2014
Granite	71445Z1	Haul Truck	2014
Granite	85823R1	Haul Truck	2014
Granite	85822R1	Haul Truck	2014
Conco	A3872	Haul Truck	2014
Bubalo	85922J1	Haul Truck	2014
Andersen Environmental	9E80762	Haul Truck	2014
Bubalo	33861P1	Haul Truck	2014
Granite	9E04694	Haul Truck	2014
Andersen Environmental	WP79475	Haul Truck	2014
Andersen Environmental	WP22405	Haul Truck	2014
Andersen Environmental	9F69431	Haul Truck	2014
Andersen Environmental	9F68465	Haul Truck	2014
Conco	7DWB680	Gravel Truck	2014
Conco	CP84854	Gravel Truck	2014
Conco	CP79479	Gravel Truck	2014
Conco	CP79477	Gravel Truck	2014
Conco	98021M1	Gravel Truck	2014
Conco	88616N1	Gravel Truck	2014
Conco	CP79486	Gravel Truck	2014
Andersen Environmental	CP96735	Haul Truck	2014
Andersen Environmental	WP16214	Haul Truck	2014

Contractor	Identification No.	Description	Year
Andersen Environmental	9D58048	Haul Truck	2014
Andersen Environmental	9F16684	Haul Truck	2014
Andersen Environmental	9F16383	Haul Truck	2014
Andersen Environmental	9E42354	Haul Truck	2014
Andersen Environmental	9B16298	Haul Truck	2014
Andersen Environmental	64230S1	Haul Truck	2014
Conco	7FNY276	Gravel Truck	2014
Conco	7CZS359	Haul Truck	2014
Austin Enterprises (Granite)	81455S1	Haul Truck	2014
Blois	35596N1	Haul Truck	2014
Granite	88655H1	Haul Truck	2014
Granite	81744F2	Super 10s	2014
SE Pipeline	92079T1	weld truck	2014
Conco	8CDW168	Pump Truck	2014
Granite	LBZREDY	Haul Truck	2014
Allied Steel	26199P1	Field Truck	2014
Allied Steel	56486N1	Field Truck	2014
Granite	87583G2	Haul Truck	2014
PG Cutting	30010U1	Service Truck	2014
Granite	74642T1	Haul Truck	2015
Andersen Environmental	XP06898	Haul Truck	2015
Conco	A4048	Haul Truck	2015
Conco	A4031	Haul Truck	2015
Conco	A4009	Haul Truck	2015
Conco	A3919	Haul Truck	2015
Andersen Environmental	XP10334	Haul Truck	2015
Andersen Environmental	WP50668	Haul Truck	2015
Griffith	9E72263	Haul Truck	2015
Granite	9F18446	Haul Truck	2015
Granite	9F18504	Haul Truck	2015
Granite	85552R1	Haul Truck	2015
Granite	03102V1	Haul Truck	2015
Granite	90612D2	Super 10s	2015
Granite	83584W1	Super 10s	2015
Granite	91320W1	Super 10s	2015
Granite	30364V1	Super 10s	2015
Conco	CP92543	Gravel Truck	2015
Conco	CP92542	Gravel Truck	2015

Contractor	Identification No.	Description	Year
Conco	CP92533	Gravel Truck	2015
Conco	CP92532	Gravel Truck	2015
Conco	WP39525	Gravel Truck	2015
Conco	CP92531	Gravel Truck	2015
Conco	CP92517	Gravel Truck	2015
Conco	CP92516	Gravel Truck	2015
Conco	CP85798	Gravel Truck	2015
Conco	CP85775	Gravel Truck	2015
Conco	CP85769	Gravel Truck	2015
Conco	CP85758	Gravel Truck	2015
Conco	CP85757	Gravel Truck	2015
Conco	9F18309	Gravel Truck	2015
Conco	85745R1	Gravel Truck	2015
Conco	75834T1	Gravel Truck	2015
Conco	75833T1	Gravel Truck	2015
Conco	75832T1	Gravel Truck	2015
Conco	75831T1	Gravel Truck	2015
Conco	75828T1	Gravel Truck	2015
Conco	75737T1	Gravel Truck	2015
Conco	74223U1	Gravel Truck	2015
Conco	74221U1	Gravel Truck	2015
Conco	60351U1	Gravel Truck	2015
Conco	38938S1	Gravel Truck	2015
Conco	38937S1	Gravel Truck	2015
Andersen Environmental	9F31785	Haul Truck	2015
Andersen Environmental	9F66033	Haul Truck	2015
Andersen Environmental	9F25513	Haul Truck	2015
Andersen Environmental	9F18462	Haul Truck	2015
Andersen Environmental	9F18344	Haul Truck	2015
Andersen Environmental	9F18343	Haul Truck	2015
Andersen Environmental	9F18342	Haul Truck	2015
Andersen Environmental	9F08697	Haul Truck	2015
Andersen Environmental	9B16299	Haul Truck	2015
Andersen Environmental	74719T1	Haul Truck	2015
Conco	7LXE829	Haul Truck	2015
Granite	43067U1	Haul Truck	2015
Bubalo	72633W1	Haul Truck	2015
RJ&J	67282W1	Water Truck	2015

Contractor	Identification No.	Description	Year
Andersen Environmental	86381V1	Water truck	2015
Granite	70390Z1	Haul Truck	2016
Granite	CP95396	Haul Truck	2016
Granite	54396X1	Super 10s	2016
Granite	54395X1	Super 10s	2016
TPJV	70545C2	10 Yard Dump	2016
Griffith	9F53064	Haul Truck	2016
Griffith	9F18775	Haul Truck	2016
Granite	81320W1	Haul Truck	2016
Griffith	9F18776	Haul Truck	2016
Griffith	9F18777	Haul Truck	2016
Griffith	9F18774	Haul Truck	2016
Granite	98813D2	Super 10s	2016
Granite	96699U1	Super 10s	2016
Conco	7MSB387	Gravel Truck	2016
Conco	CP95395	Gravel Truck	2016
Conco	CP94437	Gravel Truck	2016
Conco	CP94428	Gravel Truck	2016
Conco	CP94417	Gravel Truck	2016
Conco	CP94415	Gravel Truck	2016
Conco	70114Z1	Gravel Truck	2016
Andersen Environmental	9F41012	Haul Truck	2016
Andersen Environmental	9F46362	Haul Truck	2016
Granite	50062Z1	Haul Truck	2016
Andersen Environmental	9F52953	Haul Truck	2016
Andersen Environmental	9F43306	Haul Truck	2016
Andersen Environmental	9F42661	Haul Truck	2016
Andersen Environmental	9E24811	Haul Truck	2016
Conco	7SQU803	Haul Truck	2016
Conco	7LXF284	Haul Truck	2016
Austin Enterprises (Granite)	86028C2	Haul Truck	2016
Austin Enterprises (Granite)	84603A2	Haul Truck	2016
Blois	66826F2	Haul Truck	2016
Comet	85036Y1	Haul Truck	2016
United Site Services	05991Y1	Haul Truck	2016
Malcolm Drilling	7TCZ570	Crane	2016
Allied Steel	11755X1	Field Truck	2016
Conco	44899D2	Haul Truck	2017

Contractor	Identification No.	Description	Year
Granite	85113E2	Haul Truck	2017
TPJV	70543C2	10 Yard Dump	2017
TPJV	70542C2	10 Yard Dump Trucks	2017
Zarp	JD456050	Haul Truck	2017
Andersen Environmental	WP98040	Haul Truck	2017
Bubalo	42490K1	Haul Truck	2017
Bubalo	56440Z1	Haul Truck	2017
Andersen Environmental	4PS4476	Haul Truck	2017
Andersen Environmental	WP96789	Haul Truck	2017
Griffith	77810E2	Haul Truck	2017
Conco	CP94507	Gravel Truck	2017
Conco	70729Z1	Gravel Truck	2017
Conco	70252H1	Gravel Truck	2017
Conco	56755Z1	Gravel Truck	2017
Conco	56753Z1	Gravel Truck	2017
Andersen Environmental	9F60181	Haul Truck	2017
Andersen Environmental	9F54476	Haul Truck	2017
Andersen Environmental	9F36865	Haul Truck	2017
Andersen Environmental	9F36864	Haul Truck	2017
Shoring Engineers	9F56837	Haul Truck	2017
Granite	50099Z1	Haul Truck	2017
Granite	22960V1	Haul Truck	2017
Granite	SE647373	Water Truck	2017
TPJV	24244H2	Water Truck	2017
Shoring Engineers	7VAD919	Crane 265 ton	2017
Best Contracting	WA7P58	Crane	2017
Malcolm Drilling	8AIJ316	Crane	2017
Premiere Engineering	42728B2	Water Truck	2017
PG Cutting	54076J2	Service Truck	2017
PG Cutting	40618H2	Service Truck	2017
Steve Bubalo	01155J2	Haul Truck	2018
Zarp	87380G2	Haul Truck	2018
Granite	8EGG304	Crane	2018
Steve Bubalo	01155J2	Haul Truck	2018
Steve Bubalo	12868C2	Haul Truck	TBD
Granite	9F38646	Haul Truck	TBD
Granite	49447C2	Haul Truck	TBD

Contractor	Identification No.	Description	Year
Andersen Environmental	CP99173	Haul Truck	TBD
Andersen Environmental	BEJAC2	Haul Truck	TBD
Griffith	9F17431	Haul Truck	TBD
Premiere Eng. & Grading	9E04738	Haul Truck	TBD
Premiere Eng. & Grading	9E04704	Haul Truck	TBD
Andersen Environmental	WP05483	Haul Truck	TBD
Andersen Environmental	59999U1	Haul Truck	TBD
Andersen Environmental	58968C2	Haul Truck	TBD
Andersen Environmental	36153A2	Haul Truck	TBD
Andersen Environmental	9F46366	Haul Truck	TBD
Blois	40580Z1	Super 10s	TBD
Granite	8L70861	Haul Truck	TBD
Blois	85274A2	Super 10s	TBD
Blois	61970A2	Super 10s	TBD
Granite	8H79816	Haul Truck	TBD
Bubalo	9F61241	End Dump	TBD
Bubalo	9F54458	End Dump	TBD
Granite	7T62023	Haul Truck	TBD
Bubalo	05040V1	Dump Truck	TBD

As shown in the above Table, 22 vehicles did not have a model year identified at the time of project reporting. Approval for these vehicles is pending confirmation that they are equipped with a verified diesel emission control system (VDECS). The remaining 504 on-road vehicles have been documented to meet the requirements of the CBA Section X.F.1, in that all of the vehicles are model year 2007 or newer and equipped with a factory installed VDECS.

It should also be noted that the model year 2010 and newer on-road vehicles are also equipped with a selective catalytic reduction (SRC) device that reduces oxides of nitrogen (NOx) emissions. The 2010 and newer heavy-duty vehicles are also certified to the 2010 NOx standard of 0.2 g/bhp-hr or cleaner.

An assessment of the on-road truck fleet age and VDECS equipment was conducted. Table 1.2.1-2, below, shows that all vehicles were equipped with a Level 3 VDECS and thus meets the CBA requirement of being equipped with a BACT device.

Table 1.2.1-2: On-Road Vehicles were Equipped with a Level 3 VDECS

Model Year	Number	Percent
2007	5	<1%
2008	3	<1%
2009	2	<1%
2010	41	8%
2011	67	13%
2012	131	25%
2013	79	15%
2014	47	9%
2015	58	11%
2016	36	7%
2017	31	6%
2018	4	<1%
Pending	22	4%

It should also be noted that the model year 2010 and newer engines are equipped with selective catalytic reduction (SCR) technology to reduce oxides of nitrogen (NOx) emission. 494 vehicles out of the 526 on-road trucks assessed, or approximately 94% of on-road vehicles, are equipped with SCR.

1.2.2 Midfield Satellite Concourse North – Off-Road Equipment - During the reporting period, a total of 291 pieces of off-road construction equipment were evaluated. This includes 107 pieces of equipment with an engine horsepower level of less than 50 horsepower (hp). As discussed in Section 2 Task 4, this low power equipment has been granted a categorical exemption by LAWA due to the unavailability and impracticality of retrofitting small equipment with a VDECS.

The remaining 184 pieces of off-road construction equipment are shown in Table 1.2.2-1, below. LAWA environmental management reviews each piece of equipment and supporting documentation and makes a determination as to whether or not the propose equipment conforms to LAWA environmental policy and the CBA requirements. The following Table lists the off-road equipment reviewed under this Semiannual Report:

Table 1.2.2-1: MSC North Off-Road Equipment

Contractor	Identification No.	Description	Engine Tier
Premiere Engineering	KN4C99	Track Loader	T3
Malcolm Drilling	CS8S39	Tieback Drill Rig	T3

Contractor	Identification No.	Description	Engine Tier
Granite	XR5M95	Roller	T3
Helix	US9M87	Forklift	T4F
PCL	173943	Generator	T4F
Murray	GL9A65	Excavator	T4F
Schuff Steel	RF9B86	Crane	T4F
PCL	GV6F35	Forklift	T4F
Granite	RH8H76	Backhoe	T4F
McGuire	XP8K34	Forklift	T4F
Premiere Engineering	NS3X83	Skid Steer	T4F
TPJV	KX4E69	Boom Lift	T4F
Malcolm Drilling	SG4X98	Forklift	T4F
Granite	EY9A44	Forklift	T4F
SE Pipeline	PD8C67	loader	T4F
PCL	175324	Generator	T4F
PCL	172269	Generator	T4F
Granite	VW9B87	Roller	T4F
Orange County Plastering	UA5B47	Boom Lift	T4F
Granite	RY6V49	Skid Steer	T4F
Granite	EY9K63	Roller	T4F
Granite	FK8W46	Roller	T4F
Martinez Steel	JT9Y87	Forklift	T4F
Murray	WM4U73	loader	T4F
Murray	GC6K93	Excavator	T4F
Helix	MB8F76	Forklift	T4F
Helix	170673	Generator	T4F
PCI	GB5V56	Forklift	T4F
Control Air	XF6K79	Skid Steer Loader	T4F
Helix	TC8P53	Forklift	T4F
TPJV	LM7U39	Aerial Lift	T4F
TPJV	UF9D68	Aerial Lift	T4F
Granite	LG9Y67	Excavator	T4F
Shoring Engineers	RU6C97	Cranes	T4F
OCP - Alert Insulation	HJ4K73	Forklift	T4F
EFI Global	UB6Y38	Forklift	T4F

Contractor	Identification No.	Description	Engine Tier
TPJV	VY3867	Forklift	T4F
TPJV	SP4F36	Forklift	T4F
TPJV	CW6X56	Forklift	T4F
TPJV	KR4P34	Forklift	T4F
TPJV	SP4F36	Forklift	T4F
TPJV	KK3M79	Forklift	T4F
TPJV	KA7J94	Rough Terrain Forklift	T4F
Cowelco	DA6S73	Forklift	T4F
Southwest Steel	XA9N75	Forklift	T4F
Granite	SK4S58	Dozer	T4F
Granite	MV5W64	Excavator	T4F
Granite	YU6D64	loader	T4F
Granite	BR3W67	Grader	T4F
Granite	BF8V57	Roller	T4F
Granite	NG3P45	Crawler Tractor	T4F
Granite	TB5J58	Dozer	T4F
R&R Masonry	FV7X58	Forklift	T4F
Helix	MP3F34	Boom Lift	T4F
Granite	KD6K56	loader	T4F
Granite	BL9P47	Mini Excavator	T4F
Granite	KB5J69	Skip Loader	T4F
Shoring Engineers	TH8P85	Boom Lift	T4F
ISEC	WD4U98	Forklift	T4F
Bagatelos	HH8X64	Boom Lift	T4F
Bagatelos	DX3J46	Boom Lift	T4F
Conco	GX7B64	Aerial Lift	T4F
McGuire	CK4E79	Bobcat	T4F
Granite	BK6N76	Excavator	T4F
Helix	AR7L88	Excavator	T4F
Murray	TJ3N94	Loader	T4F
Allied Steel	DB9C98	500 Crane	T4F
Allied Steel	DB9C98	500 Crane	T4F
Premiere Engineering	EU5K99	Rubber Tired Loader	T4F

Contractor	Identification No.	Description	Engine Tier
Granite	NM8T75	Excavator	T4F
Granite	UM4L64	Excavator	T4F
Granite	AL6V34	Loader	T4F
Granite	AU6N67	Forklift	T4F
Granite	PM9R98	Excavator	T4F
PCI	HF6B35	Forklift	T4F
Premiere Engineering	UX7Y57	Skid Steer Loader	T4F
Control Air	UR8B35	Skid Steer Loader	T4F
Tadano	GJ8C68	Crane	T4F
Karcher	KK5B58	Aerial/ Boom Lift	T4F
Best Contracting	DP4K38	Boom Lift	T4F
McQuire	SP4F36	Forklift	T4F
McQuire	VY3B67	Forklift	T4F
Conco	EV7A87	Skid Steer Loader	T4F
Conco	GA4E94	Skid Steer Loader	T4F
Griffith Company	WT5G86	Backhoe	T4F
Westside	WH9Y98	R.T. Forklift	T4F
Granite	GU8J74	Skid Steer Loader	T4F
OCP	UA7S44	Boom Lift	T4F
Control Air	HA3Y79	Loader	T4F
Granite	XS3M65	Grader	T4F
Granite	YW4K96	Dozer	T4F
Control Air	AF3E56	Skid Steer Loader	T4F
Schuff Steel	JT6N57	Aerial Lift	T4F
TPJV	KD9H96	Aerial Lift	T4F
Schuff Steel	RU6P76	Aerial Lift	T4F
Limbach	CM9C85	Forklift	T4F
Otis	ML6X66	Forklift	T4F
TPJV	BL4U93	Forklift	T4F
Granite	FY4N56	Forklift	T4F
TPJV	SG4Y54	Forklift	T4F
Orange County Plastering	AX6E47	Boom Lift	T4F
Granite	BV8E37	Forklift	T4F
McQuire	PA8D59	Loader	T4F
Granite	BB5D98	Aerial Lift	T4F
Granite	DC4G45	Rough Terrain Forklift	T4F
Granite	TF5V44	Loader	T4F

Contractor	Identification No.	Description	Engine Tier
PG Cutting	AU5E89	Generator	T4F
McQuire	PA8D59	Loader	T4F
Conco	JH44F86	Crane	T4F
Granite	XH4C58	Grader	T4F
Granite	XL5M56	Grader	T4F
Conco	TC6V97	Roller	T4F
Premiere Engineering	XF4T85	Compaction Roller	T4F
Granite	WC8Y33	Excavator	T4F
Granite	NM7K54	Forklift	T4F
Gerdau	F84D85	Forklift	T4F
Granite	YD7P96	Crawler	T4F
Control Air	KN4P74	Bobcat	T4F
MSI Steel	JN8T77	Forklift	T4F
Conco	NJ3X46	Crane	T4F
Granite	UB3N88	Rock truck	T4F
Granite	MS5J37	Rock truck	T4F
Conco	DN9A34	Crane	T4F
Conco	GU9L37	Backhoe	T4F
Premiere Engineering	NX9R49	Skid Steer Loader	T4F
Granite	SJ6T89	Roller	T4F
Granite	RX8T59	Mini Excavator	T4F
Premiere Engineering	XE5J57	Skid Steer Loader	T4F
Premiere Engineering	KN4K43	Excavator	T4F
McQuire	DT6W99	Loader	T4F
Granite	AF3L83	Forklift	T4F
SE Pipeline	KD7L43	Forklift	T4F
Granite	TD7H36	Forklift	T4F
SE Pipeline	SU4V67	Rubber Tire Loader	T4F
Conco	KN4P74	Skidsteer	T4F
Murray	KM5C69	Skidsteer	T4F
Andersen Environmental	HG6J97	Forklift	T4F
Granite	FW7H43	Excavators	T4F
Shoring Engineers	XK4R36	Forklift	T4F
Shoring Engineers	VD3C58	Forklift	T4F
Premiere Engineering	WG3U55	Skid Steer Loader	T4F
Allied Steel	TT3J35	Forklift	T4F
Granite	HU7P94	90-Ton Crane	T4F
Helix	LB8L57	Forklift	T4F

