

APPENDIX B

AIR QUALITY ASSESSMENT

GREENHOUSE GAS SCREENING LETTER

AIR QUALITY ASSESSMENT

AIR QUALITY ASSESSMENT

Campo Verde Battery Storage System for Campo Verde Solar Facility County of Imperial

Prepared for:

**Ericsson-Grant
418 Parkwood Lane, Suite 200
Encinitas, CA 92024**

Prepared By:

Ldn Consulting, Inc.
**42428 Chisolm Trail
Murrieta, California 92562
760-473-1253**

September 20, 2016

TABLE OF CONTENTS

TABLE OF CONTENTS.....	II
LIST OF FIGURES.....	III
LIST OF TABLES.....	III
ATTACHMENTS	III
LIST OF ACRONYMS.....	IV
EXECUTIVE SUMMARY.....	V
1.0 INTRODUCTION	1
1.1 PROJECT LOCATION	1
1.2 PROJECT DESCRIPTION	1
2.0 EXISTING ENVIRONMENTAL SETTING	7
2.1 EXISTING SETTING	7
2.2 CLIMATE AND METEOROLOGY	7
2.3 REGULATORY STANDARDS.....	7
2.3.1 FEDERAL STANDARDS AND DEFINITIONS	7
2.3.2 STATE STANDARDS AND DEFINITIONS.....	9
2.3.3 REGIONAL STANDARDS.....	11
2.4 CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) SIGNIFICANCE THRESHOLDS.....	11
2.5 ICAPCD AIR QUALITY IMPACT ASSESSMENT SCREENING THRESHOLDS (CEQA).....	12
2.6 LOCAL AIR QUALITY.....	14
3.0 METHODOLOGY.....	17
3.1 CONSTRUCTION EMISSIONS CALCULATIONS.....	17
3.2 CONSTRUCTION ASSUMPTIONS.....	17
3.3 OPERATIONAL IMPACTS.....	18
4.0 FINDINGS	19
4.1 CONSTRUCTION FINDINGS	19
4.2 ODOR IMPACT FINDINGS	19
4.3 CONCLUSION OF FINDINGS.....	19
5.0 CERTIFICATIONS.....	21

LIST OF FIGURES

FIGURE 1-A: PROJECT VICINITY MAP AND PROJECT FOOTPRINT	2
FIGURE 1-B: PROJECT AREA OVERVIEW MAP	3
FIGURE 1-C: SITE DEVELOPMENT PLAN	5
FIGURE 2-A: AMBIENT AIR QUALITY MONITORING STATIONS (SSAB – ARB)	16

LIST OF TABLES

TABLE 2.1: AMBIENT AIR QUALITY STANDARDS	10
TABLE 2.2: SCREENING THRESHOLD FOR CRITERIA POLLUTANTS	12
TABLE 2.3: LATEST THREE-YEAR AMBIENT AIR QUALITY DATA NEAR PROJECT SITE.....	15
TABLE 3.1: EXPECTED CONSTRUCTION EQUIPMENT	17
TABLE 3.1 CONT: EXPECTED CONSTRUCTION EQUIPMENT	18
TABLE 4.1: EXPECTED CONSTRUCTION EMISSIONS SUMMARY (POUNDS PER DAY).....	19

ATTACHMENTS

CALEEMOD CONSTRUCTION AIR QUALITY EMISSIONS	22
---	----

LIST OF ACRONYMS

Air Quality Impact Assessments (AQIA)
Best Available Control Technology (T-BACT)
California Air Resources Board (ARB)
California Ambient Air Quality Standards (CAAQS)
Carbon Monoxide (CO)
California Environmental Quality Act (CEQA)
Cubic Yard (CY)
Decomposed Granite (d.g.)
Diesel Particulate Matter (DPM)
Hydrogen Sulfide (H₂S):
Imperial County Air Pollution Control District (ICAPCD)
Lead (Pb)
Mega Watt (MW)
Miles per Hour (MPH)
National Ambient Air Quality Standards (NAAQS)
National Environmental Policy Act (NEPA)
Nitrogen Dioxide (NO₂)
Office of Air Quality Planning and Standards (OAQPS)
Ozone (O₃)
Particulate Matter (PM₁₀ or PM_{2.5})
Photovoltaic (PV)
Polyvinyl Chloride (PVC)
Regional Air Quality Strategy (RAQS)
Salton Sea Air Basin (SSAB)
Sulfur Dioxide (SO₂)
Toxic Air Contaminants (TACs)
Volatile Organic Compounds (VOCs)

EXECUTIVE SUMMARY

This air quality analysis has been completed to determine impacts, which may be associated with the construction or operation of the proposed Campo Verde Battery Energy Storage Project which would be designed to store up to 105 Megawatt hours (MWh). The project site exists within the existing site footprint of the Campo Verde Solar site. The project would be constructed in two phases on roughly 16,775 SF of land. The Project consists of installing a 424 SF metal modular battery system container on a concrete foundation for Phase 1 and constructing a 12,300 SF metal building with a battery rack on a concrete foundation for phase 2. The ancillary equipment for each phase would consist of power conversion systems, electrical cabinets, transformers, HVAC equipment, and electric switchgear.

During construction, the proposed Project would not be expected to produce significant air quality impacts under the California Environmental Quality Act or exceed thresholds of significance established by the Imperial County Air Pollution Control District (ICAPCD).

The proposed Project would not generate significant operational impacts offsite either during construction or during post construction operations. The proposed project is designed to require very little onsite oversight. The facilities will be equipped with cameras and alarms such that remote management can shut the facilities down if necessary. Also, based on the traffic study, the project would not generate any traffic during operations.

Finally, the project would not be expected to generate offensive objective odors during either the construction or operation of the project.

1.0 INTRODUCTION

The purpose of this Air Quality study is to determine whether potential air quality impacts are significant under the California Environmental Quality Act (CEQA) and Imperial County Air Pollution Control District (ICAPCD), if any, that may be created during the construction or operation of the proposed Campo Verde Solar Battery Storage facilities which would be designed to store up to 105 Megawatt hours (MWh) of solar generated power onsite at the Campo Verde Solar Generation facility.

1.1 Project Location

The Project is a proposed battery storage facility will be located onsite to the Campo Verde photovoltaic (PV) energy-generating facility located in the County approximately 7 miles southwest of the community of El Centro, California. The Project site is south of I-8 and west of Drew Road and northeast of Westside Main Canal. The Project site is located in the Salton Sea Air Basin (SSAB). The general location of the Project will be within the existing fenced solar plant site, just west of the existing Campo Verde substation, which is west of Liebert Road, south of Wixom Road and north of Mandrapa Road. Phase 2 will be just south of the Phase 1 part of the battery energy storage system. A Project vicinity map and aerial image of the existing site is provided in Figures 1-A and –B on Pages 2 and -3 respectively.

1.2 Project Description

California's investor-owned electric utilities are required to add energy storage to the grid. To help meet this storage mandate, Campo Verde Solar, LLC, wishes to install a utility-scale Battery Energy Storage System on the existing site of the Campo Verde Solar Facility and contract with a customer who will buy the electricity. Campo Verde Solar, LLC wishes to amend CUP 11-0007 to allow for the lithium Ion battery storage system to be located on land previously disturbed.

The battery energy storage system is expected to be constructed in two phases:

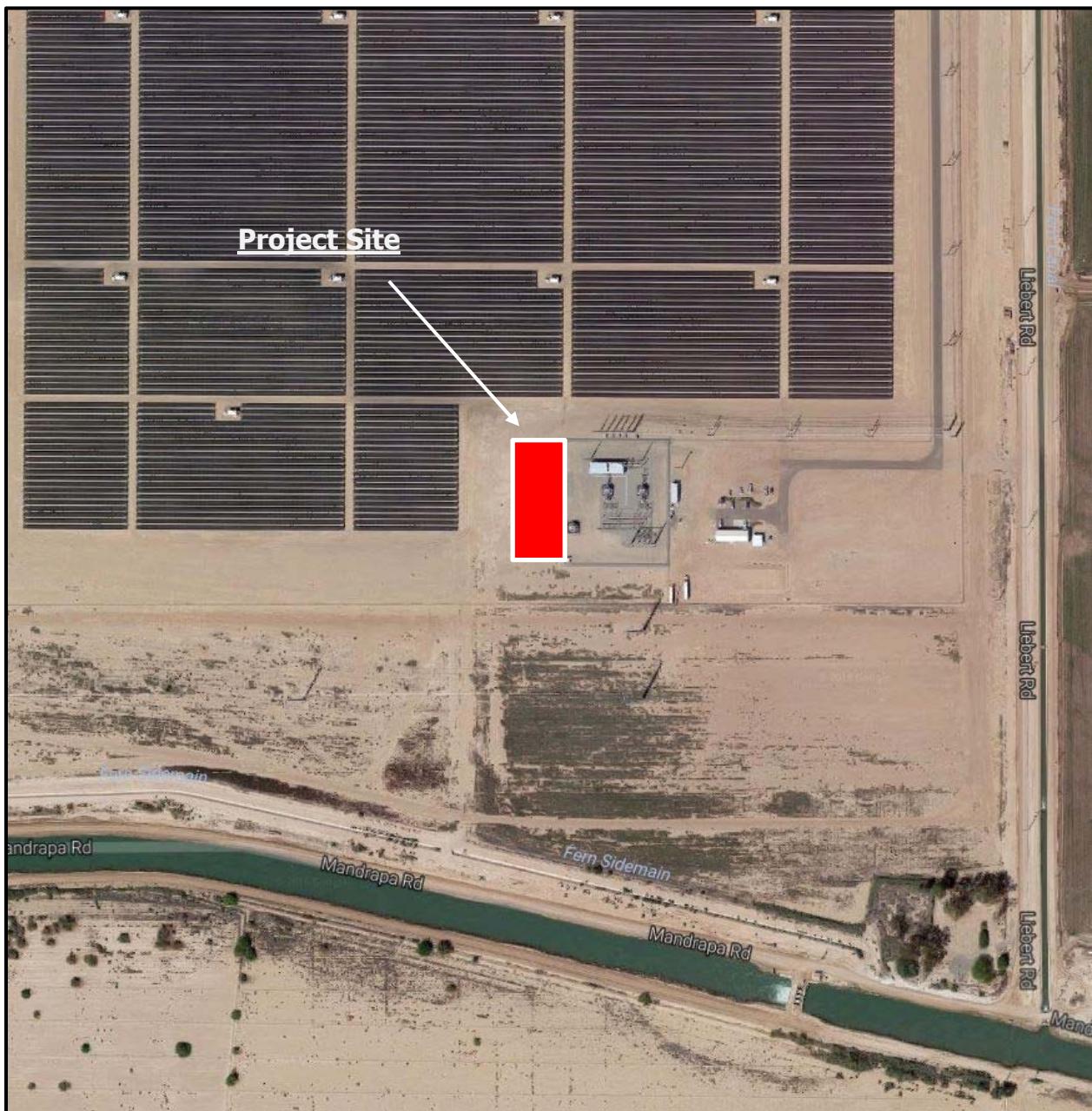
- Phase 1- up to 5 MWh to begin commissioning in the fourth quarter of 2016
- Phase 2- up to 100 MWh to begin commissioning by third quarter of 2018.