Contractor	Identification No.	Description	Engine Tier
Control Air	CK4E79	Skid Steer Loader	T4F
Malcolm Drilling	174242	Air Compressor	T4F
Granite	YH9Y56	Excavators	T4F
Bagatelos	GR9H84	Boom Lift	T4F
Conco	RR5S45	Crane	T4F
Conco	LU4M63	Skid Steer	T4F
Best Contracting	RE7J83	Crane	T4F
Bagatelos	NS7T94	Boom Lift	T4F
Bagatelos	AK9G86	Boom Lift	T4F
Bagatelos	GR3K37	Boom Lift	T4F
Malcolm Drilling	AA6X88	Skid Steer Loader	T4F
Conco/Ampco	KW5G44	Forklift	T4F
Malcolm Drilling	WL3A49	Reach Fork	T4F
McQuire	KM4W78	Forklift	T4F
Helix (RJ&J)	164973	Generator	T4F
Granite	TL6X39	Excavator	T4F
Malcolm Drilling	174220	Air Compressor	T4F
Murray	LW7D55	Excavators	T4F
Murray	AA4X74	Excavators	T4F
Murray	MR5P58	Excavators	T4F
Granite	YU7X95	Backhoes	T4F
Premiere Engineering	XE5J57	Skid Steer	T4F
Malcolm Drilling	144599	Tieback Drill Rig	T4F
Malcolm Drilling	173275	Compressor	T4F
Granite	GJ8T79	Backhoe	T4F
Shoring Engineers	LW3S55	Forklift	T4F
Premiere Engineering	BW4H56	Excavator	T4F
Orange County Plastering	SG7T67	Boom Lift	T4F
Conco/Ampco	BW9U88	Excavator	T4F
Saddle Back Water	MP4C65	Boom Lift	T4F
Granite	GX7B96	Backhoe	T4F
Granite	PR7L46	Dozer	T4F
Granite	PS6D43	Track Loader	T4F
Bagatelos	XS7W87	Forklift	T4F
Granite	RH8H76	Backhoes	T4F
Granite	JG5G58	Skid Steer	T4F
Granite	RR8L66	Excavator	T4F
Bagatelos	TV8W98	Forklift	T4F

Contractor	Identification No.	Description	Engine Tier
Bagatelos	NU3A85	Boom Lift	T4F
Granite	PM8C44	Excavator	T4F
Granite	AX3W75	Excavator	T4I

The above-listed off-road equipment is summarized by emissions rating (Tier), below:

Table 1.2.2-2: Summary of MSC North Construction Equipment Breakdown by Equipment Tier

Emissions Standard/Classification	Quantity
Tier 4 Final	180
Tier 4 Interim	1
Tier 3	3

As shown in Table 1.2.2-2, greater than 98% of the construction equipment submitted for LAWA review is factory equipped with a Level 3 VDECS (Tier 4 Interim and Tier 4 Final) and thus represents the best available emissions control technology (BACT). Three non-BACT pieces of equipment rated at Tier 3 were granted airfield access authorization under an approved exemption.

1.2.3 WAMA Delta Hangar – On-Road Vehicles - During the reporting period, a total of 124 pieces of construction equipment was evaluated. This includes 28 on-road vehicles and 96 pieces of off-road construction equipment.

Table 1.2.3-1, below, lists the on-road vehicles reviewed under this Semiannual Report:

Table 1.2.3-1: WAMA Delta Hangar On-Road Vehicles

Contractor	Identification No.	Description	Year
Conco	51161T1	PTRB Dump Truck	2010
Griffith	25294T1	Dump Truck	2012
Griffith	91576J2	Dump Truck	2013
Griffith	22848D2	Dump Truck	2013
Griffith	A4378	VAC Truck	2013
Conco	7CHY883	Crane	2014
Royal	03485P1	Truck	2014
Royal	03457P1	Truck	2014
Royal	03488P1	Truck	2014

Contractor	Identification No.	Description	Year
Griffith	68273B2	VAC Truck	2014
Griffith	86323P1	Dump Truck	2015
Griffith	7JJE774	Sweeper	2015
Conco	7STJ416	Crane	2015
Griffith	SE658709	Water Truck	2015
Royal	40957B2	Truck	2015
Royal	85275V1	Truck	2015
Griffith	86323P1	Water Truck	2015
Griffith	SE658656	Water Truck	2015
Griffith	SE658657	Water Truck	2015
Griffith	10572N2	Dump Trucks	2016
Hayward Baker	7UCE009	Concrete Pump	2016
Royal	40956B2	Truck	2016
Royal	16540A2	Truck	2016
Griffith	80516Y1	Water Truck	2016
Griffith	43264B2	Water Truck	2017
Griffith	69668C2	Water Truck	2017
Griffith	90925E2	Water Truck	2018
Griffith	399-YQJ	VAC Truck	2018

As shown in the above Table, all on-road vehicles have been documented to meet the requirements of the CBA Section X.F.1, in that all of the vehicles are model year 2010 or newer and equipped with a factory installed VDECS. The vehicles are also certified to the 2010 NOx standard of 0.2 g/bhp-hr. Table 1.2.3-2, below, shows model year age distribution of the on-road vehicles used on the WAMA Delta Hangar Project.

Table 1.2.3-2: 100% of On-Road Vehicles were Equipped with a Level 3 VDECS Per CBA Requirements

Model Year	Number	Percent
2010	1	4%
2012	1	4%
2013	3	10%
2014	5	18%
2015	9	32%
2016	5	18%
2017	2	7%
2018	2	7%

1.2.4 WAMA Delta Hangar – Off-Road Equipment - During the reporting period, a total of 96 pieces of off-road construction equipment was evaluated. The following Table lists the off-road equipment reviewed under this Semiannual Report:

Table 1.2.4-1: WAMA Delta Hangar Off-Road Equipment

Contractor	Identification No.	Description	Tier
Shoring Engineers	TN7P79	Excavator	T3
Griffith	MJ4X58	Dozer	T3
CER Equipment	KS9A64	135 Excavator	T3
Sunbelt Rentals	NA	Water Truck	T3
Sunbelt Rentals	NA	Water Truck	T3
Conco	HD8F56	Forklift	T4F
Griffith	RE7J36	Backhoe	T4F
Griffith	XP7P64	Roller	T4F
Conco	XP8K34	Forklift	T4F
Griffith	RA3N37	Excavator	T4F
Conco	TD8M57	Loader	T4F
Conco	PM4P98	Loader	T4F
Conco	UW9S69	Loader	T4F
Conco	NG3J57	Tractor Backhoe	T4F
Royal	TV3D53	Backhoe	T4F
Royal	RK4T76	Skid Steer Loader	T4F
Royal	VE7F53	Backhoe	T4F
Royal	HJ8V95	Excavator	T4F
Conco	JT9Y87	Forklift	T4F
Shoring Engineers	168327	Generator/ Welder	T4F
Griffith	BR3W67	Grader	T4F
Griffith	WS5V78	Loader	T4F
Griffith	WT5G86	Loader	T4F
Hayward Baker	GM6P58	Crane	T4F
Hayward Baker	MG9N55	Aerial Lift	T4F
Hayward Baker	SP9U99	Loader	T4F
Shoring Engineers	BL3S66	Bore/ Drill Rig	T4F
Shoring Engineers	BL9P59	Backhoe/ Loader	T4F
Shoring Engineers	DE9D68	Backhoe/ Loader	T4F
Shoring Engineers	FD6E57	Rough Terrain Forklift	T4F
Shoring Engineers	GR3V65	Backhoe/ Loader	T4F
Shoring Engineers	HL4B96	Excavator	T4F

Contractor	Identification No.	Description	Tier
Hayward Baker	JF4D34	Mobile Drill Rig	T4F
Shoring Engineers	JU3C45	Loader	T4F
Shoring Engineers	LU4M63	Skid Steer Loader	T4F
Shoring Engineers	LW3S55	Rough Terrain Forklift	T4F
Shoring Engineers	RG5J78	Loader/ Backhoe	T4F
Shoring Engineers	UG9H94	Loader	T4F
Shoring Engineers	XW9S88	Loader/ Backhoe	T4F
Griffith	UV4R33	Excavator	T4F
Griffith	FA6V93	Crawler	T4F
Griffith	HJ8G77	Crawler	T4F
Griffith	JW9A55	Roller	T4F
Griffith	YY4R98	Excavator	T4F
Griffith	EC7P65	Crawler	T4F
Griffith	XB3G34	Excavator	T4F
Griffith	YE9C39	Excavator	T4F
CER Equipment	FC4B39	350 Excavator	T4F
CER Equipment	DR8U74	350 Excavator	T4F
Sunbelt Rentals	NA	Utility Vehicle	T4F
Sunbelt Rentals	MA5A68	Skid Steer	T4F
Sunbelt Rentals	NA	Water Truck	T4F
Sunbelt Rentals	AL4F79	Roller	T4F
	XB3G34	Excavator	T4F
Griffith	BR3W67	Grader	T4F
Griffith	YH9Y56	Excavator	T4F
Griffith	BU7T73	Loader	T4F
Griffith	AW9C76	Excavator	T4I
Conco	NC9D45	Forklift	T4I
Griffith	YY5L48	Excavator	T4I
Griffith	BS9V43	Dozer	T4I
Griffith	WJ8Y93	Skid Steer Loader	T4I
Conco	PD7D68	Loader	T4I
Conco	RC5N89	1255 Fork Lift	T4I
Griffith	CU3L84	Loader	T4I
Griffith	FS8R59	Grader	T4I
Griffith	LS7E53	Loader	T4I
Griffith	SC5F79	Loader	T4I
Griffith	VA6M59	Loader	T4I
Hayward Baker	164622	Compressor	T4I
Hayward Baker	AT7U56	Rough Terrain Forklift	T4I

Contractor	Identification No.	Description	Tier
Shoring Engineers	AU5D38	Drill Rig (Mobile)	T4I
Shoring Engineers	CA3T37	Crane	T4I
Shoring Engineers	CM3E45	Forklift	T4I
Shoring Engineers	CX4J63	Loader	T4I
Shoring Engineers	DW6C63	Rubber Tired Loader	T4I
Shoring Engineers	HH3A78	Bore/ Drill Rig	T4I
Shoring Engineers	JP3H45	Crane	T4I
Shoring Engineers	JS8C68	Bore/ Drill Rig	T4I
Shoring Engineers	MC4S76	Forklift	T4I
Shoring Engineers	ME8T43	Bore/ Drill Rig	T4I
Shoring Engineers	NB4R89	Rubber Tired Loader	T4I
Shoring Engineers	ND9M89	Forklift	T4I
Shoring Engineers	NV4T38	Forklift	T4I
Shoring Engineers	RV7X69	Loader	T4I
Shoring Engineers	UE4E67	Bore/ Drill Rig	T4I
Shoring Engineers	WU4Y43	Bore/ Drill Rig	T4I
Shoring Engineers	WU9H44	Rubber Tired Loader	T4I
Shoring Engineers	XJ7T85	Bore/ Drill Rig	T4I
Shoring Engineers	XW6E37	Forklift	T4I
Shoring Engineers	YF7P47	Drill Rig	T4I
Griffith	LV6K88	Roller	T4I
Griffith	CL3R37	Skip Loader	T4I
Griffith	XM6U64	Forklift	T4I
Sunbelt Rentals	HB9W83	Roller	T4I
Sunbelt Rentals	HG3V73	Articulated Loader	T4I

The above-listed off-road equipment is summarized by emissions rating (Tier), below:

Table 1.2.4-2: Summary of WAMA Delta Hangar Construction Equipment Breakdown by Equipment Tier

Emissions Standard/Classification	Quantity
Tier 4 Final	52
Tier 4 Interim	39
Tier 3	5

As shown in Table 1.2.4-2, approximately 95% of the construction equipment submitted for LAWA review is factory equipped with a Level 3 VDECS (Tier 4 Interim and Tier 4 Final) and thus represents the

best available emissions control technology (BACT). Five (5) non-BACT pieces of equipment rated at Tier 3 were granted airfield access authorization under a LAWA approved exemption.

TASK 2: DEMONSTRATION PROJECTS

Section X.F.2 of the CBA states that LAWA may allow construction-related diesel equipment to be outfitted with new emission control systems that are not CARB verified or EPA certified for use for on-road or off-road vehicles or engines. Such projects will be designated by LAWA as "Demonstration Projects". The roles and responsibilities of the Independent Third Party Monitor as they relate to Demonstration Projects is set forth in Task 2 of the contract and includes the following two primary subtasks:

- Task 2.1 – The Third Party Monitor shall perform a technical evaluation of the proposed demonstration technology and provide written findings to the Coalition Representative and LAWA. The Third Party Monitor shall also assist with the implementation of a Demonstration Project, including identifying suitable emission control devices and Demonstration Project funding sources;
- Task 2.2 – Upon acceptance by LAWA, the Third Party Monitor shall monitor, document, and report independently from LAWA, compliance of the demonstration equipment with all defined Demonstration Project requirements, including but not limited to the pollution reduction requirements specified in Section X.F.3 of the CBA.

No demonstration projects were conducted during the six-month period of January 1, 2018 through June 30, 2018.

TASK 3: EMISSION REDUCTION STANDARD

Section X.F.1 of the Community Benefits Agreement (CBA) for the LAX Master Plan Program requires that all diesel equipment used for construction be outfitted with the best available emission control devices, primarily to reduce diesel particulate matter which is on the order of 10 microns[3] in diameter (PM_{10}), and fine particulate, which is on the order of 2.5 microns in diameter ($PM_{2.5}$). A secondary objective of this requirement is to reduce oxides of nitrogen emissions (NO_x), which are ozone precursors. This section also states that under no circumstance shall an emission reduction device or strategy used on the LAX Master Plan Program construction site increase the emission of any pollutant above that which is the standard for that engine.

[3] One micron equals $1x10^{-6}$ meter or 0.000001 meter.

The role and responsibilities of the Independent Third Party Monitor as it relates to Section X.F.1 of the CBA is delineated in the following contract Task statements:

- Task 3.1 - Contractor shall monitor, document, and report independently from LAWA, compliance of each piece of diesel construction equipment used pursuant to CBA X.F.1 as it relates to meeting or exceeding Level 2 diesel emission reductions for a similar sized engine;
- Task 3.2 – Contractor shall monitor, document, and report independently from LAWA, compliance of each piece of diesel construction equipment used pursuant to CBA X.F.1 to ensure its emission reduction device or strategy does not result in an increase of any pollutant above that which is standard for that engine;
- Task 3.3 – Contractor shall monitor, document and report on emission reductions of NO_x, ROG, PM and CO achieved through the use of best available control technology.

Task 3.1 - Monitor, document, and report equipment compliance with Level 2 requirement.

As summarized above in Task 1, the Third Party Monitor compiled a database of LAX Master Plan project equipment. This database is continually updated with new information collected from LAWA's environmental monitor staff on behalf of the construction contractors or visual inspection by CFCI. As part of this inventory, the Task 1 effort included an equipment-by-equipment review for applicability of approved Best Available Control Technologies (BACT). Specifically, the equipment listed in this master database was compared against all available Verified Diesel Emission Control Systems (VDECS), with first priority given to Level 3 diesel emission reductions.

Not all equipment proposed for operation on the MSC and WAMA Delta Hangar projects is necessarily used – contractors provide a list of potential needs prior to the start of construction activities. Typically, a subset of this proposed equipment is actually used in construction activities. Also, not all equipment resides on the airfield during the entire project duration; equipment is moved on and off the airfield as construction demands dictate.

Task 3.2 – Ensure emission reduction devices/strategy does not result in an increase of any pollutant above that which is standard for that engine.

The U.S. EPA and ARB verification procedures are designed to ensure that no measurable increase on other pollutant emissions results from installation of the approved VDECS. One issue that should be noted is that the ARB verification procedures include a NO_2 limit requirement. Specifically, NO_2 may not

increase more than 20 percent as a result of the installation and operation of the device[4]. All Tier 4i, Tier 4F, and 2007 EPA-compliant equipment and vehicles assessed under Task 1 for the MSC Project comply with the CARB NO_2 limit requirements.

Task 3.3 –Contractor shall monitor, document and report on emission reductions of NO_x, ROG, PM and CO achieved through the use of best available control technology.

A quantification of air quality benefits achieved through the use of best available control technology is not feasible at this time. Equipment operating on the airfield in support of the MSC and WAMA Delta Hangar projects that are equipped with engines certified at the Tier 4 Final and Tier 4 interim levels have particulate matter (PM) that comply with CBA obligations, and also emit oxides of nitrogen (NOx) emission levels that are substantially lower than those required under the CBA.

However, because these vehicles are designed and manufactured to meet more stringent emission standards, they are not "retrofitted" per se with Best Available Control Technologies (BACT) within the context of the CBA. "Tier 4" vehicles - in their baseline configuration - meet CBA requirements. Thus, because Tier 4 vehicles achieve CBA-mandated emission levels in their baseline configuration, there is no other vehicle configuration to compare them to. As a result, Tier 4 diesel equipment is not shown as offering an emissions benefit as a result of imposition of a CBA requirement. The equipment is inherently low emitting and represents the "state of the art" for off-road equipment emissions.

TASK 4: EXEMPTIONS GRANTED

4.1 MSC North Project - Zero (0) on-road exemptions were granted by LAWA on the MSC-North project. All of the on-road vehicles submitted for LAWA approval are equipped with a CBA-compliant diesel emission control device. Twenty-four (24) vehicles were rejected for not meeting CBA requirements. An additional 22 vehicles were pending LAWA evaluation at the time of Semiannual Report preparation.

For off-road equipment, a small displacement engine exemption was granted for 107 pieces of equipment with an engine power rating of 50 horsepower or less. It should be noted that the CBA does not recognize a small displacement exemption; however, upon review it was determined that this equipment is not compatible with a commercially available VDECS. Thus, this equipment is eligible for an exemption under the "incompatibility with commercially available VDECS" CBA category.

[4] Title 13 CCR section 2706(a)

Table 1.4.1-1, below, shows the equipment rated at 50 horsepower or lower granted an exemption:

Table 1.4.1-1: Summary of MSC North Construction Equipment Rated < 50 hp

Contractor	Equipment Type	EIN/ License/ Serial
Conco	Boomlift	YR8B63
Griffith	Telescoping Lift	YL7C67
Schuff Steel	Welding Machine	YEMMED460010
Schuff Steel	Welding Machine	YEMME130006
Schuff Steel	Multi-Process Welder	YE-130408124
Andersen Environmental	Excavator	YA8N78
Cowelco	Aerial lift	XL9V77
Griffith/G.O. Rodriguez Trucking	Haul Truck	WP71082
SE Pipeline	Truck	WP15539
SE Pipeline	Truck	WP15535
Granite	Skidsteer	WL8T47
TPJV	Aerial lift	WC4G45
Cowelco	Aerial Lift	VU4H45
TPJV/King Equipment	Aerial lift	VG9U98
TPJV	Aerial Lifts	UU9M96
Granite	Skip Loader	SN5U55
Helix	Generator	SGM328VK6
Griffith	Skid steer S510	SG5N63
Control Air	Aerial Lift	RW8B76
Control Air	Forklift	RR3U34
Shoring Engineering	Excavator	R11594
TPJV	Forklift	PL6B54
OCP	Aerial Lifts	PE5R45
King Equipment	Air Compressor	PDS1855
Schuff Steel	boom lift	PB5J69
Griffith	Skid steer S510	NT8J77
Conco	Light Tower	NO EIN
Orange County Plastering	Aerial Lifts	NE6L38
Schuff Steel	Air Compressor	N/A
Schuff Steel	Diesel Welder	N/A
Zarp	Excavator	MN7B65
Helix (R&J)	Excavator	LV9W84
Machado & Sons	Forklift	KG4V76
Griffith	FS4800 Conc Saw	KF5M97
TPJV	Aerial lift	JT9X64
TPJV	Aerial Lifts	HV5P96

Contractor	Equipment Type	EIN/ License/ Serial
Schuff Steel	boom lift	HT5K37
Zarp	Excavator	HB6W99
TPJV	Forklift	GX3J84
Cowelco	Aerial Lift	GR8V79
Shoring Engineering	Air Compressor	GCM185-002
Best contracting	Generator	G140925
R&R Masonry	Forklift	FV7X58
Conco	boom lift	EP6R37
TPJV	Forklift	DL5G49
TPJV	Boomlift	CG3T63
Griffith	Skid steer S510	BK5H68
Griffith	Compressor	B4-4B42238
Conco	Boomlift	AG104525015
TPJV	Aerial lift	AF3E56
Schuff Steel	Air Compressor	AC-6E10159
RJ&J	Mini Excavator	AB8J56
TPJV	Light Tower	615083
SE Pipeline	Truck	57742Y1
Helix	Air Compressor	4MB7242
Granite	Boomlift	458007
Granite	Boomlift	4560019
Granite	Boomlift	4560013
Griffith	Compressor	333709UKM231
Granite	Light Tower	310049NF
GeoDesign	Pickup Truck	30155U1
GeoDesign	Pickup Truck	30153U1
Shoring Engineering	Air Compressor	200802270100E791SS
Schuff Steel	Generator	1425/KW017
PCL	Air Compressor	14185027658342
Cowelco	Aerial Lift	1360EL001
Limbach	Light Tower	1125KW003
SE Pipeline	Generator	1125KW002
GeoDesign	Pickup Truck	05841A2
Conco	Light Tower	057946
Helix	boom lift	300208396
San Mar	Scissor Lift	141930428
San Mar	Scissor Lift	141930412
Granite	Light Tower	106946770
Granite	Light Tower	90546400
McQuire	Air Compressor	15185030
Granite	Light Tower	10694695
Granite	Light Tower	10694687

Contractor	Equipment Type	EIN/ License/ Serial
Granite	Light Tower	10442102
Granite	Light Tower	10422282
Granite	Light Tower	10422279
Granite	Air Compressor	10399988
Granite	Light Tower	10352089
United Rentals	Light Tower	10277772
United Rentals	Light Tower	10194215
Granite	Compressor	10148892
Granite	Air Compressor	10139619
Helix	Generator	8010823
Conco	Light Tower	647967
Conco	Light Tower	586136
Granite	Compactor	581105
Granite	Light Tower	218512
Schuff Steel	Welding Machine	160404
Murray	Compactor	2274
Murray	Light Tower	2263
Shoring Engineers	Air Compressor	
Concrete Coring	CONCRETE SAW	
Concrete Coring	CONCRETE SAW	
TPJV	Boom lift	VU5F67
Premiere	Excavator	VB6J58
TPJV	Boom lift	PR7P37
King Miller	Generator	
	Compressor	
	Generator	ND9100356
Janning Johnson	Welding Machine	5352
Premiere	Excavator	VB6J48
Conco	Deere 50G	EV7A87

Additionally, LAWA granted a 20-day exemption for three (3) pieces of specialty off-road equipment used for a short duration on the airfield.

4.2 WAMA Delta Hangar Project - Zero (0) on-road exemptions were granted by LAWA on the WAMA Delta Hangar project. All of the on-road vehicles submitted for LAWA approval are equipped with a CBA-compliant diesel emission control device.

For off-road equipment, LAWA granted a 20-day exemption for five (5) pieces of specialty off-road equipment used for a short duration on the airfield.

TASK 5: ULTRA LOW SULFUR DIESEL AND OTHER FUELS

Section X.F.5 of the Community Benefits Agreement requires that all diesel equipment used for construction on LAX Master Plan Projects use only Ultra-Low Sulfur Diesel (ULSD) fuel containing 15 parts per million (ppm) of sulfur by weight or less. This requirement is in effect as long as adequate supplies are available in the Southern California region.

There are three tasks in the Scope of Work for the Third Party Monitor related Ultra Low Sulfur Diesel:

- Task 5.1 - Contractor shall monitor, document, and independently report on construction equipment related to LAX Master Plan Program construction as it relates to the use of ultra-low sulfur diesel fuel. Contractor will be provided all available fuel procurement records for construction equipment related to the LAX Master Plan Program;
- Task 5.2 – Contractor shall independently verify and report to LAWA and the Coalition Representative that adequate supplies of ULSD are or are not available in Southern California. For the purpose of this Task, "Southern California" is defined as the geographic region comprising Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura Counties;
- Task 5.3 – Contactor shall independently verify and report to LAWA and the Coalition Representative that fuels substituted in lieu of ULSD do not result in greater emissions of fine PM or NO_x than that which would be produced by the use of ULSD at 15-ppm or lower. Verification will be based on CARB certification or equivalent.

South Coast AQMD Rule 431.2, which took effect on June 1, 2006, requires diesel fuel refined and sold for on-road and off-road use within the jurisdiction of the AQMD to contain no more than 15-ppm sulfur by weight. The California Air Resources Board subsequently adopted this requirement on a statewide basis on September 1, 2006. Thus, ULSD is the only diesel fuel legally available for purchase within California.

To independently verify the sulfur content of the diesel fuel used by equipment operating on LAX Master Plan projects, CFCI has requested fuel purchase records from the contractor and has examined the fuel receipts to ensure that only ULSD is being used. Fuel purchase records are clearly marked "ULSD"; thus, there is no ambiguity as to whether or not the fuel has the ultra-low sulfur content.

TASK 6: OPERATIONAL REQUIREMENTS

Section X.F.6 of the CBA requires that Operational Requirements be issued and enforced by LAWA as it pertains to: a) limitations of equipment engine idling; and, b) maintenance of equipment engines.

The environmental requirements mandated by LAWA state that *"Contractor shall prohibit construction diesel vehicles or equipment from idling in excess of the idling restrictions as defined in the CARB Vehicle Idling Rule. The contractor shall advise drivers and operators of these requirements at the pre-construction orientation meeting, remind them on a daily basis, and post signs in appropriate places indicating the CARB Vehicle Idling Rule. Exemptions may be granted for safety and operational reasons, as defined in CARB or as approved by the Engineer. The contractor and subcontractors shall have policies and procedures in place for compliance with the Vehicle Idling Rule and a copy of such shall be submitted within 30 days of Notice to Proceed to the Engineer for approval"*.

In CFCI's capacity as Third Party Monitor, monitoring, documentation, and reporting of operational requirements was conducted in accordance with the following two Tasks:

- Task 6.1 – The Independent Third Party Monitor shall establish processes and procedures for determining whether a construction firm is complying with the operational requirements specified by LAWA. For the purpose of this Task, Operational Requirements include, but are not limited to, engine idling and engine maintenance requirements;
- Task 6.2 – The Independent Third Party Monitor shall monitor, document, and independently report to LAWA and the Coalition Representative on operational requirements issued and enforced by LAWA as they relate to limitations on idling and engine maintenance, at a minimum. Idling and engine maintenance records for construction equipment related to the LAX Master Plan Program will be provided to the Contractor by LAWA.

The following sections describe the process developed and implemented to track adherence to the operational requirements delineated in the CBA, as well as the independent findings of the Interim Third Party Monitor.

Process for Determining Compliance with Operational Requirements

The process to determine construction contractor compliance with the Operational Requirements set forth in the CBA has two distinct components:

1. Review by the Independent Third Party Monitor of applicable written procedures, monthly logs, and records documenting construction contractor compliance with Operational Requirements;
2. Onsite inspections conducted independently by the Third Party Monitor to confirm Operational Requirements are being implemented in accordance with CBA requirements.

In conducting reviews of construction contractor records, logs, and written procedures, requests for specific information and/or documents were submitted by the Third Party Monitor to LAWA's construction manager's staff. Requests for documentation were in turn submitted to the construction contractor by LAWA. This protocol was established and adhered to by all parties to ensure the reporting relationships between LAWA's environmental monitor and the construction contractor were maintained and to prevent requests from the Third Party Monitor being construed by the construction contractor as contractual direction.

Once obtained by LAWA construction manager staff, the requested records, logs, and written procedures are provided to the Third Party Monitor for review. In most cases, photocopies are provided. In certain cases, such as equipment maintenance records, however, documents are retained at a location other than the on-site construction trailers; this requires that the documents be inspected at the offsite location. This is discussed further under Task 6.2, below.

Vehicle and Equipment Idling – The Environmental Requirements for the MSC and WAMA Delta Hangar projects prohibit construction vehicles and equipment from excessive idling in accordance with the restrictions defined in the CARB Vehicle Idling Rule[5]. This Rule, more formally referred to as the *Airborne Toxic Control Measure (ATCM) to Limit Diesel-Fueled Commercial Motor Vehicle Idling*, is codified in Title 13 Section 2485 of the California Code of Regulations and took affect on February 1, 2005.

The law states that operators of diesel fueled commercial vehicles with a gross vehicle weight rating (GVWR) of 10,000 pounds or greater shall not idle their vehicle's primary diesel engine for greater than five (5) minutes at any location. The law only applies to commercial vehicles that are or must be licensed for operation on the highway.

The "five minute rule" is waived under the following circumstances:

[5] www.arb.ca.gov/toxics/idling/regtext.htm

- Idling when the vehicle must remain motionless due to traffic conditions;
- Idling when the vehicle is queuing that at all times is beyond 100 feet from any restricted area (i.e., homes and schools);
- Idling to verify safe operating condition;
- Idling mandatory for testing, servicing, repairing, or diagnostic purposes (cleaning of commercial vehicles is not considered servicing);
- Idling when positioning or providing power for equipment that is performing work;
- Idling when operating defrosters, heaters, air conditioners, or other equipment to prevent a safety or health emergency.

While the CARB Rule pertains only to "on-road" vehicles, it is important to note that LAWA extends the CARB idling restrictions to off-road vehicles and equipment operating in conjunction with the MSC project. In practice, LAWA's enforcement of idling restrictions exceeds those mandated under the CARB Rule for both on-road and off-road vehicles and equipment.

The Third Party Monitor reviewed and independently verified the following documentation pertaining to notice of idling restriction requirements:

- Posted Signs – large signs are posted at the construction site entrance in clear view of trucks entering the air operations area. These signs clearly state the restrictions on vehicle idling;
- Written Policies – LAWA construction manager staff provided the Third Party Monitor with copies of the written idle restriction policies and procedures provided to the construction contractor;
- Notes from LAWA's construction contractor/ environmental monitor Status Meetings – in which reiteration of LAWA idling restrictions were reviewed.

LAWA's environmental monitor confirmed that excessive idling had a lower incidence rate when compared to other LAX Master Plan projects. The CARB anti-idling rule has been in place long enough that most vehicle and equipment operators are aware of its existence. Additionally, major construction had yet to start; the number of vehicles and equipment operating during initial construction is limited.

Equipment Maintenance Records – The CBA requires that the construction contractor properly maintain all equipment in accordance with the manufacturers' specifications and schedules. Further, that all

maintenance and repair records shall be made available upon request. The Third party Monitor made this request and was awaiting receipt of vehicle maintenance records.

LAWA's environmental monitor and the Third Party Monitor also conduct regular visual inspections of diesel equipment operating on LAX Master Plan projects, looking for excessive exhaust soot or other indications that the equipment is in a state of disrepair. During the reporting period, no vehicles or equipment were determined by LAWA to be emitting excessive smoke. This is due in large part to the high percentage of Tier 4 equipment being utilized on the MSC and WAMA Delta Hangar projects.

Figure 1-5 –Tier 4 Final Equipment Example

TASK 7: ENFORCEMENT BY LAWA

Section 7 of the Independent Third Party Monitor Scope of Work states that: "The Contractor shall monitor, document and independently report to the Coalition Representative on enforcement actions by LAWA".

During the period of January 1, 2018 through June 30, 2018, LAWA's environmental monitor noted reasonable compliance with environmental policies. An exception noted by LAWA project managers was contractors who attempted deliveries outside of the allowable delivery hours. Multiple curfew violations resulted in enforcement actions by LAWA.

No enforcement actions were required for excessive noise. The Third Party Monitor was informed that LAWA did enforce fugitive dust control. No South Coast AQMD Notices of Violation (NOV) were issued during the reporting period for dust violations, however.

TASK 8: REASSESSMENTS OF EMISSION CONTROL DEVICES

The Community Benefits Agreement Section X.F.9 requires that a reassessment of best available emission control devices be conducted on an annual basis, or more frequently if warranted. The purpose is to ensure that bid documents take into account advances in emission control devices prior to bidding new construction phases of the LAX Master Plan Program. This reassessment was conducted for all verified devices as of for the annual period commencing January 1, 2016 to June 30, 2018.

Section X.F.9 further requires that the emission control technology review process include any new and relevant requirements or regulations promulgated by CARB or the U.S. EPA, with the understanding that the results from any reassessment of diesel emission control systems cannot be applied retroactively. Specifically, Section X.F.9.b. states "any new designations of emission control devices as best available shall apply only to projects that start after the devices are verified or certified for use by CARB or the EPA... "

During the period of January 1, 2018 through June 30, 2018, the US EPA or CARB verified no additional diesel emission control systems. Given that new on-road and off-road vehicles and equipment are now manufactured with factory installed emissions control systems, including Tier 4 off-road equipment, there is a limited market for new VDECS for vehicle retrofits.

Task 9: Implementation of Public Complaint Registration Process

Task 9 of the Third Party Monitor Scope of Work requires the contractor to develop and implement a public complaint registration process. The components of the task are:

- Task 9.1 – Contractor shall develop and implement a process allowing any member of the public to register a complaint alleging any entity's noncompliance with the requirements of CBA Section X.F.
- Task 9.2 – Contractor shall investigate all complaints registered by a member of the public and determine if, when, and where a violation occurred. Contractor shall notify LAWA and the LAX Coalition Representative each time a complaint is registered.
- Task 9.3 – Contractor shall provide records or summaries of public complaints registered with Contractor, including actions, findings, and determinations, to the public upon request. Contractor

shall provide LAWA and the LAX Coalition Representative copies of all actions, finding, and determinations requested by the public.

As LAWA already has a widely publicized hotline for complaints, it was decided to utilize the existing number instead of establishing a new one in order to avoid duplication and potential confusion in the community.

- No fugitive dust complaints were recorded, and LAWA, the South Coast AQMD, or any other environmental regulatory authority took no enforcement actions during that period;
- No excessive noise complaints were lodged during the reporting period.

Factors that most likely contribute to the absence of public complaints include:

- Dissemination and strict enforcement of the environmental requirements of the CBA by LAWA's environmental monitor and inspectors;
- Construction activities associated with the MSC and WAMA Delta Hangar projects primarily take place largely in the geographic center of the LAX airfield. Sensitive receptors, such as the communities of El Segundo, are to a large extent buffered by the South Airfield runways. A similar situation exists on the Northern area, where the North Airfield runways provide a buffer. This serves as a barrier to common construction nuisances such as noise curfew violations.

SECTION 3 - RESULTS AND CONCLUSIONS

The following is a summary of Third Party Monitor independent monitoring results and findings for the six-month period commencing January 1, 2018 and ending June 30, 2018:

- Monitoring and documentation of diesel equipment utilized or proposed for utilization on the Midfield Satellite Concourse – North and WAMA Delta Hangar projects. A total of 965 pieces of construction equipment were independently assessed to determine compatibility with a commercially available CARB/EPA-verified diesel emission control system. This includes 578 on-road vehicles and 387 pieces of off-road construction equipment. Note that an additional 24 pieces of off-road construction equipment were either withdrawn from airfield consideration by the contractor or disapproved for airfield use by LAWA environmental management;
- Monitoring of diesel emission control devices installed on construction equipment. As documented in the above Sections of this report, 100% of the on-road vehicles utilized on the airfield projects were equipped with a Level 3 verified diesel emission control device. Twenty-two (22) on-road vehicles submitted for LAWA approval were pending confirmation at the time of report preparation. 379 pieces of off-road construction equipment were equipped with a Level 3 VDECS – this includes construction equipment designated as Tier 4i and Tier 4F equipped with a factory-installed VDECS. This represents an overall 98% compliance rate;
- A review and documentation of all exemptions granted by LAWA that allow a piece of diesel construction equipment to operate on LAX construction projects without a best available control technology retrofit. This includes equipment that was deemed incompatible with a verified VDECS, or granted a "20-day" exemption on the basis of infrequent equipment use. A total of twenty (8) vehicles were granted 20-day exemptions. 107 pieces of off-road equipment were granted a low horsepower exemption (< 50 HP) due to the unavailability of Level 3 VDECS for small equipment;
- During the reporting period, no Notice of Violation (NOV) were levied by the South Coast Air Quality Management District for fugitive dust emissions associated with either earth moving operations or recycled concrete aggregate crushing. No dust complaints were received by LAWA from the public. LAWA project management, however, did enforce what were deemed to be excessive dust emissions during construction.

- No excessive noise complaints were received during the reporting period from the public.
- In accordance with CBA requirements, CFCI conducted a reassessment of available CARB and EPA-verified diesel emission control systems. This reassessment is conducted on an annual basis. The intent is that LAWA use these findings to designate newly verified devices as best available control devices and incorporate the requirement to use these devices into construction bid documents for new construction phases of the LAX Master Plan Program. These findings, however, are not to be applied retroactively to Master Plan Projects already in the construction phase.

  As a result of this reassessment, it was determined that no new verified diesel emission control systems have been verified for either on-road vehicles or off-road equipment during the reporting period.

Overall, diesel equipment used on construction activities during the specified time period was found to be in substantial compliance with all provisions of the CBA Section X.F. As discussed in previous sections, 100% of on-road construction equipment supporting MSC-North and WAMA Delta Hangar construction was found to be compliant with the CBA. The compliance rate for off-road construction equipment was found to be 98%, a continuing improvement compared to previously implemented LAX Master Plan Projects.

The next Semiannual Report will cover the period commencing July 1, 2018 and ending December 31, 2018. The Report will cover the continuation of construction activities for the Midfield Satellite Concourse - North project and WAMA Delta Hangar project.

LAX Master Plan Projects Semiannual Report
Independent Third Party Monitor

Prepared by:

Clean Fuel Connection, Inc.

March 22, 2019

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Cover Photo – MSC North
Photo Credit - Ray Gorski

SECTION 1 - INTRODUCTION

This Semiannual Report was prepared by Clean Fuel Connection Inc. (CFCI), Independent Third Party Monitor for LAX Master Plan projects, and is submitted in accordance with Section X.F.8 of the Community Benefits Agreement (CBA). The purpose is to document CFCI's efforts as they relate to the monitoring of LAX Master Plan construction activities and construction contractor's conformance to requirements specified in CBA Section X.F.