Figure 1-A: Project Vicinity Map and Project Footprint



Source: Google Maps, 8/16

Figure 1-B: Project Area Overview Map



Source: Google Maps, 8/16

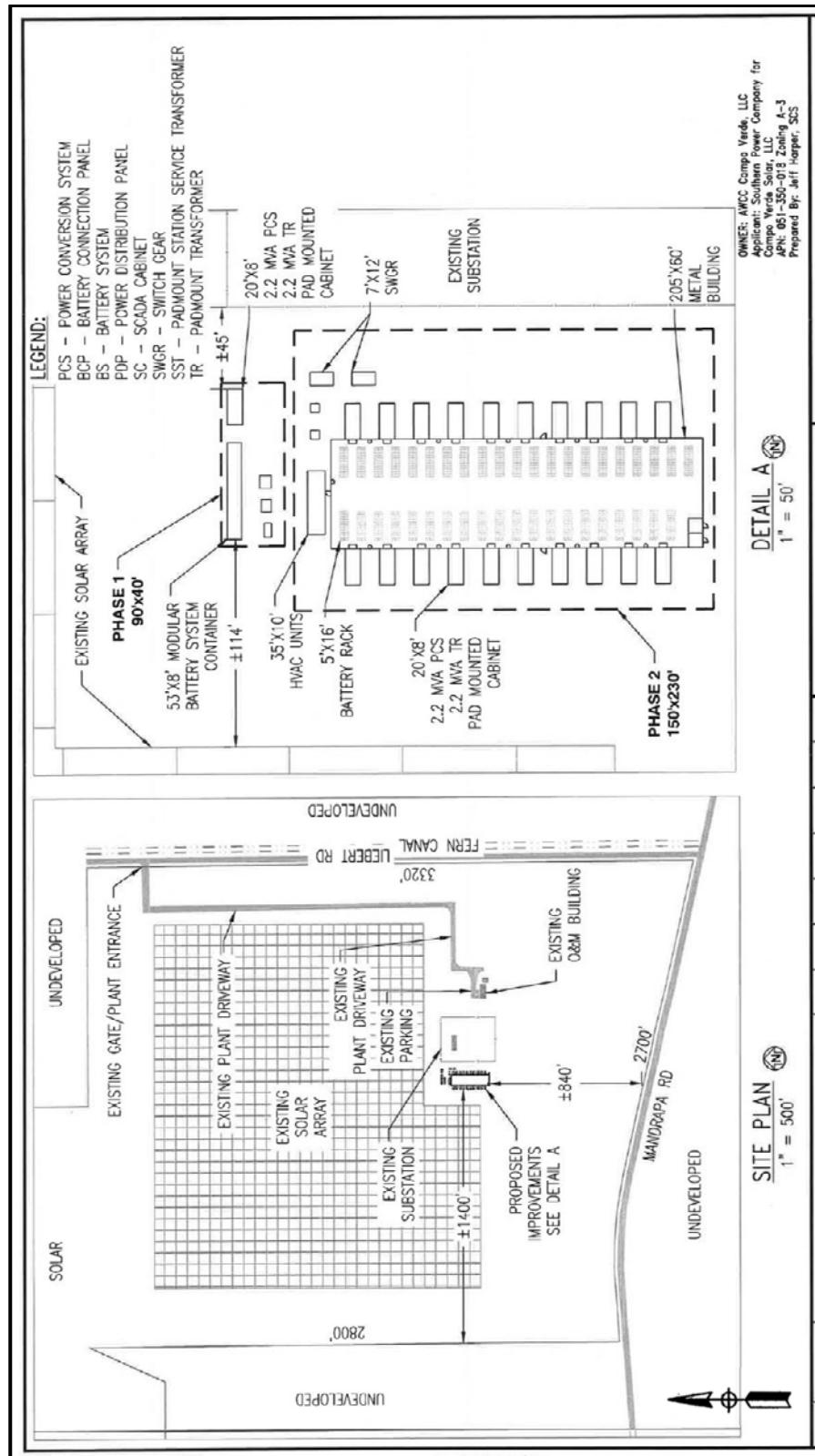
The battery energy storage system will charge from electricity generated by the Campo Verde Solar Facility and connect to the existing onsite Campo Verde substation, which interconnects to the existing Imperial Valley Substation. The battery energy storage system will be capable of charging off the grid, although at this time, that is not anticipated to occur.

Phase 1 will consist of a 424-square-foot metal modular battery system container placed on a concrete foundation. The container may possibly be covered by a shade structure made of metal or solar panels. Adjacent to the container are: power conversion system (PCS) cabinets and transformer, SCADA cabinet, power distribution panel, and station service transformer. The components will be spaced to provide isolation as well as access. They will occupy approximately 707 square feet of ground space. No offices or staffed control centers will be located within the container or other components. The wiring- from the battery containers to the PCS, to the transformers and finally to the substation- will most likely be run underground in trenches, but could be overhead for the short distance. The wiring will not cross any roads or canals.

Phase 2 will consist of an approximately 12,300-square-foot metal building with battery racks on a concrete foundation. No offices or staffed control centers will be located within the building. Adjacent to the building are: power conversion system (PCS) cabinets and transformers, HVAC units, power distribution panel, station service transformer, and electric switch gear. The building and components will occupy approximately 16,068 square feet of ground space. Phase 2 wiring will be similar to Phase 1. Electrical energy used onsite would be from onsite sources during the day and would require utility provided power at night. The overall project would produce more power than it would use, resulting in a cumulative gain and yielding a netzero footprint. Therefore, the project would result in an offset of emissions from electrical usage. A site development plan is shown in Figure 1-C on the following Page.