This Semiannual Report covers the period commencing July 1, 2018 and ending December 31, 2018. During this period, two (2) LAX Master Plan projects had ongoing construction activities. These projects are the Midfield Satellite Concourse North (MSC) and the West Aircraft Maintenance Area (WAMA) Delta Hangar.

The MSC Project includes a new passenger concourse facility approved as part of the LAX Master Plan. The MSC facility is located in the central area of the airfield, west of Tom Bradley International Terminal (TBIT). The MSC Program also includes a Central Terminal Processor, conveyance systems for passengers and baggage, and new taxiways/taxilanes and airport aprons. The construction contractor is Turner/PCL, a Joint Venture in association with Corgan/Gensler.

Figure 1-1 shows the construction progress made on the MSC North Project:

Figure 1-1 –Midfield Satellite Concourse Project Progress[1]

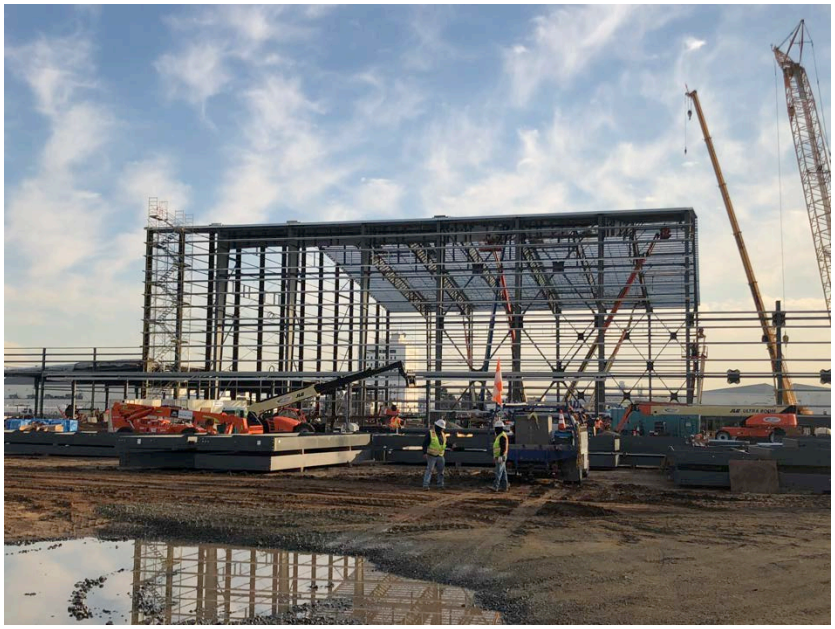
[1] Photo Courtesy Greg Aragon

Due to the size and scale of the MSC Program, LAWA is developing the MSC in independent phases. Phase 1 ("MSC North Project") of the MSC Program is the construction of the northern portion of the multi-story MSC facility and associated improvements.

The Delta Hangar Project is constructing a new aircraft maintenance facility within the West Aircraft Maintenance Area. This new maintenance hangar is located next to the recently completed Qantas Hangar, as shown in Figure 1-2, below:

Figure 1-2 – Location of WAMA Delta Hangar Project Construction

Construction progress as of December 2018 on the WAMA Delta Hangar is shown below in Figure 1-3:



This Semiannual Report will discuss adherence to the CBA requirements during MSC-North and WAMA Delta Hangar construction.

Third Party Monitoring - CFCI's efforts in monitoring, documenting, and reporting on the status of CBA Section X.F as it pertains to LAX Master Plan projects include:

- **Development of an equipment database to include all known equipment utilized in each Master Plan project**. This database documents the technical specifications of each piece of on and off-road construction equipment. The database documents each piece of equipment relative to compatibility with diesel emission control devices, the emission control device used or planned for use on each piece of construction equipment, or whether the equipment was determined to be incompatible with any available emission control system. The database also documents all equipment operating under an approved Los Angeles World Airports (LAWA) exemption, including but not limited to "20-day" exemptions, driver-visibility safety exemptions, or special circumstance exemptions;
- **Field verification of the equipment database and reconciliation with LAWA's environmental monitor vehicle records**. The construction contractors provide LAWA's environmental monitor with airfield equipment lists on a periodic basis (typically monthly). The Third Party Monitor reviews all available vehicle records for the purpose of verifying compliance with 20-day exemption obligations as well as reconciling LAWA's environmental monitor records with the Third Party Monitor equipment database;
- **Examination and verification of requests for exemptions from installation of Best Available Control Technology (BACT).** As discussed in Section 2 of this Report, CFCI independently reviews each piece of construction equipment proposed for use on a LAX Master Plan project to determine compatibility with a commercially available California Air Resources Board (CARB) or U.S. Environmental Protection Agency (EPA) verified Diesel Emission Control System (VDECS). The results of this independent assessment are documented in each Semiannual Report as well as the equipment database;
- **Examination of fuel purchase records to verify that low sulfur diesel is being used**. This task has been substantially reduced in scope due to enactment of state law that allows only ultra-low sulfur diesel (ULSD) to be sold for on and off-road vehicles in California;

- **Monitoring of installed emission control devices on construction equipment**. This includes physical inspections of diesel construction equipment retrofitted with a VDECS to ensure emission control devices are properly installed and functioning;
- **On-airfield monitoring of construction equipment operations enforcement**. This includes, but is not limited to, observation of construction operations to determine compliance with equipment idling restrictions, fugitive dust emissions mitigation requirements, as well as identification of construction equipment in an apparent state of disrepair due to the presence of visible smoke;
- **Annual reassessment of available emission control systems**. On an annual basis, the Third Party Monitor conducts a comprehensive evaluation of available CARB and EPA-verified emission control systems. The purpose of this reassessment is to ensure that LAWA incorporates the any newly designated best available control strategies into construction bid documents prior to bidding of new construction phases of the LAX Master Plan Program. The process of emission control technology review also includes any new, relevant requirements promulgated by CARB or EPA. This Semiannual Report includes the results of the annual emission control System reassessment.

The CFCI project staff is comprised of the following individuals:

- Enid Joffe, founder and owner of Clean Fuel Connection, Inc.;
- Ray Gorski, lead air quality engineer and principal field engineer;
- Lauren Dunlap, air quality engineer and principal analyst in determining compatibility of emission control devices and calculations of emission reductions for VDECS installed on Master Plan project equipment. In addition, Lauren quantifies air quality benefits associated with onsite concrete crushing and batch plant concrete production.

SECTION 2 - TASK-BY-TASK STATUS REPORT

The following section documents CFCI's work during the past reporting period on each of the specific tasks in the Third Party Monitor Scope of Work.

TASK 1: BEST AVAILABLE EMISSIONS CONTROL DEVICES REQUIRED

Section X.F.1 of the Community Benefits Agreement (CBA) for the LAX Master Plan Program requires that all diesel equipment used for construction be outfitted with the best available emission control devices, primarily to reduce diesel particulate matter on the order of 10 microns[2] in diameter (PM_{10}), and fine particulate, which is on the order of 2.5 microns in diameter ($PM_{2.5}$). A secondary objective of this requirement is to reduce oxides of nitrogen emissions (NO_x), which are ozone precursors. Section X.F.1 of the CBA applies the requirement to outfit all diesel equipment, including off-road vehicles such as heavy-duty construction equipment, as well as on-road vehicles such as trucks, street sweepers, etc. The requirement also affects non-mobile diesel sources, such as portable generators, air compressors, and light towers. Thus, the requirement to retrofit diesel equipment used in LAX Master Plan construction projects encompasses every piece of diesel equipment, irrespective of its status as on-road mobile, off-road mobile, or stationary.

Section X.F.1 requires that the diesel emission control systems used to retrofit diesel equipment be verified or certified for use on on-road or off-road vehicles or engines by the California Air Resources Board (CARB), or verified by the U.S. Environmental Protection Agency (EPA) for use on on-road or off-road vehicles or engines. Section X.F.1 further allows CARB and EPA-verified "mobile source" devices to be applied to "stationary sources", such as generator engines, and allows technologies verified for "on-road" engines to be applied to "off-road" equipment. Thus, the overall context of Section X.F.1 is very broad and allows maximum flexibility in matching diesel emission control systems with diesel equipment used in Master Plan construction.

The role and responsibilities of the Independent Third Party Monitor as it relates to Section X.F.1 of the CBA is delineated in the following contract task statements:

[2] One micron equals $1x10^{-6}$ meter or 0.000001 meter.

- Task 1.1 - Contractor shall develop a monitoring process and database to track each piece of diesel equipment used for construction, including documentation procedures and reporting requirements;
- Task 1.2 – Contractor shall monitor, document, and report independently from LAWA, each construction firm's compliance as it relates to outfitting their diesel construction equipment with the best available emissions control devices available.

The following are the results and findings of the Third Party Monitor as they relate to Tasks 1.1 and 1.2 for the period commencing in July 1, 2018 through December 31, 2018.

Task 1.1 – Monitoring Process, Database Development, and Documentation:

Key elements of the monitoring process include:

- *Review of available documentation* – The principal source of technical information for each vehicle proposed for operation on the MSC project are the equipment reports submitted by the construction contractors for review by LAWA's environmental monitor and environmental management staff. These reports document whether or not a compatible verified diesel emission control system (VDECS) is available for a given piece of diesel equipment;
- *Incorporation of all available data into an Equipment Database* – All relevant information derived from review of the equipment reports or field inspections is documented in the equipment database. This database is the principal tool for performing independent verification and validation of the information contained in the equipment reports reviewed and approved by LAWA;
- *Identification and documentation of missing, inconsistent, or inaccurate data* – The database notes which pieces of information are either missing or whose accuracy is suspect;
- *Request for Additional Information and/or Clarification* – Missing data or data that require validation are compiled, and a request for clarification is issued by the Independent Third Party Monitor to LAWA's environmental monitor staff;
- *Field Inspections* – In specific cases, the Independent Third Party Monitor will request permission to conduct a field inspection of the specific piece of equipment under scrutiny;

- *Task 1.2 Independent Verification and Validation* – For each piece of diesel construction equipment included in the database, an independent determination of whether or not a compatible VDECS device is available is conducted;
- *Documentation of Analysis Results* – For each piece of diesel equipment assessed, the availability and compatibility of a VDECS is recorded in the database;
- *Data Reconciliation* – The Third Party Monitor reconciles information contained in the database with the reports maintained by LAWA's environmental monitor and the construction manager's staff.

The Database Development element of Task 1.1 was conducted in accordance with a single objective – record as much data and supporting information as possible to fully characterize each piece of equipment proposed for operation on an LAX Master Plan construction project. To ensure completeness the database incorporates the following data fields:

- *Equipment ID Number* – Most equipment operating on an LAX Master Plan construction project is marked with a unique identifying number by the equipment owner. It has been the practice of the Independent Third Party Monitor and LAWA's environmental monitor staff to use this unique ID when describing, discussing or documenting a specific piece of equipment. All equipment is tracked and monitored relative to this ID number;
- *Owner* – the owner of the piece of diesel equipment, including prime contractor and name of subcontractor or equipment rental company;
- *Equipment Category* – A brief description for the type of diesel equipment, such as "articulated dump truck";
- *Equipment Manufacturer* – The manufacturer of the piece of equipment, usually the equipment chassis. In most cases the manufacturer of the chassis is different from the engine manufacturer;
- *Equipment Model Year* – The year of manufacture of the equipment or vehicle, usually referring to the chassis and vehicle body. It should be noted that it is common for the equipment chassis or body and diesel engine to be different model years;

- *Equipment Model Number* – The number or other descriptive terminology used by the equipment manufacturer in marketing the vehicle, oftentimes used to differentiate similar products;
- *Equipment Serial Number* – This differs from the Equipment ID number described above. The equipment serial number is the vehicle chassis or body identification number assigned by the equipment manufacturer;
- *Engine Manufacturer* – The manufacturer of the main diesel engine used in the equipment. In some cases, most notably off-road heavy-duty scrapers and on-road street sweepers, the equipment has two diesel engines. The first and second engines are designated #1 and #2, respectively, in the database;
- *Engine Model* – The number or other descriptive terminology used by the manufacturer in engine marketing, used to differentiate similar products;
- *Engine Model Year* – The year of manufacture of the diesel engine, diesel emission control devices are often verified for a specific engine model year;
- *Engine Serial Number* – A unique identification number or alphanumeric code assigned by the engine manufacturer;
- *Engine Displacement* – The total volumetric size of the engine's combustion cylinders, usually described as "cubic inches" or "liters". Displacement expressed in cubic inches is calculated by multiplying the number of cylinders by the piston area (square inches) and by the length of the piston stroke (inches). The commonly used metric designation of "liters" is the total engine displaced volume measured in cubic centimeters (1 liter = 1,000 cubic centimeters);
- *Engine Horsepower* – The rated horsepower of the engine by the engine manufacturer;
- *Engine Family* – Engine Family is a descriptive designation given by CARB to a diesel engine upon certification. It is a code, similar to an automobile Vehicle Identification Number, that identifies the engine model year, engine manufacturer, the engine's displacement, on-road or off-road applicability, emissions equipment included during certification testing. This piece of data, along with engine manufacturer and engine model year, is essential to determine conclusively if a VDECS is compatible with the engine undergoing assessment. With practice, one can quickly ascertain a substantial amount of information about an engine by deciphering the engine family designation;

- *Engine #2 Data* – Similar to the above for Engine #1, data are documented for the second diesel engine on a piece of equipment. In the case of heavy-duty earth moving scrapers, the two engines are front and rear; in the case of street sweepers, the second engine is an auxiliary engine that operates the vehicle's rotary brooms and vacuum system.

  For each piece of diesel equipment, the database also documents:

- Whether that piece of equipment has or is currently operated on a Master Plan project. For equipment that has been removed, the date of removal is recorded if known. This portion of the database is currently undergoing reconciliation with the results of the airfield equipment inventory.

- For equipment operating under a 20-day exemption, the date the equipment was placed on the airfield and the date removed. For more discussion on 20-day exemption status, please refer to the Task 4 Section of this report;

- Each piece of equipment's compatibility with both off-road and on-road Verified Diesel Emission Control Systems available at the time the equipment was originally submitted by the owner for review by environmental monitor staff.

During the period ending December 31, 2018, a total of 904 pieces of construction equipment associated with the MSC-North project was assessed, and a total of 188 pieces of equipment associated with the WAMA Delta Hangar project. The equipment information described herein is based on the equipment lists provided by LAWA environmental management.

<u>Task 1.2 – Independent Monitoring, Documentation, & Reporting of Compliance with CBA Section X.F.1; Best Available Emission Control Devices Required</u>:

The primary objective of this task is to independently verify and validate the findings of LAWA's environmental monitor and contractor staff as it relates to the availability and compatibility of diesel emission control systems for diesel equipment operating on a Master Plan project. Using the methodology described under Task 1.1, CFCI staff regularly coordinates with LAWA's environmental monitor, requesting and receiving access to files and records for diesel equipment operating or proposed for operation on a Master Plan project.

Only CARB and/or EPA-verified devices available at the commencement of construction activities on a specific Master Plan project were considered when assessing compliance with CBA Section X.F.1. This is based upon the following language included in the CBA:

- The CBA stipulates in Section X.F.9.a. "Reassessments of Emission Control Devices", that *"the process of emission control technology review shall include any new relevant requirements or regulations promulgated by CARB or EPA. Results from the reassessments shall not be applied retroactively"*;
- CBA Section X.F.9.b. states under "Application of New Requirements", that *"any new designations of emission control devices as best available shall apply only to projects that start after the devices are verified or certified for use by CARB or EPA, or approved for use as part of a Demonstration Project"*.

At the time of commencement of construction activities on the MSC and WAMA Delta Hangar projects, multiple diesel emission control devices were verified by CARB for off-road use. CARB assigns a designation to each diesel emission control device as a function of its effectiveness in reducing diesel particulate matter (PM) emissions. This is referred to as the "Verification Level" of the device; CARB currently recognizes three verification levels, as follows:

- Level 1 – greater than or equal to 25% reduction of diesel PM;
- Level 2 – greater than or equal to 50% reduction in diesel PM;
- Level 3 – greater than or equal to 85% reduction in diesel PM.

As shown above, CARB Level 3 offers the highest level of diesel pollution reduction. In accordance with the CBA, the "Best Available Control Technology" (BACT) is Level 3 verification.

Tier 4 Standards - Tier 4 emission standards, which were phased-in over the period of 2008 - 2015, require that emissions of PM and NOx be reduced by approximately 90% compared to Tier 3 emission levels. These emission reductions are achieved through the use of control technologies—including advanced diesel emission control systems - similar to those required by the 2007-2010 standards for on-road engines. For the purpose of conformance to CBA requirements, equipment and vehicles equipped with an engine certified as "Tier 4 interim" or "Tier 4" final satisfies the diesel particulate matter emission reduction CBA requirements. Tier 4 engines are equipped with diesel PM emission control

systems that meet or exceed the performance of a Level 3 BACT system. Tier 4 engines also achieve NOx emissions approximately 90% lower as compared to Tier 3 engines.

Task 1.2 Results

Each piece of diesel equipment submitted to LAWA's environmental monitor for review was independently assessed by the Third Party Monitor to determine its compatibility with a CARB and/or EPA-verified diesel emission control system. The following sections discuss conformance with Task 1.2 for the MSC-North and WAMA Delta Hangar projects for the six-month period ending December 31, 2018.

1.2.1 Midfield Satellite Concourse North – On-Road Vehicles - During the reporting period, a total of 904 pieces of construction equipment was evaluated. This includes 547 on-road vehicles and 357 pieces of off-road construction equipment. LAWA environmental management reviews each piece of equipment and supporting documentation and makes a determination as to whether or not the propose equipment conforms to LAWA environmental policy and the CBA requirements. Of the 547 pieces of on-road equipment submitted for review, 24 pieces disapproved for by LAWA environmental management, and 20 vehicles did not have a model year identified at the time of project reporting.

Table 1.2.1-1, below, lists the on-road vehicles reviewed under this Semiannual Report:

Table 1.2.1-1: MSC North On-Road Vehicles

Contractor	Identification No.	Description	Year
Granite	61603U1	Super 10s	2008
Granite	8W30714	Haul Truck	2008
Bubalo	9F68412	Haul Truck	2008
Granite	87660U1	Haul Truck	2009
Granite	67243X1	Haul Truck	2009
Granite	9F27384	Haul Truck	2010
Granite	9E25940	Haul Truck	2010
Steve Bubalo	7LEW428	Haul Truck	2010
Granite	EP01038	Haul Truck	2010
Granite	49741F2	Haul Truck	2010
Granite	9F68951	Haul Truck	2010
Granite	9F17451	Haul Truck	2010

Contractor	Identification No.	Description	Year
Granite	37930J1	Haul Truck	2010
Granite	01697Z1	Haul Truck	2010
Granite	9F67981	Haul Truck	2010
Granite	91392K1	Super 10s	2010
Granite	26596E2	Super 10s	2010
Premiere Eng. & Grading	96735U1	Haul Truck	2010
Premiere Engineering	9F69549	Haul Truck	2010
Premiere Engineering	9E33437	Haul Truck	2010
Andersen Environmental	WP78377	Haul Truck	2010
Andersen Environmental	XP00432	Haul Truck	2010
Bubalo	9D65806	Haul Truck	2010
Granite	9E51754	Haul Truck	2010
Granite	9E51753	Haul Truck	2010
Granite	9E62588	End Dump	2010
Andersen Environmental	WP78363	Haul Truck	2010
Granite	OZZYSTK	Haul Truck	2010
Granite	9F46379	Haul Truck	2010
Granite	9F27374	Haul Truck	2010
Granite	9F06785	Haul Truck	2010
Granite	9E21679	Haul Truck	2010
Granite	88526K1	Haul Truck	2010
Granite	30367V1	Haul Truck	2010
Griffith	TIERITA	Haul Truck	2010
Helix (RJ&J)	49568P1	Haul Truck	2010
Andersen Environmental	9F16104	Haul Truck	2010
Andersen Environmental	9F00165	Haul Truck	2010
Andersen Environmental	9B38607	Haul Truck	2010
Andersen Environmental	9E93027	End Dump	2010
Andersen Environmental	9E06250	Haul Truck	2010
Bubalo	9F42434	End Dump	2010
Conco	65106X1	Water Truck	2010
Granite	9F27384	Haul Truck	2010
Granite	9E25940	Haul Truck	2010
Steve Bubalo	7LEW428	Haul Truck	2010
Bubalo	8W35813	Haul Truck	2011
Bubalo	58240T1	Haul Truck	2011
Bubalo	9F35336	Haul Truck	2011
Premiere Eng. & Grading	9E86461	Haul Truck	2011

Contractor	Identification No.	Description	Year
Granite	WP97782	Haul Truck	2011
Granite	9F57340	Haul Truck	2011
Granite	9F46603	Haul Truck	2011
Steve Bubalo	9D74787	Haul Truck	2011
Granite	EZHAUL1	Super 10s	2011
Granite	9B46457	Super 10s	2011
Granite	89491S1	Super 10s	2011
Granite	65819V1	Super 10s	2011
Granite	61431P1	Super 10s	2011
Granite	20512M1	Super 10s	2011
Premiere Eng. & Grading	85259A2	Haul Truck	2011
Andersen Environmental	9E37126	Haul Truck	2011
Blois	08772H2	Super 10s	2011
Andersen Environmental	WP54600	Haul Truck	2011
Andersen Environmental	WP20128	Haul Truck	2011
Granite	9F17414	Haul Truck	2011
Granite	49212W1	Haul Truck	2011
Andersen Environmental	9F55649	Haul Truck	2011
Andersen Environmental	WP80349	Haul Truck	2011
Andersen Environmental	WP50044	Haul Truck	2011
Andersen Environmental	VP65754	Haul Truck	2011
Bubalo	9E25169	Haul Truck	2011
Griffith	WP93509	Haul Truck	2011
Griffith	9E72155	Haul Truck	2011
Griffith	9F22237	Haul Truck	2011
Griffith	9F22236	Haul Truck	2011
Griffith	9F43153	Haul Truck	2011
Granite	9F62900	Haul Truck	2011
Granite	9F51151	Haul Truck	2011
Granite	9F43230	Haul Truck	2011
Granite	9F42871	Haul Truck	2011
Granite	9F42669	Haul Truck	2011
Granite	9F42608	Haul Truck	2011
Granite	9F42431	Haul Truck	2011
Granite	9F32549	Haul Truck	2011
Granite	9F32379	Haul Truck	2011
Granite	9E88431	Haul Truck	2011
Granite	9D30822	Haul Truck	2011

Contractor	Identification No.	Description	Year
Granite	93050S1	Haul Truck	2011
Granite	8Y35500	Haul Truck	2011
Andersen Environmental	WP71809	Haul Truck	2011
Andersen Environmental	9F69725	Haul Truck	2011
Andersen Environmental	9F14989	Haul Truck	2011
Andersen Environmental	WP71082	Haul Truck	2011
Andersen Environmental	4QIV566	Haul Truck	2011
Helix (RJ&J)	WP31368	Haul Truck	2011
Andersen Environmental	9F61543	Haul Truck	2011
Andersen Environmental	9F45706	Haul Truck	2011
Andersen Environmental	9F11903	Haul Truck	2011
Andersen Environmental	25965T1	Haul Truck	2011
Andersen Environmental	WP29583	End Dump	2011
Austin Enterprises (Granite)	86331D1	Haul Truck	2011
Austin Enterprises (Granite)	0G39781	Haul Truck	2011
Andersen Environmental	XP00441	Haul Truck	2011
Andersen Environmental	XP00440	Haul Truck	2011
Bubalo	58240T1	Haul Truck	2011
Bubalo	8W35813	Haul Truck	2011
Bubalo	9F35336	Haul Truck	2011
Premiere Engineering	9E86461	Haul Truck	2011
Granite	WP97782	Haul Truck	2011
Granite	9F57340	Haul Truck	2011
Granite	9F46603	Haul Truck	2011
Steve Bubalo	9D74787	Haul Truck	2011
Control Air	47882M1	Haul Truck	2012
Bubalo	49995F2	Haul Truck	2012
Bubalo	27062E2	Haul Truck	2012
Bubalo	93300D2	Haul Truck	2012
Bubalo	18917U1	Haul Truck	2012
Bubalo	37668Z1	Haul Truck	2012
Bubalo	50188G2	Haul Truck	2012
Bubalo	64121Z1	Haul Truck	2012
Bubalo	37062E2	Haul Truck	2012
Granite	9F87769	Haul Truck	2012
Granite	3068E2	Haul Truck	2012
Premiere Engineering	34057A2	Super 10s	2012
Bubalo	63532T1	Haul Truck	2012

Contractor	Identification No.	Description	Year
Granite	76960Y1	Super 10s	2012
Granite	9D18023	Haul Truck	2012
Granite	9F70057	Haul Truck	2012
Andersen Environmental	9E80676	Haul Truck	2012
Andersen Environmental	BEJAC3	Haul Truck	2012
Granite	86263B2	Haul Truck	2012
Granite	02903U1	Super 10s	2012
Granite	9F55426	Super 10s	2012
Granite	9F431136	Super 10s	2012
Granite	64963R1	Super 10s	2012
Granite	63196Z1	Super 10s	2012
Granite	59667U1	Super 10s	2012
Granite	04822Z1	Super 10s	2012
Premiere Engineering	9F46036	Haul Truck	2012
Premiere Engineering	9F56692	Haul Truck	2012
Conco	A4337	Haul Truck	2012
Andersen Environmental	XP09037	Haul Truck	2012
Blois	70708Z1	Super 10s	2012
Andersen Environmental	WP72022	Haul Truck	2012
Andersen Environmental	WP71954	Haul Truck	2012
Andersen Environmental	WP43148	Haul Truck	2012
Andersen Environmental	XP07563	Haul Truck	2012
Andersen Environmental	XP00464	Haul Truck	2012
Andersen Environmental	9F55722	Haul Truck	2012
Andersen Environmental	3QZB408	Haul Truck	2012
Granite	9D80158	Haul Truck	2012
Granite	31455E2	Haul Truck	2012
Granite	86948D2	Haul Truck	2012
Bubalo	9F59307	Haul Truck	2012
Andersen Environmental	9F65244	Haul Truck	2012
Andersen Environmental	9F61544	Haul Truck	2012
Andersen Environmental	9F46361	Haul Truck	2012
Andersen Environmental	9F02427	Haul Truck	2012
Andersen Environmental	WP85683	Haul Truck	2012
Andersen Environmental	WP76834	Haul Truck	2012
Andersen Environmental	WP65542	Haul Truck	2012
Andersen Environmental	WP63865	Haul Truck	2012
Andersen Environmental	WP50041	Haul Truck	2012

Contractor	Identification No.	Description	Year
Andersen Environmental	9F60989	Haul Truck	2012
Andersen Environmental	9F56421	Haul Truck	2012
Andersen Environmental	9F46363	Haul Truck	2012
Griffith	9E25613	Haul Truck	2012
Griffith	9E14325	Haul Truck	2012
Granite	85503R1	Super 10s	2012
Griffith	9F59264	Haul Truck	2012
Griffith	9E70220	Haul Truck	2012
Granite	9F68207	Haul Truck	2012
Granite	9F35132	Haul Truck	2012
Granite	65296R1	Haul Truck	2012
Granite	08293Y1	Haul Truck	2012
Griffith	JGROD19	Haul Truck	2012
Griffith	JGROD15	Haul Truck	2012
Griffith	JGROD12	Haul Truck	2012
Granite	90623A2	Super 10s	2012
Griffith/Cal-Earth	01643U1	Super 10s	2012
Conco	CP74872	Gravel Truck	2012
Conco	CP74871	Gravel Truck	2012
Conco	CP74870	Gravel Truck	2012
Conco	CP74869	Gravel Truck	2012
Conco	CP74863	Gravel Truck	2012
Conco	CP74862	Gravel Truck	2012
Conco	70253H1	Gravel Truck	2012
Conco	56094H1	Gravel Truck	2012
Conco	56093H1	Gravel Truck	2012
Conco	CP91650	Gravel Truck	2012
Conco	CP85792	Gravel Truck	2012
Conco	56662F1	Gravel Truck	2012
Conco	56573F1	Gravel Truck	2012
Conco	56572F1	Gravel Truck	2012
Conco	56571F1	Gravel Truck	2012
Conco	11532E1	Gravel Truck	2012
Conco	11531E1	Gravel Truck	2012
Conco	11530E1	Gravel Truck	2012
Conco	11529E1	Gravel Truck	2012
Andersen Environmental	XP02136	Haul Truck	2012
Andersen Environmental	WP58089	Haul Truck	2012

Contractor	Identification No.	Description	Year
Andersen Environmental	WP50691	Haul Truck	2012
Andersen Environmental	9F45933	Haul Truck	2012
Andersen Environmental	9F33810	Haul Truck	2012
Andersen Environmental	9F11667	Haul Truck	2012
Andersen Environmental	9F06621	Haul Truck	2012
Andersen Environmental	WP94057	Haul Truck	2012
Andersen Environmental	WP92254	Haul Truck	2012
Helix (RJ&J)	XP02233	Haul Truck	2012
Helix (RJ&J)	CP99924	Haul Truck	2012
Helix (RJ&J)	25553T1	Haul Truck	2012
Andersen Environmental	JSUA4	Haul Truck	2012
Andersen Environmental	9F68191	Haul Truck	2012
Andersen Environmental	9F51641	Haul Truck	2012
Andersen Environmental	9F35126	Haul Truck	2012
Andersen Environmental	9F32399	Haul Truck	2012
Andersen Environmental	9F29353	Haul Truck	2012
Andersen Environmental	9E63910	Haul Truck	2012
Andersen Environmental	9E42269	Haul Truck	2012
Andersen Environmental	9D18020	Haul Truck	2012
Andersen Environmental	9B80616	Haul Truck	2012
Andersen Environmental	251401Z	Haul Truck	2012
Austin Enterprises (Granite)	72035H1	Haul Truck	2012
Andersen Environmental	9F61107	Haul Truck	2012
Andersen Environmental	9F17467	Haul Truck	2012
Granite	87477G2	Super 10s	2012
Bubalo	49995F2	Haul Truck	2012
Bubalo	27062E2	Haul Truck	2012
Bubalo	37062E2	Haul Truck	2012
Bubalo	64121Z1	Haul Truck	2012
Bubalo	50188G2	Haul Truck	2012
Bubalo	37668Z1	Haul Truck	2012
Bubalo	18917U1	Haul Truck	2012
Bubalo	93300D2	Haul Truck	2012
Granite	9F87769	Haul Truck	2012
Granite	3068E2	Haul Truck	2012
Premiere Engineering	34057A2	Super 10 truck	2012
Bubalo	63532T1	Haul Truck	2012
Allied Steel	72567H1	Field Truck	2012

Contractor	Identification No.	Description	Year
Granite	76960Y1	Super 10 trucks	2012
Granite	Z042224	110-Ton Crane	2012
Granite	9D18023	Haul Truck	2012
Granite	9F70057	Haul Truck	2012
Granite	EP02498	Haul Truck	2013
Control Air	58870C2	Haul Truck	2013
Granite	OBIGRED	Haul Truck	2013
Granite	STAREDE	Haul Truck	2013
Granite	37053J2	Super 10s	2013
Granite	9F17116	Haul Truck	2013
Granite	9E46603	Haul Truck	2013
Granite	9F46037	Haul Truck	2013
Granite	XP12377	Haul Truck	2013
Granite	98194E2	Haul Truck	2013
Granite	54576G2	Haul Truck	2013
Andersen Environmental	9F61064	Haul Truck	2013
Granite	19354C2	Haul Truck	2013
Granite	R627452	Haul Truck	2013
Bubalo	9F41928	Haul Truck	2013
Conco	A4446	Haul Truck	2013
Conco	A4434	Haul Truck	2013
Conco	A4398	Haul Truck	2013
Conco	A4378	Haul Truck	2013
Steve Bubalo	9F12787	Haul Truck	2013
Steve Bubalo	9F12786	Haul Truck	2013
Blois	80835Y1	Super 10s	2013
SE Pipeline	WP15538	Haul Truck	2013
Bubalo	9F60101	Haul Truck	2013
Granite	58441C2	Haul Truck	2013
Andersen Environmental	9F19583	Haul Truck	2013
Griffith	9E86035	Haul Truck	2013
Griffith	9E61055	Haul Truck	2013
Griffith	9F28544	Haul Truck	2013
Griffith	9E25620	Haul Truck	2013
Griffith	27428V1	Haul Truck	2013
Granite	WP84500	Haul Truck	2013
Granite	9E04716	Haul Truck	2013
Granite	70109H1	Haul Truck	2013

Contractor	Identification No.	Description	Year
Granite	31656E2	Haul Truck	2013
Griffith	JGROD18	Haul Truck	2013
Griffith	JGROD17	Haul Truck	2013
Blois	7J28350	Haul Truck	2013
Griffith/Cal-Earth	9E90690	Super 10s	2013
Conco	CP87839	Gravel Truck	2013
Conco	79681H1	Gravel Truck	2013
Conco	79680H1	Gravel Truck	2013
Conco	79426H1	Gravel Truck	2013
Conco	79422H1	Gravel Truck	2013
Conco	79421H1	Gravel Truck	2013
Conco	70292H1	Gravel Truck	2013
Conco	70291H1	Gravel Truck	2013
Conco	70290H1	Gravel Truck	2013
Conco	70289H1	Gravel Truck	2013
Conco	47408H1	Gravel Truck	2013
Andersen Environmental	WP88698	Haul Truck	2013
Andersen Environmental	9F61106	Haul Truck	2013
Griffith	50172K1	Haul Truck	2013
Andersen Environmental	WP47201	Haul Truck	2013
Andersen Environmental	9F66037	Haul Truck	2013
Andersen Environmental	9F42648	Haul Truck	2013
Andersen Environmental	9E83229	Haul Truck	2013
Andersen Environmental	9E77508	Haul Truck	2013
Andersen Environmental	9E70034	Haul Truck	2013
Andersen Environmental	9D66121	Haul Truck	2013
Andersen Environmental	9D66067	Haul Truck	2013
Andersen Environmental	3165600	Haul Truck	2013
Bubalo	9F32616	End Dump	2013
Granite	77731F2	Haul Truck	2013
Bubalo	9F51621	Haul Truck	2013
Granite	35520H2	Super 10s	2013
Murray	58254P1	Water Truck	2013
Granite	90268R1	Water Truck	2013
Granite	26046M2	Truck	2013
Granite	OBIGRED	Haul Truck	2013
Granite	STAREDE	Haul Truck	2013
Granite	37053J2	Super 10 trucks	2013

Contractor	Identification No.	Description	Year
Granite	9F17116	Haul Truck	2013
Granite	9E46603	Haul Truck	2013
Granite	9F46037	Haul Truck	2013
Steve Bubalo	12868C2	Haul Truck	2013
Granite	XP12377	Haul Truck	2013
Granite	98194E2	Haul Truck	2013
Granite	54576G2	Haul Truck	2013
Granite	37052J2	Haul Truck	2014
Granite	89973G2	Haul Truck	2014
Control Air	90811K2	Haul Truck	2014
Conco	85867S1	Haul Truck	2014
Conco	85866S1	Haul Truck	2014
Granite	LBZREDY	Haul Truck	2014
Granite	87583G2	Haul Truck	2014
Granite	71445Z1	Haul Truck	2014
Granite	85823R1	Haul Truck	2014
Granite	85822R1	Haul Truck	2014
Conco	A3872	Haul Truck	2014
Bubalo	85922J1	Haul Truck	2014
Andersen Environmental	9E80762	Haul Truck	2014
Bubalo	33861P1	Haul Truck	2014
Granite	9E04694	Haul Truck	2014
Andersen Environmental	WP79475	Haul Truck	2014
Andersen Environmental	WP22405	Haul Truck	2014
Andersen Environmental	9F69431	Haul Truck	2014
Andersen Environmental	9F68465	Haul Truck	2014
Conco	7DWB680	Gravel Truck	2014
Conco	CP84854	Gravel Truck	2014
Conco	CP79479	Gravel Truck	2014
Conco	CP79477	Gravel Truck	2014
Conco	98021M1	Gravel Truck	2014
Conco	88616N1	Gravel Truck	2014
Conco	CP79486	Gravel Truck	2014
Andersen Environmental	CP96735	Haul Truck	2014
Andersen Environmental	WP16214	Haul Truck	2014
Andersen Environmental	9D58048	Haul Truck	2014
Andersen Environmental	9F16684	Haul Truck	2014
Andersen Environmental	9F16383	Haul Truck	2014

Contractor	Identification No.	Description	Year
Andersen Environmental	9E42354	Haul Truck	2014
Andersen Environmental	9B16298	Haul Truck	2014
Andersen Environmental	64230S1	Haul Truck	2014
Conco	7FNY276	Gravel Truck	2014
Conco	7CZS359	Haul Truck	2014
Austin Enterprises (Granite)	81455S1	Haul Truck	2014
Blois	35596N1	Haul Truck	2014
Granite	88655H1	Haul Truck	2014
Granite	81744F2	Super 10s	2014
SE Pipeline	92079T1	Weld truck	2014
Conco	8CDW168	Pump Truck	2014
Granite	LBZREDY	Haul Truck	2014
Allied Steel	26199P1	Field Truck	2014
Allied Steel	56486N1	Field Truck	2014
Granite	87583G2	Haul Truck	2014
PG Cutting	30010U1	Service Truck	2014
Granite	74642T1	Haul Truck	2015
Andersen Environmental	XP06898	Haul Truck	2015
Conco	A4048	Haul Truck	2015
Conco	A4031	Haul Truck	2015
Conco	A4009	Haul Truck	2015
Conco	A3919	Haul Truck	2015
Andersen Environmental	XP10334	Haul Truck	2015
Andersen Environmental	WP50668	Haul Truck	2015
Griffith	9E72263	Haul Truck	2015
Granite	9F18446	Haul Truck	2015
Granite	9F18504	Haul Truck	2015
Granite	85552R1	Haul Truck	2015
Granite	03102V1	Haul Truck	2015
Granite	90612D2	Super 10s	2015
Granite	83584W1	Super 10s	2015
Granite	91320W1	Super 10s	2015
Granite	30364V1	Super 10s	2015
Conco	CP92543	Gravel Truck	2015
Conco	CP92542	Gravel Truck	2015
Conco	CP92533	Gravel Truck	2015
Conco	CP92532	Gravel Truck	2015
Conco	WP39525	Gravel Truck	2015

Contractor	Identification No.	Description	Year
Conco	CP92531	Gravel Truck	2015
Conco	CP92517	Gravel Truck	2015
Conco	CP92516	Gravel Truck	2015
Conco	CP85798	Gravel Truck	2015
Conco	CP85775	Gravel Truck	2015
Conco	CP85769	Gravel Truck	2015
Conco	CP85758	Gravel Truck	2015
Conco	CP85757	Gravel Truck	2015
Conco	9F18309	Gravel Truck	2015
Conco	85745R1	Gravel Truck	2015
Conco	75834T1	Gravel Truck	2015
Conco	75833T1	Gravel Truck	2015
Conco	75832T1	Gravel Truck	2015
Conco	75831T1	Gravel Truck	2015
Conco	75828T1	Gravel Truck	2015
Conco	75737T1	Gravel Truck	2015
Conco	74223U1	Gravel Truck	2015
Conco	74221U1	Gravel Truck	2015
Conco	60351U1	Gravel Truck	2015
Conco	38938S1	Gravel Truck	2015
Conco	38937S1	Gravel Truck	2015
Andersen Environmental	9F31785	Haul Truck	2015
Andersen Environmental	9F66033	Haul Truck	2015
Andersen Environmental	9F25513	Haul Truck	2015
Andersen Environmental	9F18462	Haul Truck	2015
Andersen Environmental	9F18344	Haul Truck	2015
Andersen Environmental	9F18343	Haul Truck	2015
Andersen Environmental	9F18342	Haul Truck	2015
Andersen Environmental	9F08697	Haul Truck	2015
Andersen Environmental	9B16299	Haul Truck	2015
Andersen Environmental	74719T1	Haul Truck	2015
Andersen Environmental	71830K2	Haul Truck	2015
Conco	7LXE829	Haul Truck	2015
Granite	43067U1	Haul Truck	2015
Bubalo	72633W1	Haul Truck	2015
RJ&J	67282W1	Water Truck	2015
Andersen Environmental	86381V1	Water truck	2015
Granite	70390Z1	Haul Truck	2016

Contractor	Identification No.	Description	Year
Granite	CP95396	Haul Truck	2016
Granite	54396X1	Super 10s	2016
Granite	54395X1	Super 10s	2016
TPJV	70545C2	10 Yard Dump	2016
Griffith	9F53064	Haul Truck	2016
Griffith	9F18775	Haul Truck	2016
Granite	81320W1	Haul Truck	2016
Griffith	9F18776	Haul Truck	2016
Griffith	9F18777	Haul Truck	2016
Griffith	9F18774	Haul Truck	2016
Granite	98813D2	Super 10s	2016
Granite	96699U1	Super 10s	2016
Conco	7MSB387	Gravel Truck	2016
Conco	CP95395	Gravel Truck	2016
Conco	CP94437	Gravel Truck	2016
Conco	CP94428	Gravel Truck	2016
Conco	CP94417	Gravel Truck	2016
Conco	CP94415	Gravel Truck	2016
Conco	70114Z1	Gravel Truck	2016
Andersen Environmental	9F41012	Haul Truck	2016
Andersen Environmental	9F46362	Haul Truck	2016
Granite	50062Z1	Haul Truck	2016
Andersen Environmental	9F52953	Haul Truck	2016
Andersen Environmental	9F43306	Haul Truck	2016
Andersen Environmental	9F42661	Haul Truck	2016
Andersen Environmental	9E24811	Haul Truck	2016
Conco	7SQU803	Haul Truck	2016
Conco	7LXF284	Haul Truck	2016
Austin Enterprises (Granite)	86028C2	Haul Truck	2016
Austin Enterprises (Granite)	84603A2	Haul Truck	2016
Blois	66826F2	Haul Truck	2016
Comet	85036Y1	Haul Truck	2016
United Site Services	05991Y1	Haul Truck	2016
Allied Steel	11755X1	Field Truck	2016
Conco	44899D2	Haul Truck	2017
Granite	85113E2	Haul Truck	2017
TPJV	70543C2	10 Yard Dump	2017
TPJV	70542C2	10 Yard Dump Trucks	2017

Contractor	Identification No.	Description	Year
Zarp	JD456050	Haul Truck	2017
Andersen Environmental	WP98040	Haul Truck	2017
Bubalo	42490K1	Haul Truck	2017
Bubalo	56440Z1	Haul Truck	2017
Andersen Environmental	4PS4476	Haul Truck	2017
Andersen Environmental	WP96789	Haul Truck	2017
Griffith	77810E2	Haul Truck	2017
Conco	CP94507	Gravel Truck	2017
Conco	70729Z1	Gravel Truck	2017
Conco	70252H1	Gravel Truck	2017
Conco	56755Z1	Gravel Truck	2017
Conco	56753Z1	Gravel Truck	2017
Andersen Environmental	9F60181	Haul Truck	2017
Andersen Environmental	9F54476	Haul Truck	2017
Andersen Environmental	9F36865	Haul Truck	2017
Andersen Environmental	9F36864	Haul Truck	2017
Shoring Engineers	9F56837	Haul Truck	2017
Granite	50099Z1	Haul Truck	2017
Granite	22960V1	Haul Truck	2017
Granite	SE647373	Water Truck	2017
TPJV	24244H2	Water Truck	2017
Premiere Engineering	42728B2	Water Truck	2017
Premiere Engineering	90782D2	Haul Truck	2017
PG Cutting	54076J2	Service Truck	2017
PG Cutting	40618H2	Service Truck	2017
Steve Bubalo	01155J2	Haul Truck	2018
Zarp	87380G2	Haul Truck	2018
Steve Bubalo	01155J2	Haul Truck	2018
Steve Bubalo	12868C2	Haul Truck	TBD
Andersen Environmental	CP99173	Haul Truck	TBD
Andersen Environmental	BEJAC2	Haul Truck	TBD
Griffith	9F17431	Haul Truck	TBD
Premiere Eng. & Grading	9E04738	Haul Truck	TBD
Premiere Eng. & Grading	9E04704	Haul Truck	TBD
Andersen Environmental	WP05483	Haul Truck	TBD
Andersen Environmental	59999U1	Haul Truck	TBD
Andersen Environmental	58968C2	Haul Truck	TBD
Andersen Environmental	36153A2	Haul Truck	TBD

Contractor	Identification No.	Description	Year
Andersen Environmental	9F46366	Haul Truck	TBD
Blois	40580Z1	Super 10s	TBD
Granite	8L70861	Haul Truck	TBD
Blois	85274A2	Super 10s	TBD
Blois	61970A2	Super 10s	TBD
Granite	8H79816	Haul Truck	TBD
Bubalo	9F61241	End Dump	TBD
Bubalo	9F54458	End Dump	TBD
Granite	7T62023	Haul Truck	TBD
Bubalo	05040V1	Dump Truck	TBD

As shown in the above Table, 20 vehicles did not have a model year identified at the time of project reporting. Approval for these vehicles is pending confirmation that they are equipped with a verified diesel emission control system (VDECS). The remaining 513 on-road vehicles have been documented to meet the requirements of the CBA Section X.F.1, in that all of the vehicles are model year 2007 or newer and equipped with a factory installed VDECS.

It should also be noted that the model year 2010 and newer on-road vehicles are also equipped with a selective catalytic reduction (SRC) device that reduces oxides of nitrogen (NOx) emissions. The 2010 and newer heavy-duty vehicles are also certified to the 2010 NOx standard of 0.2 grams per brake horsepower-hour (g/bhp-hr) or cleaner.

An assessment of the on-road truck fleet age and VDECS equipment was conducted. Table 1.2.1-2, below, shows that all vehicles were equipped with a Level 3 VDECS and thus meets the CBA requirement of being equipped with a BACT device.

Table 1.2.1-2: On-Road Vehicles were Equipped with a Level 3 VDECS

Model Year	Number	Percent
2008	3	<1%
2009	2	<1%
2010	42	8%
2011	67	12%
2012	134	24%
2013	81	15%
2014	47	9%
2015	60	11%
2016	35	6%
2017	29	5%
2018	3	<1%
Pending	20	4%

It should also be noted that the model year 2010 and newer engines are equipped with selective catalytic reduction (SCR) technology to reduce oxides of nitrogen (NOx) emission. Four hundred ninety-eight (498) vehicles out of the 523 on-road trucks assessed, or approximately 95% of on-road vehicles, are equipped with SCR.

1.2.2 Midfield Satellite Concourse North – Off-Road Equipment - During the reporting period, a total of 356 pieces of off-road construction equipment were evaluated. This includes 107 pieces of equipment with an engine horsepower level of less than 50 horsepower (hp). As discussed in Section 2 Task 4, this low power equipment has been granted a categorical exemption by LAWA due to the unavailability and impracticality of retrofitting small equipment with a VDECS.

The remaining 249 pieces of off-road construction equipment are shown in Table 1.2.2-1, below. LAWA environmental management reviews each piece of equipment and supporting documentation and makes a determination as to whether or not the proposed equipment conforms to LAWA environmental policy and the CBA requirements. The following table lists the off-road equipment reviewed under this Semiannual Report:

Table 1.2.2-1: MSC North Off-Road Equipment

Contractor	Identification No.	Description	Engine Tier
Premiere Engineering	DB9C98	Track Loader	T3

Malcolm Drilling	DB9C98	Tieback Drill Rig	T3
Granite	HU7P94	Roller	T3
Contractor	Identification No.	Description	Engine Tier
Allied Steel	MG9N55	500 Crane	T4F
Allied Steel	LM7U39	500 Crane	T4F
Granite	UF9D68	90-Ton Crane	T4F
	GX7B64	Aerial Lift	T4F
TPJV	JT6N57	Aerial Lift	T4F
TPJV	KD9H96	Aerial Lift	T4F
Conco	RU6P76	Aerial Lift	T4F
Schuff Steel	BB5D98	Aerial Lift	T4F
TPJV	KK5B58	Aerial Lift	T4F
Schuff Steel	174242	Aerial Lift	T4F
Granite	174220	Aerial Lift	T4F
Karcher	GW8J88	Aerial/ Boom Lift	T4F
Malcolm Drilling	PE3H37	Air Compressor	T4F
Malcolm Drilling	RX7A65	Air Compressor	T4F
Griffith Company	RH8H76	Backhoe	T4F
Granite	WT5G86	Backhoe	T4F
Premiere Engineering	GU9L37	Backhoe	T4F
Granite	GJ8T79	Backhoe	T4F
Griffith Company	GX7B96	Backhoe	T4F
Conco	YU7X95	Backhoe	T4F
Granite	RH8H76	Backhoe	T4F
Granite	CK4E79	Backhoe	T4F
Granite	KN4P74	Backhoes	T4F
Granite	KX4E69	Backhoes	T4F
McGuire	UA5B47	Bobcat	T4F
Control Air	MP3F34	Bobcat	T4F
TPJV	TH8P85	Boom Lift	T4F
Orange County Plastering	HH8X64	Boom Lift	T4F
Helix	DX3J46	Boom Lift	T4F
Shoring Engineers	DP4K38	Boom Lift	T4F
Bagatelos	UA7S44	Boom Lift	T4F
Bagatelos	AX6E47	Boom Lift	T4F

Contractor	Identification No.	Description	Engine Tier
Best Contracting	GR9H84	Boom Lift	T4F
OCP	NS7T94	Boom Lift	T4F
Orange County Plastering	AK9G86	Boom Lift	T4F
Bagatelos	GR3K37	Boom Lift	T4F
Bagatelos	SG7T67	Boom Lift	T4F
Bagatelos	MP4C65	Boom Lift	T4F
Bagatelos	NU3A85	Boom Lift	T4F
Orange County Plastering	UE9K44	Boom Lift	T4F
Saddle Back Water	XF4T85	Boom Lift	T4F
Bagatelos	173275	Boom Lift	T4F
Helix	FB6G77	Boom Lift	T4F
Premiere Engineering	BS4K63	Compaction Roller	T4F
Malcolm Drilling	RF9B86	Compressor	T4F
Best Contracting	GJ8C68	Crane	T4F
Helix	RR5S45	Crane	T4F
Schuff Steel	RE7J83	Crane	T4F
	JH44F86	Crane	T4F
Conco	NJ3X46	Crane	T4F
Best Contracting	DN9A34	Crane	T4F
Conco	TJ7R63	Crane	T4F
Conco	RU6C97	Crane	T4F
Conco	YD7P96	Crane	T4F
Bagatelos	MR9C56	Crane	T4F
Shoring Engineers	NG3P45	Cranes	T4F
Granite	SK4S58	Crawler	T4F
Premier	TB5J58	Crawler	T4F
Granite	YW4K96	Crawler Tractor	T4F
Granite	PR7L46	Dozer	T4F
Granite	TH7E74	Dozer	T4F
Granite	VP6P76	Dozer	T4F
Granite	GL9A65	Dozer	T4F
Bubalo	GC6K93	Excavator	T4F
	LG9Y67	Excavator	T4F
Murray	MV5W64	Excavator	T4F

Contractor	Identification No.	Description	Engine Tier
Murray	BK6N76	Excavator	T4F
Granite	AR7L88	Excavator	T4F
Granite	NM8T75	Excavator	T4F
Granite	UM4L64	Excavator	T4F
Helix	PM9R98	Excavator	T4F
Granite	WC8Y33	Excavator	T4F
Granite	KN4K43	Excavator	T4F
Granite	TL6X39	Excavator	T4F
Granite	BW4H56	Excavator	T4F
Premiere Engineering	BW9U88	Excavator	T4F
Granite	RR8L66	Excavator	T4F
Premiere Engineering & Grading	PM8C44	Excavator	T4F
Conco/Ampco	UJ9R34	Excavator	T4F
Granite	NX8W68	Excavator	T4F
Granite	KX8M89	Excavator	T4F
Granite	FW7H43	Excavator	T4F
Granite	YH9Y56	Excavator	T4F
Granite	LW7D55	Excavator	T4F
Granite	AA4X74	Excavators	T4F
Granite	MR5P58	Excavators	T4F
Murray	ER6Y86	Excavators	T4F
Murray	SN3L93	Excavators	T4F
Murray	HJ5R98	Excavators	T4F
	KS7F57	Forklift	T4F
	DB5D87	Forklift	T4F
Steve Bubalo	GT6U63	Forklift	T4F
	NC9D45	Forklift	T4F
	US9M87	Forklift	T4F
PCL	GV6F35	Forklift	T4F
_	XP8K34	Forklift	T4F
Helix	SG4X98	Forklift	T4F
PCL	EY9A44	Forklift	T4F
McGuire	JT9Y87	Forklift	T4F

Contractor	Identification No.	Description	Engine Tier
Malcolm Drilling	MB8F76	Forklift	T4F
Granite	GB5V56	Forklift	T4F
Martinez Steel	TC8P53	Forklift	T4F
Helix	HJ4K73	Forklift	T4F
PCI	UB6Y38	Forklift	T4F
Helix	VY3B67	Forklift	T4F
OCP - Alert Insulation	SP4F36	Forklift	T4F
EFI Global	CW6X56	Forklift	T4F
TPJV	KR4P34	Forklift	T4F
TPJV	VY3B67	Forklift	T4F
TPJV	SP4F36	Forklift	T4F
TPJV	KK3M79	Forklift	T4F
TPJV	DA6S73	Forklift	T4F
TPJV	XA9N75	Forklift	T4F
TPJV	FV7X58	Forklift	T4F
Cowelco	WD4U98	Forklift	T4F
Southwest Steel	AU6N67	Forklift	T4F
R&R Masonry	HF6B35	Forklift	T4F
ISEC	SP4F36	Forklift	T4F
Granite	VY3B67	Forklift	T4F
PCI	CM9C85	Forklift	T4F
McQuire	ML6X66	Forklift	T4F
McQuire	BL4U93	Forklift	T4F
Limbach	FY4N56	Forklift	T4F
Otis	SG4Y54	Forklift	T4F
TPJV	BV8E37	Forklift	T4F
Granite	NM7K54	Forklift	T4F
TPJV	F84D85	Forklift	T4F
Granite	JN8T77	Forklift	T4F
Granite	AF3L83	Forklift	T4F
Gerdau	KD7L43	Forklift	T4F
MSI Steel	TD7H36	Forklift	T4F
Granite	HG6J97	Forklift	T4F
SE Pipeline	XK4R36	Forklift	T4F
Granite	VD3C58	Forklift	T4F
Andersen Environmental	TT3J35	Forklift	T4F
Shoring Engineers	LB8L57	Forklift	T4F

Contractor	Identification No.	Description	Engine Tier
Shoring Engineers	KW5G44	Forklift	T4F
Allied Steel	KM4W78	Forklift	T4F
Helix	LW3S55	Forklift	T4F
Conco/Ampco	XS7W87	Forklift	T4F
McQuire	TV8W98	Forklift	T4F
Shoring Engineers	VT6H48	Forklift	T4F
Bagatelos	173943	Forklift	T4F
Bagatelos	175324	Forklift	T4F
Helix	172269	Forklift	T4F
PCL	170673	Generator	T4F
PCL	AU5E89	Generator	T4F
PCL	164973	Generator	T4F
Helix	167592	Generator	T4F
PG Cutting	BR3W67	Generator	T4F
Helix (RJ&J)	XS3M65	Generator	T4F
Helix	XH4C58	Generator- PERP	T4F
Granite	XL5M56	Grader	T4F
Granite	GL5L98	Grader	T4F
Granite	GP8M67	Grader	T4F
Granite	PD8C67	Grader	T4F
Granite	WM4U73	Loader	T4F
Granite	YU6D64	Loader	T4F
SE Pipeline	KD6K56	Loader	T4F
Murray	TJ3N94	Loader	T4F
Granite	AL6V34	Loader	T4F
Granite	HA3Y79	Loader	T4F
Murray	PA8D59	Loader	T4F
Granite	TF5V44	Loader	T4F
Control Air	PA8D59	Loader	T4F
McQuire	DT6W99	Loader	T4F
Granite	MX7R59	Loader	T4F
McQuire	UP3P47	Loader	T4F
McQuire	BL9P47	Loader	T4F
Premier	RX8T59	Loader	T4F
Premier	WH9Y98	Loader	T4F
Granite	WL3A49	Mini Excavator	T4F
Granite	UB3N88	Mini Excavator	T4F
Westside	MS5J37	R.T. Forklift	T4F

Contractor	Identification No.	Description	Engine Tier
Malcolm Drilling	EP6A95	Reach Fork	T4F
Granite	MS8H44	Rock truck	T4F
Granite	EY9K63	Rock truck	T4F
Control Air	FK8W46	Roller	T4F
Granite	BF8V57	Roller	T4F
Granite	TC6V97	Roller	T4F
Granite	SJ6T89	Roller	T4F
Granite	VW9B87	Roller	T4F
Conco	KA7J94	Roller	T4F
Granite	DC4G45	Roller	T4F
Granite	AU9Y55	Roller	T4F
TPJV	SU4V67	Rough Terrain Forklift	T4F
Granite	EU5K99	Rough Terrain Forklift	T4F
Granite Construction	NS3X83	Rough Terrain Forklift	T4F
SE Pipeline	RY6V49	Rubber Tire Loader	T4F
Premiere Engineering	LU4M63	Rubber Tired Loader	T4F
Premiere Eng. & Grading	XE5J57	Skid Steer	T4F
Granite	JG5G58	Skid Steer	T4F
Conco	XF6K79	Skid Steer	T4F
Premiere Engineering	UX7Y57	Skid Steer	T4F
Granite	UR8B35	Skid Steer	T4F
Control Air	GA4E94	Skid Steer Loader	T4F
Premiere Engineering	GU8J74	Skid Steer Loader	T4F
Control Air	AF3E56	Skid Steer Loader	T4F
Conco	NX9R49	Skid Steer Loader	T4F
Granite	XE5J57	Skid Steer Loader	T4F
Control Air	WG3U55	Skid Steer Loader	T4F
Premiere Engineering	CK4E79	Skid Steer Loader	T4F
Premiere Engineering	AA6X88	Skid Steer Loader	T4F
Premiere Engineering	GW8N75	Skid Steer Loader	T4F
Control Air	WG6E45	Skid Steer Loader	T4F
Malcolm Drilling	MS6H55	Skid Steer Loader	T4F
Granite	KN4P74	Skid Steer Loader	T4F
Control Air	KM5C69	Skid steer loader	T4F
Control Air	KB5J69	Skid steer loader	T4F
Conco	144599	Skidsteer	T4F
Murray	PS6D43	Skidsteer	T4F
Helix	UF9D68	Generator	T4i

Helix	GX7B64	Generator	T4i
Helix	JT6N57	Generator	T4i
Granite	KD9H96	Excavator	T4i

The above-listed off-road equipment is summarized by emissions rating (Tier), below:

Table 1.2.2-2: Summary of MSC North Construction Equipment Breakdown by Equipment Tier

Emissions Standard/Classification	Quantity
Tier 4 Final	215
Tier 4 Interim	4
Tier 3	3

As shown in Table 1.2.2-2, greater than 98% of the construction equipment submitted for LAWA review is factory equipped with a Level 3 VDECS (Tier 4 Interim and Tier 4 Final) and thus represents the best available emissions control technology (BACT). Three non-BACT pieces of equipment rated at Tier 3 were granted airfield access authorization under an approved exemption.

1.2.3 WAMA Delta Hangar – On-Road Vehicles - During the reporting period, a total of 188 pieces of construction equipment was evaluated. This includes 50 on-road vehicles and 138 pieces of off-road construction equipment.

Table 1.2.3-1, below, lists the on-road vehicles reviewed under this Semiannual Report:

Table 1.2.3-1: WAMA Delta Hangar On-Road Vehicles

Contractor	Identification No.	Description	Year
Conco	51161T1	PTRB dump truck	2010
Griffith	33528G1	Water truck	2012
Griffith	43753P1	Dump Truck	2012
Griffith	25294T1	Dump Truck	2012
Royal	7ZRT868		2013
Griffith	77731F2	Dump Truck	2013
Griffith	91576J2	Dump Truck	2013
Griffith	22848D2	Dump Truck	2013
Griffith	A4378	VAC Truck	2013
Royal	8CDW168		2014

Contractor	Identification No.	Description	Year
Royal	7ENH865		2014
Royal	DWB680		2014
Royal	7DWB681		2014
Royal	7CZS359		2014
Royal	7DWB682		2014
Conco	7CHY883	Crane	2014
Royal	03485P1	Truck	2014
Royal	03457P1	Truck	2014
Royal	03488P1	Truck	2014
Griffith	68273B2	VAC Truck	2014
Griffith	SE658711	Water Truck	2015
Rosendin	67282W1	Water Truck	2015
Griffith	86323P1	Dump Truck	2015
Griffith	7JJE774	Sweeper	2015
Conco	7STJ416	Crane	2015
Griffith	SE658709	Water Truck	2015
Royal	40957B2	Truck	2015
Royal	85275V1	Truck	2015
Griffith	86323P1	Water Truck	2015
Griffith	SE658656	Water Truck	2015
Griffith	SE658657	Water Truck	2015
Griffith	BR3W67	Grader	2015
Griffith	YH9Y56	Excavator	2015
Royal	7SQU804		2016
Royal	7MSB387		2016
Royal	7LXF284		2016
Royal	7KWT842	Concrete Boom Trucks	2016
Griffith	10572N2	Dump Trucks	2016
Hayward Baker	7UCE009	Concrete Pump	2016
Royal	40956B2	Truck	2016
Royal	16540A2	Truck	2016
Griffith	80516Y1	Water Truck	2016
Royal	8ABV070		2017
Griffith	8ELS277	Sweeper	2017
Griffith	1QTR918	Dump Truck	2017
Griffith	43264B2	Water Truck	2017
Griffith	69668C2	Water Truck	2017
Griffith	90925E2	Water Truck	2018
Griffith	399-YQJ	VAC Truck	2018

Royal	8DMJ653	2019

As shown in the above Table, all on-road vehicles have been documented to meet the requirements of the CBA Section X.F.1, in that all of the vehicles are model year 2010 or newer and equipped with a factory installed VDECS. The vehicles are also certified to the 2010 NOx standard of 0.2 g/bhp-hr. Table 1.2.3-2, below, shows model year age distribution of the on-road vehicles used on the WAMA Delta Hangar project.

Table 1.2.3-2: 100% of On-Road Vehicles were Equipped with a Level 3 VDECS Per CBA Requirements

Model Year	Number	Percent
2010	1	2%
2012	3	6%
2013	5	10%
2014	11	22%
2015	13	26%
2016	9	18%
2017	5	10%
2018	2	4%
2019	1	2%

1.2.4 WAMA Delta Hangar – Off-Road Equipment - During the reporting period, a total of 138 pieces of off-road construction equipment was evaluated. The following Table lists the off-road equipment reviewed under this Semiannual Report:

Table 1.2.4-1: WAMA Delta Hangar Off-Road Equipment

Contractor	Identification No.	Description	Tier
CER Equipment	KS9A64	135 Excavator	T3
Sunbelt Rentals	NA	WATER TRUCK	T3
Sunbelt Rentals	NA	WATER TRUCK	T3
Herrick	JX9P96	Crane	T3
Shoring Engineers	TN7P79	Excavator	T3
Griffith	MJ4X58	Dozer	T3
CER Equipment	FC4B39	350 Excavator	T4F
CER Equipment	DR8U74	350 Excavator	T4F
Sunbelt Rentals	NA	4X4 UTILITY VEHICLE 2	T4F
Sunbelt Rentals	MA5A68	2000-2700LB SKIDSTEER	T4F
Sunbelt Rentals	NA	WATER TRUCK 2000 GAL	T4F

Sunbelt Rentals	AL4F79	RIDE-ON ROLLER DIESEL	T4F
Griffith	SG9S73	Loader	T4F
Contractor	Identification No.	Description	Tier
Cosco	KN4A89	Forklift	T4F
Griffith	SL9S99	Excavator	T4F
Herrick	EV5P73	Boom Lift	T4F
Griffith	LL7V95	Loader	T4F
Herrick	MC7R96	Crane	T4F
Griffith	MT3C89	Excavator	T4F
Eberhard	RY6F39	Aerial Lift	T4F
Griffith	TT5J38	Scraper	T4F
Griffith	MA5K55	Backhoe	T4F
Herrick	TL7U54	Forklift	T4F
Griffith	PF6C67	Roller	T4F
Herrick	YG5L85	Aerial Lift	T4F
Griffith	KR8C77	Forklift	T4F
Herrick	WK6K68	Aerial Lift	T4F
Royal	New	Backhoe	T4F
Howard Baker	LL6F97	Rough Terrain forklift	T4F
Howard Baker	EH3N45	Loader	T4F
Conco	BX9X46	Backhoe	T4F
Griffith	XS3V99	Loader	T4F
Griffith	MS8H44	Roller	T4F
Herrick	VY4A65	Forklift	T4F
Conco	WA4T83	Forklift	T4F
Griffith	BW4H56	Excavator	T4F
Griffith	YY4S66	Loader	T4F
Griffith	EF7W95	Excavator	T4F
Rosendin	DM7F99	Tractor/ Loader/ Backhoe	T4F
Rosendin	UW9U55	Tractor/ Loader/ Backhoe	T4F
Rosendin	UF3H97	Tractor/ Loader/ Backhoe	T4F
Conco	HD8F56	Forklift	T4F
Griffith	RE7J36	Backhoe	T4F
Griffith	XP7P64	Roller	T4F
Conco	XP8K34	Forklift	T4F
Griffith	RA3N37	Excavator	T4F
Conco	TD8M57	Loader	T4F
Conco	PM4P98	Loader	T4F
Conco	UW9S69	Loader	T4F
Conco	NG3J57	Tractor/ loader/ backhoe	T4F

Royal	TV3D53	Backhoe	T4F
Royal	RK4T76	Skid steer loader	T4F
Contractor	Identification No.	Description	Tier
Royal	VE7F53	Backhoe	T4F
Royal	HJ8V95	Excavator	T4F
Conco	JT9Y87	Forklift	T4F
Shoring Engineers	168327	Generator/ Welder	T4F
Griffith	BR3W67	Grader	T4F
Griffith	WS5V78	Loader	T4F
Griffith	WT5G86	Loader	T4F
Hayward Baker	GM6P58	Crane	T4F
Hayward Baker	MG9N55	Aerial Lift	T4F
Hayward Baker	SP9U99	Loader	T4F
Shoring Engineers	BL3S66	Bore/ Drill Rig	T4F
Shoring Engineers	BL9P59	Backhoe/ Loader	T4F
Shoring Engineers	DE9D68	Backhoe/ Loader	T4F
Shoring Engineers	FD6E57	Rough Terrain Forklift	T4F
Shoring Engineers	GR3V65	Backhoe/ Loader	T4F
Shoring Engineers	HL4B96	Excavator	T4F
Hayward Baker	JF4D34	Mobile Drill Rig	T4F
Shoring Engineers	JU3C45	Loader	T4F
Shoring Engineers	LU4M63	Skid Steer Loader	T4F
Shoring Engineers	LW3S55	Rough Terrain Forklift	T4F
Shoring Engineers	RG5J78	Loader/ Backhoe	T4F
Shoring Engineers	UG9H94	Loader	T4F
Shoring Engineers	XW9S88	Loader/ Backhoe	T4F
Griffith	UV4R33	Excavator	T4F
Griffith	FA6V93	Crawler	T4F
Griffith	HJ8G77	Crawler	T4F
Griffith	JW9A55	Roller	T4F
Griffith	YY4R98	Excavator	T4F
Griffith	EC7P65	Crawler	T4F
Griffith	XB3G34	Excavator	T4F
Griffith	YE9C39	Excavator	T4F
	XB3G34	Excavator	T4F
Herrick	HR9Y64	Forklift	T4F
Sunbelt Rentals	HB9W83	RIDE-ON ROLLER DIESEL	T4I
Sunbelt Rentals	HG3V73	ARTIC LOADER	T4I
Griffith	FV5W99	Loader	T4I
Cupertino	HN4B79	Excavator	T4I

Contractor	Identification No.	Description	Tier
Royal	SE669506	Concrete Pump (portable)	T4I
Herrick	AJ5N67	Aerial Lift	T4I
Herrick	NX4A35	Crane	T4I
Conco	XF4N45	Backhoe	T4I
Howard Baker	FC4C86	Crane	T4I
Griffith	AW9C76	Excavator	T4I
Conco	NC9D45	Forklift	T4I
Griffith	YY5L48	Excavator	T4I
Griffith	BS9V43	Dozer	T4I
Griffith	WJ8Y93	Skid Steer Loader	T4I
Conco	PD7D68	Loader	T4I
Conco	RC5N89	1255 Fork Lift	T4I
Griffith	CU3L84	Loader	T4I
Griffith	FS8R59	Grader	T4I
Griffith	LS7E53	Loader	T4I
Griffith	SC5F79	Loader	T4I
Griffith	VA6M59	Loader	T4I
Hayward Baker	164622	Compressor	T4I
Hayward Baker	AT7U56	Rough Terrain Forklift	T4I
Shoring Engineers	AU5D38	Drill Rig (Mobile)	T4I
Shoring Engineers	CA3T37	Crane	T4I
Shoring Engineers	CM3E45	Forklift	T4I
Shoring Engineers	CX4J63	Loader	T4I
Shoring Engineers	DW6C63	Rubber Tired Loader	T4I
Shoring Engineers	HH3A78	Bore/ Drill Rig	T4I
Shoring Engineers	JP3H45	Crane	T4I
Shoring Engineers	JS8C68	Bore/ Drill Rig	T4I
Shoring Engineers	MC4S76	Forklift	T4I
Shoring Engineers	ME8T43	Bore/ Drill Rig	T4I
Shoring Engineers	NB4R89	Rubber Tired Loader	T4I
Shoring Engineers	ND9M89	Forklift	T4I
Shoring Engineers	NV4T38	Forklift	T4I
Shoring Engineers	RV7X69	Loader	T4I
Shoring Engineers	UE4E67	Bore/ Drill Rig	T4I
Shoring Engineers	WU4Y43	Bore/ Drill Rig	T4I
Shoring Engineers	WU9H44	Rubber Tired Loader	T4I
Shoring Engineers	XJ7T85	Bore/ Drill Rig	T4I
Shoring Engineers	XW6E37	Forklift	T4I
Shoring Engineers	YF7P47	Drill Rig	T4I

Griffith	CL3R37	Skip loader	T4I
Griffith	XM6U64	Forklift	T4I
Contractor	Identification No.	Description	Tier
Griffith	LV6K88	Roller	T4i

The above-listed off-road equipment is summarized by emissions rating (Tier), below:

Table 1.2.4-2: Summary of WAMA Delta Hangar Construction Equipment Breakdown by Equipment Tier

Emissions Standard/Classification	Quantity
Tier 4 Final	86
Tier 4 Interim	46
Tier 3	6

As shown in Table 1.2.4-2, approximately 96% of the construction equipment submitted for LAWA review is factory equipped with a Level 3 VDECS (Tier 4 Interim and Tier 4 Final) and thus represents the best available emissions control technology (BACT). Six (6) non-BACT pieces of equipment rated at Tier 3 were granted airfield access authorization under a LAWA approved exemption.

TASK 2: DEMONSTRATION PROJECTS

Section X.F.2 of the CBA states that LAWA may allow construction-related diesel equipment to be outfitted with new emission control systems that are not CARB verified or EPA certified for use for on-road or off-road vehicles or engines. Such projects will be designated by LAWA as "Demonstration Projects". The roles and responsibilities of the Independent Third Party Monitor as they relate to Demonstration Projects is set forth in Task 2 of the contract and includes the following two primary subtasks:

- Task 2.1 – The Third Party Monitor shall perform a technical evaluation of the proposed demonstration technology and provide written findings to the Coalition Representative and LAWA. The Third Party Monitor shall also assist with the implementation of a Demonstration Project, including identifying suitable emission control devices and Demonstration Project funding sources;
- Task 2.2 – Upon acceptance by LAWA, the Third Party Monitor shall monitor, document, and report independently from LAWA, compliance of the demonstration equipment with all defined

Demonstration Project requirements, including but not limited to the pollution reduction requirements specified in Section X.F.3 of the CBA.

No demonstration projects were conducted during the six-month period of July 1, 2018 through December 31, 2018.

TASK 3: EMISSION REDUCTION STANDARD

Section X.F.1 of the Community Benefits Agreement (CBA) for the LAX Master Plan Program requires that all diesel equipment used for construction be outfitted with the best available emission control devices, primarily to reduce diesel particulate matter which is on the order of 10 microns[3] in diameter (PM_{10}), and fine particulate, which is on the order of 2.5 microns in diameter ($PM_{2.5}$). A secondary objective of this requirement is to reduce oxides of nitrogen emissions (NO_x), which are ozone precursors. This section also states that under no circumstance shall an emission reduction device or strategy used on the LAX Master Plan Program construction site increase the emission of any pollutant above that which is the standard for that engine.

The role and responsibilities of the Independent Third Party Monitor as it relates to Section X.F.1 of the CBA is delineated in the following contract Task statements:

- Task 3.1 - Contractor shall monitor, document, and report independently from LAWA, compliance of each piece of diesel construction equipment used pursuant to CBA X.F.1 as it relates to meeting or exceeding Level 2 diesel emission reductions for a similar sized engine;
- Task 3.2 – Contractor shall monitor, document, and report independently from LAWA, compliance of each piece of diesel construction equipment used pursuant to CBA X.F.1 to ensure its emission reduction device or strategy does not result in an increase of any pollutant above that which is standard for that engine;
- Task 3.3 – Contractor shall monitor, document and report on emission reductions of NO_x, reactive organic gases (ROG), PM and carbon monoxide (CO) achieved through the use of best available control technology.

Task 3.1 - Monitor, document, and report equipment compliance with Level 2 requirement.

As summarized above in Task 1, the Third Party Monitor compiled a database of LAX Master Plan project equipment. This database is continually updated with new information collected from LAWA's

[3] One micron equals $1x10^{-6}$ meter or 0.000001 meter.

environmental monitor staff on behalf of the construction contractors or visual inspection by CFCI. As part of this inventory, the Task 1 effort included an equipment-by-equipment review for applicability of approved Best Available Control Technologies (BACT). Specifically, the equipment listed in this master database was compared against all available Verified Diesel Emission Control Systems (VDECS), with first priority given to Level 3 diesel emission reductions.

Not all equipment proposed for operation on the MSC and WAMA Delta Hangar projects is necessarily used – contractors provide a list of potential needs prior to the start of construction activities. Typically, a subset of this proposed equipment is actually used in construction activities. Also, not all equipment resides on the airfield during the entire project duration; equipment is moved on and off the airfield as construction demands dictate.

Task 3.2 – Ensure emission reduction devices/strategy does not result in an increase of any pollutant above that which is standard for that engine.

The U.S. EPA and ARB verification procedures are designed to ensure that no measurable increase on other pollutant emissions results from installation of the approved VDECS. One issue that should be noted is that the ARB verification procedures include a nitrogen dioxide (NO_2) limit requirement. Specifically, NO_2 may not increase more than 20% as a result of the installation and operation of the device[4]. All Tier 4i, Tier 4F, and 2007 EPA-compliant equipment and vehicles assessed under Task 1 for the MSC Project comply with the CARB NO_2 limit requirements.

Task 3.3 –Contractor shall monitor, document and report on emission reductions of NO_x, reactive organic gases (ROG), PM and CO achieved through the use of best available control technology.

A quantification of air quality benefits achieved through the use of best available control technology is not feasible at this time. Equipment operating on the airfield in support of the MSC and WAMA Delta Hangar projects that are equipped with engines certified at the Tier 4 Final and Tier 4 interim levels have particulate matter (PM) that comply with CBA obligations, and also emit oxides of nitrogen (NOx) emission levels that are substantially lower than those required under the CBA.

However, because these vehicles are designed and manufactured to meet more stringent emission standards, they are not "retrofitted" per se with Best Available Control Technologies (BACT) within the context of the CBA. "Tier 4" vehicles - in their baseline configuration - meet CBA requirements. Thus,

[4] Title 13 CCR section 2706(a)

because Tier 4 vehicles achieve CBA-mandated emission levels in their baseline configuration, there is no other vehicle configuration to compare them to. As a result, Tier 4 diesel equipment is not shown as offering an emissions benefit as a result of imposition of a CBA requirement. The equipment is inherently low emitting and represents the "state of the art" for off-road equipment emissions.

TASK 4: EXEMPTIONS GRANTED

4.1 MSC North Project - Zero (0) on-road exemptions were granted by LAWA on the MSC-North project. All of the on-road vehicles submitted for LAWA approval are equipped with a CBA-compliant diesel emission control device. Twenty-four (24) vehicles were rejected for not meeting CBA requirements. An additional 20 vehicles were pending LAWA evaluation at the time of Semiannual Report preparation.

For off-road equipment, a small displacement engine exemption was granted for 107 pieces of equipment with an engine power rating of 50 horsepower or less. It should be noted that the CBA does not recognize a small displacement exemption; however, upon review it was determined that this equipment is not compatible with a commercially available VDECS. Thus, this equipment is eligible for an exemption under the "incompatibility with commercially available VDECS" CBA category.

Table 1.4.1-1, below, shows the equipment rated at 50 horsepower or lower granted an exemption:

Table 1.4.1-1: Summary of MSC North Construction Equipment Rated < 50 hp

Contractor	Equipment Type	EIN/ License/ Serial
Conco	Boomlift	YR8B63
Griffith	Telescoping Lift	YL7C67
Schuff Steel	Welding Machine	YEMMED460010
Schuff Steel	Welding Machine	YEMME130006
Schuff Steel	Multi-Process Welder	YE-130408124
Andersen Environmental	Excavator	YA8N78
Cowelco	Aerial lift	XL9V77
Griffith/G.O. Rodriguez Trucking	Haul Truck	WP71082
SE Pipeline	Truck	WP15539
SE Pipeline	Truck	WP15535
Granite	Skidsteer	WL8T47
TPJV	Aerial lift	WC4G45
Cowelco	Aerial Lift	VU4H45
TPJV/King Equipment	Aerial lift	VG9U98
TPJV	Aerial Lifts	UU9M96

Granite	Skip Loader	SN5U55
Helix	Generator	SGM328VK6
Griffith	Skid steer S510	SG5N63
Contractor	Equipment Type	EIN/ License/ Serial
Control Air	Aerial Lift	RW8B76
Control Air	Forklift	RR3U34
Shoring Engineering	Excavator	R11594
TPJV	Forklift	PL6B54
OCP	Aerial Lifts	PE5R45
King Equipment	Air Compressor	PDS1855
Schuff Steel	Boom lift	PB5J69
Griffith	Skid steer S510	NT8J77
Conco	Light Tower	NO EIN
Orange County Plastering	Aerial Lifts	NE6L38
Schuff Steel	Air Compressor	N/A
Schuff Steel	Diesel Welder	N/A
Zarp	Excavator	MN7B65
Helix (R&J)	Excavator	LV9W84
Machado & Sons	Forklift	KG4V76
Griffith	FS4800 Conc Saw	KF5M97
TPJV	Aerial lift	JT9X64
TPJV	Aerial Lifts	HV5P96
Schuff Steel	Boom lift	HT5K37
Zarp	Excavator	HB6W99
TPJV	Forklift	GX3J84
Cowelco	Aerial Lift	GR8V79
Shoring Engineering	Air Compressor	GCM185-002
Best contracting	Generator	G140925
R&R Masonry	Forklift	FV7X58
Conco	Boom lift	EP6R37
TPJV	Forklift	DL5G49
TPJV	Boomlift	CG3T63
Griffith	Skid steer S510	BK5H68
Griffith	Compressor	B4-4B42238
Conco	Boomlift	AG104525015
TPJV	Aerial lift	AF3E56
Schuff Steel	Air Compressor	AC-6E10159
RJ&J	Mini Excavator	AB8J56
TPJV	Light Tower	615083
SE Pipeline	Truck	57742Y1
Helix	Air Compressor	4MB7242
Granite	Boomlift	458007
Granite	Boomlift	4560019

Granite	Boomlift	4560013
Griffith	Compressor	333709UKM231
Granite	Light Tower	310049NF
Contractor	Equipment Type	EIN/ License/ Serial
GeoDesign	Pickup Truck	30155U1
GeoDesign	Pickup Truck	30153U1
Shoring Engineering	Air Compressor	200802270100E791SS
Schuff Steel	Generator	1425/KW017
PCL	Air Compressor	14185027658342
Cowelco	Aerial Lift	1360EL001
Limbach	Light Tower	1125KW003
SE Pipeline	Generator	1125KW002
GeoDesign	Pickup Truck	05841A2
Conco	Light Tower	057946
Helix	Boom lift	300208396
San Mar	Scissor Lift	141930428
San Mar	Scissor Lift	141930412
Granite	Light Tower	106946770
Granite	Light Tower	90546400
McQuire	Air Compressor	15185030
Granite	Light Tower	10694695
Granite	Light Tower	10694687
Granite	Light Tower	10442102
Granite	Light Tower	10422282
Granite	Light Tower	10422279
Granite	Air Compressor	10399988
Granite	Light Tower	10352089
United Rentals	Light Tower	10277772
United Rentals	Light Tower	10194215
Granite	Compressor	10148892
Granite	Air Compressor	10139619
Helix	Generator	8010823
Conco	Light Tower	647967
Conco	Light Tower	586136
Granite	Compactor	581105
Granite	Light Tower	218512
Schuff Steel	Welding Machine	160404
Murray	Compactor	2274
Murray	Light Tower	2263
Shoring Engineers	Air Compressor	
Concrete Coring	CONCRETE SAW	
Concrete Coring	CONCRETE SAW	
TPJV	Boom lift	VU5F67

Premiere	Excavator	VB6J58
TPJV	Boom lift	PR7P37
King Miller	Generator	
Contractor	Equipment Type	EIN/ License/ Serial
	Compressor	
	Generator	ND9100356
Janning Johnson	Truck unit	5352
Janning Johnson	Welding Machine	5352
Premiere	Excavator	VB6J48

Additionally, LAWA granted a 20-day exemption for three (3) pieces of specialty off-road equipment used for a short duration on the airfield.

4.2 WAMA Delta Hangar Project - Zero (0) on-road exemptions were granted by LAWA on the WAMA Delta Hangar project. All of the on-road vehicles submitted for LAWA approval are equipped with a CBA-compliant diesel emission control device.

For off-road equipment, LAWA granted a 20-day exemption for six (6) pieces of specialty off-road equipment used for a short duration on the airfield.

TASK 5: ULTRA LOW SULFUR DIESEL AND OTHER FUELS

Section X.F.5 of the Community Benefits Agreement requires that all diesel equipment used for construction on LAX Master Plan Projects use only Ultra-Low Sulfur Diesel (ULSD) fuel containing 15 parts per million (ppm) of sulfur by weight or less. This requirement is in effect as long as adequate supplies are available in the Southern California region.

There are three tasks in the Scope of Work for the Third Party Monitor related Ultra Low Sulfur Diesel:

- Task 5.1 - Contractor shall monitor, document, and independently report on construction equipment related to LAX Master Plan Program construction as it relates to the use of ultra-low sulfur diesel fuel. Contractor will be provided all available fuel procurement records for construction equipment related to the LAX Master Plan Program;
- Task 5.2 – Contractor shall independently verify and report to LAWA and the Coalition Representative that adequate supplies of ULSD are or are not available in Southern California. For the purpose of this task, "Southern California" is defined as the geographic region comprising Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura Counties;

- Task 5.3 – Contactor shall independently verify and report to LAWA and the Coalition Representative that fuels substituted in lieu of ULSD do not result in greater emissions of fine PM or NO_x than that which would be produced by the use of ULSD at 15-ppm or lower. Verification will be based on CARB certification or equivalent.

South Coast AQMD Rule 431.2, which took effect on June 1, 2006, requires diesel fuel refined and sold for on-road and off-road use within the jurisdiction of the AQMD to contain no more than 15-ppm sulfur by weight. The California Air Resources Board subsequently adopted this requirement on a statewide basis on September 1, 2006. Thus, ULSD is the only diesel fuel legally available for purchase within California.

To independently verify the sulfur content of the diesel fuel used by equipment operating on LAX Master Plan projects, CFCI has requested fuel purchase records from the contractor and has examined the fuel receipts to ensure that only ULSD is being used. Fuel purchase records are clearly marked "ULSD"; thus, there is no ambiguity as to whether or not the fuel has the ultra-low sulfur content.

TASK 6: OPERATIONAL REQUIREMENTS

Section X.F.6 of the CBA requires that Operational Requirements be issued and enforced by LAWA as it pertains to: a) limitations of equipment engine idling; and, b) maintenance of equipment engines.

The environmental requirements mandated by LAWA state that *"Contractor shall prohibit construction diesel vehicles or equipment from idling in excess of the idling restrictions as defined in the CARB Vehicle Idling Rule. The contractor shall advise drivers and operators of these requirements at the pre-construction orientation meeting, remind them on a daily basis, and post signs in appropriate places indicating the CARB Vehicle Idling Rule. Exemptions may be granted for safety and operational reasons, as defined in CARB or as approved by the Engineer. The contractor and subcontractors shall have policies and procedures in place for compliance with the Vehicle Idling Rule and a copy of such shall be submitted within 30 days of Notice to Proceed to the Engineer for approval"*.

In CFCI's capacity as Third Party Monitor, monitoring, documentation, and reporting of operational requirements was conducted in accordance with the following two tasks:

- Task 6.1 – The Independent Third Party Monitor shall establish processes and procedures for determining whether a construction firm is complying with the operational requirements

specified by LAWA. For the purpose of this task, Operational Requirements include, but are not limited to, engine idling and engine maintenance requirements;

- Task 6.2 – The Independent Third Party Monitor shall monitor, document, and independently report to LAWA and the Coalition Representative on operational requirements issued and enforced by LAWA as they relate to limitations on idling and engine maintenance, at a minimum. Idling and engine maintenance records for construction equipment related to the LAX Master Plan Program will be provided to the Contractor by LAWA.

The following sections describe the process developed and implemented to track adherence to the operational requirements delineated in the CBA, as well as the independent findings of the Third Party Monitor.

Process for Determining Compliance with Operational Requirements

The process to determine construction contractor compliance with the Operational Requirements set forth in the CBA has two distinct components:

1. Review by the Independent Third Party Monitor of applicable written procedures, monthly logs, and records documenting construction contractor compliance with Operational Requirements;
2. Onsite inspections conducted independently by the Third Party Monitor to confirm Operational Requirements are being implemented in accordance with CBA requirements.

In conducting reviews of construction contractor records, logs, and written procedures, requests for specific information and/or documents were submitted by the Third Party Monitor to LAWA's construction manager's staff. Requests for documentation were in turn submitted to the construction contractor by LAWA. This protocol was established and adhered to by all parties to ensure the reporting relationships between LAWA's environmental monitor and the construction contractor were maintained and to prevent requests from the Third Party Monitor being construed by the construction contractor as contractual direction.

Once obtained by LAWA construction manager staff, the requested records, logs, and written procedures are provided to the Third Party Monitor for review. In most cases, photocopies are provided. In certain cases, such as equipment maintenance records, however, documents are retained at a location other than the on-site construction trailers; this requires that the documents be inspected at the offsite location. This is discussed further under Task 6.2, below.

Vehicle and Equipment Idling – The Environmental Requirements for the MSC and WAMA Delta Hangar projects prohibit construction vehicles and equipment from excessive idling in accordance with the restrictions defined in the CARB Vehicle Idling Rule[5]. This Rule, more formally referred to as the *Airborne Toxic Control Measure (ATCM) to Limit Diesel-Fueled Commercial Motor Vehicle Idling*, is codified in Title 13 Section 2485 of the California Code of Regulations and took affect on February 1, 2005.

The law states that operators of diesel fueled commercial vehicles with a gross vehicle weight rating (GVWR) of 10,000 pounds or greater shall not idle their vehicle's primary diesel engine for greater than five (5) minutes at any location. The law only applies to commercial vehicles that are or must be licensed for operation on the highway.

The "five minute rule" is waived under the following circumstances:

- Idling when the vehicle must remain motionless due to traffic conditions;
- Idling when the vehicle is queuing that at all times is beyond 100 feet from any restricted area (i.e., homes and schools);
- Idling to verify safe operating condition;
- Idling mandatory for testing, servicing, repairing, or diagnostic purposes (cleaning of commercial vehicles is not considered servicing);
- Idling when positioning or providing power for equipment that is performing work;
- Idling when operating defrosters, heaters, air conditioners, or other equipment to prevent a safety or health emergency.

While the CARB Rule pertains only to "on-road" vehicles, it is important to note that LAWA extends the CARB idling restrictions to off-road vehicles and equipment operating in conjunction with the MSC and WAMA Delta Hangar projects. In practice, LAWA's enforcement of idling restrictions exceeds those mandated under the CARB Rule for both on-road and off-road vehicles and equipment.

The Third Party Monitor reviewed and independently verified the following documentation pertaining to notice of idling restriction requirements:

[5] https://www.arb.ca.gov/msprog/truck-idling/13ccr2485_09022016.pdf

- Posted Signs – large signs are posted at the construction site entrance in clear view of trucks entering the air operations area. These signs clearly state the restrictions on vehicle idling;
- Written Policies – LAWA construction manager staff provided the Third Party Monitor with copies of the written idle restriction policies and procedures provided to the construction contractor;
- Notes from LAWA's construction contractor/ environmental monitor status meetings – in which reiteration of LAWA idling restrictions were reviewed.

LAWA's environmental monitor confirmed that excessive idling had a lower incidence rate when compared to other LAX Master Plan projects. The CARB anti-idling rule has been in place long enough that most vehicle and equipment operators are aware of its existence. Additionally, major construction had yet to start; the number of vehicles and equipment operating during initial construction is limited.

Equipment Maintenance Records – The CBA requires that the construction contractor properly maintain all equipment in accordance with the manufacturers' specifications and schedules. Further, that all maintenance and repair records shall be made available upon request. The Third Party Monitor made this request and was awaiting receipt of vehicle maintenance records.

LAWA's environmental monitor and the Third Party Monitor also conduct regular visual inspections of diesel equipment operating on LAX Master Plan projects, looking for excessive exhaust soot or other indications that the equipment is in a state of disrepair. During the reporting period, no vehicles or equipment were determined by LAWA to be emitting excessive smoke. This is due in large part to the high percentage of Tier 4 equipment being utilized on the MSC and WAMA Delta Hangar projects.

TASK 7: ENFORCEMENT BY LAWA

Section 7 of the Independent Third Party Monitor Scope of Work states that: "The Contractor shall monitor, document and independently report to the Coalition Representative on enforcement actions by LAWA".

During the period of July 1, 2018 through December 31, 2018, LAWA's environmental monitor noted reasonable compliance with environmental policies. An exception noted by LAWA project managers was contractors who attempted deliveries outside of the allowable delivery hours. Multiple curfew violations resulted in enforcement actions by LAWA.

No enforcement actions were required for excessive noise. The Third Party Monitor was informed that LAWA did enforce fugitive dust control. No South Coast AQMD Notices of Violation (NOV) were issued during the reporting period for dust violations, however.

TASK 8: REASSESSMENTS OF EMISSION CONTROL DEVICES

The Community Benefits Agreement Section X.F.9 requires that a reassessment of best available emission control devices be conducted on an annual basis, or more frequently if warranted. The purpose is to ensure that bid documents take into account advances in emission control devices prior to bidding new construction phases of the LAX Master Plan Program. This reassessment was conducted for all verified devices as of for the annual period commencing July 1, 2018 to December 31, 2018.

Section X.F.9 further requires that the emission control technology review process include any new and relevant requirements or regulations promulgated by CARB or the U.S. EPA, with the understanding that the results from any reassessment of diesel emission control systems cannot be applied retroactively. Specifically, Section X.F.9.b. states "any new designations of emission control devices as best available shall apply only to projects that start after the devices are verified or certified for use by CARB or the EPA... "

During the period of July 1, 2018 through December 31, 2018, the US EPA or CARB verified no additional diesel emission control systems. Given that new on-road and off-road vehicles and equipment are now manufactured with factory installed emissions control systems, including Tier 4 off-road equipment, there is a limited market for new VDECS for vehicle retrofits.

Task 9: Implementation of Public Complaint Registration Process

Task 9 of the Third Party Monitor Scope of Work requires the contractor to develop and implement a public complaint registration process. The components of the task are:

- Task 9.1 – Contractor shall develop and implement a process allowing any member of the public to register a complaint alleging any entity's noncompliance with the requirements of CBA Section X.F.

- Task 9.2 – Contractor shall investigate all complaints registered by a member of the public and determine if, when, and where a violation occurred. Contractor shall notify LAWA and the LAX Coalition Representative each time a complaint is registered.
- Task 9.3 – Contractor shall provide records or summaries of public complaints registered with Contractor, including actions, findings, and determinations, to the public upon request. Contractor shall provide LAWA and the LAX Coalition Representative copies of all actions, finding, and determinations requested by the public.

As LAWA already has a widely publicized hotline for complaints, it was decided to utilize the existing number instead of establishing a new one in order to avoid duplication and potential confusion in the community.

- No fugitive dust complaints were recorded, and LAWA, the South Coast AQMD, or any other environmental regulatory authority took no enforcement actions during that period;
- No excessive noise complaints were lodged during the reporting period.

Factors that most likely contribute to the absence of public complaints include:

- Dissemination and strict enforcement of the environmental requirements of the CBA by LAWA's environmental monitor and inspectors;
- Construction activities associated with the MSC and WAMA Delta Hangar projects primarily take place largely in the geographic center of the LAX airfield. Sensitive receptors, such as the communities of El Segundo, are to a large extent buffered by the South Airfield runways. A similar situation exists on the Northern area, where the North Airfield runways provide a buffer. This serves as a barrier to common construction nuisances such as noise curfew violations.

SECTION 3 - RESULTS AND CONCLUSIONS

The following is a summary of Third Party Monitor independent monitoring results and findings for the six-month period commencing July 1, 2018 and ending December 31, 2018:

- Monitoring and documentation of diesel equipment utilized or proposed for utilization on the Midfield Satellite Concourse – North and WAMA Delta Hangar projects. A total of 1,092 pieces of construction equipment were independently assessed to determine compatibility with a commercially available CARB/EPA-verified diesel emission control system. This includes 597 on-road vehicles and 495 pieces of off-road construction equipment. Note that 14 pieces of off-road construction equipment were either withdrawn from airfield consideration by the contractor or disapproved for airfield use by LAWA environmental management;
- Monitoring of diesel emission control devices installed on construction equipment. As documented in the above Sections of this report, 100% of the on-road vehicles utilized on the airfield projects were equipped with a Level 3 verified diesel emission control device. Twenty (20) on-road vehicles submitted for LAWA approval were pending confirmation at the time of report preparation. 486 pieces of off-road construction equipment were equipped with a Level 3 VDECS – this includes construction equipment designated as Tier 4i and Tier 4F equipped with a factory-installed VDECS. This represents an overall 98% compliance rate;
- A review and documentation of all exemptions granted by LAWA that allow a piece of diesel construction equipment to operate on LAX construction projects without a best available control technology retrofit. This includes equipment that was deemed incompatible with a verified VDECS, or granted a "20-day" exemption on the basis of infrequent equipment use. A total of twenty (8) vehicles were granted 20-day exemptions. 107 pieces of off-road equipment were granted a low horsepower exemption (< 50 HP) due to the unavailability of Level 3 VDECS for small equipment;
- During the reporting period, no Notice of Violation (NOV) were levied by the South Coast Air Quality Management District for fugitive dust emissions associated with either earth moving operations or recycled concrete aggregate crushing. No dust complaints were received by LAWA from the public. LAWA project management, however, did enforce what were deemed to be excessive dust emissions during construction.

- No excessive noise complaints were received during the reporting period from the public.
- In accordance with CBA requirements, CFCI conducted a reassessment of available CARB and EPA-verified diesel emission control systems. This reassessment is conducted on an annual basis. The intent is that LAWA use these findings to designate newly verified devices as best available control devices and incorporate the requirement to use these devices into construction bid documents for new construction phases of the LAX Master Plan Program. These findings, however, are not to be applied retroactively to Master Plan Projects already in the construction phase.

  As a result of this reassessment, it was determined that no new verified diesel emission control systems have been verified for either on-road vehicles or off-road equipment during the reporting period.

Overall, diesel equipment used on construction activities during the specified time period was found to be in substantial compliance with all provisions of the CBA Section X.F. As discussed in previous sections, 100% of on-road construction equipment supporting MSC-North and WAMA Delta Hangar construction was found to be compliant with the CBA. The compliance rate for off-road construction equipment was found to be approximately 98%.

The next Semiannual Report will cover the period commencing January 1, 2019 and ending June 30, 2019. The Report will cover the continuation of construction activities for the Midfield Satellite Concourse - North project and WAMA Delta Hangar project.