Construction activities for Phase 1 will have a relatively short duration. Most of the equipment will arrive at the site pre-assembled. Approximately 12 workers will be on site for 6-8 weeks to install the foundations and connect the components to the existing controls system and project substation; work hours will be approximately from sunrise to 2:30p.m. Three technicians will work an additional 3-6 weeks to commission and debug the system integration; work hours will be approximately from 8 p.m. to 5 a.m. to avoid interference with the facility when solar power is being generated. Construction of Phase 2 will take up to six months. Construction will require approximately 30 workers to install and integrate the equipment; work hours will be similar to Phase 1.

Figure 1-C: Site Development Plan



Source: Southern Company Generation Engineering and Construction Services, 2016

The battery systems are designed to operate seamlessly and automatically within the existing photovoltaic (PV) system architecture. Both phases will be designed to receive, per their program instructions, solar-generated electricity during times of excess generation or times of less desirable generation and store that power for release when the customer deems it to be more valuable. The system thus becomes a valuable tool in allowing the customer and system operators to manage intermittent renewable generation and convert it into reliable, dispatchable generation.

The operators at the site, as well as the 24-hour remote monitoring staff, will be able to see and react to alarms from the system. The staffs will be able to remotely disengage part or all of the system if necessary until technicians arrive to run detailed diagnostics.

The on-site staff will be responsible for routine visual inspections and normal housekeeping tasks. The staff will also have the responsibility for coordinating routine HVAC service and physical building maintenance. Physical maintenance on the battery internal infrastructure will be infrequent and highly specialized so focused maintenance teams will be brought in for those tasks.

2.0 EXISTING ENVIRONMENTAL SETTING

2.1 Existing Setting

The project site is contained within a fenced portion of the project site next to the project electrical switchgear. The Project site is relatively flat with elevations ranging from 20 to 22 feet below sea level.

2.2 Climate and Meteorology

Climate within the SSAB experiences mild and dry winters with daytime temperatures ranging from 65 to 75 °F, extremely hot summers with daytime temperatures ranging from 104 to 115 °F, and very little rain. Imperial County usually receives approximately three inches of rain per year mostly occurring in late summer or midwinter. Summer weather patterns are dominated by intense heat induction low-pressure areas over the interior desert. The flat terrain of the Imperial Valley and the strong temperature differentials created by intense solar heating produce moderate winds and deep thermal convection.

The general wind speeds in the area are less than 10 mph, but occasionally experience winds speeds of greater than 30 mph during the months of April and May. Statistics reveal that prevailing winds blow from the northwest-northeast; a secondary trend of wind direction from the southeast is also evident.

2.3 Regulatory Standards

2.3.1 Federal Standards and Definitions

The Federal Air Quality Standards were developed per the requirements of the federal Clean Air Act, which was passed in 1970 and amended in 1990. This law provides the basis for the national air pollution control effort. The Clean Air Act established two types of air quality standards; primary and secondary standards.

Primary Standards define limits for the intention of protecting public health, which includes sensitive populations such as asthmatics, children and the elderly.

Secondary Standards define limits to protect public welfare which includes protection against decreased visibility, damage to animals, crops, vegetation and buildings.

The Environmental Protection Agency (EPA) Office of Air Quality Planning and Standards (OAQPS) has set National Ambient Air Quality Standards (NAAQS) for "criteria" pollutants which are defined below:

1. **Carbon Monoxide (CO):** is a colorless, odorless, and tasteless gas and is produced from the partial combustion of carbon-containing compounds, notably in internal-combustion engines. CO usually forms when there is a reduced availability of oxygen present during the combustion process. Exposure to CO near the levels of the ambient air quality standards can lead to fatigue, headaches, confusion, and dizziness. CO interferes with the blood's ability to carry oxygen.
2. **Lead (Pb):** is a potent neurotoxin that accumulates in soft tissues and bone over time. The major sources of lead emissions have historically been motor vehicles (such as cars and trucks) and industrial sources. Because lead is only slowly excreted, exposures to small amounts of lead from a variety of sources can accumulate to harmful levels. Effects from inhalation of lead near the level of the ambient air quality standard include impaired blood formation and nerve conduction. Lead can adversely affect the nervous, reproductive, digestive, immune, and blood-forming systems. Symptoms can include fatigue, anxiety, short-term memory loss, depression, weakness in the extremities, and learning disabilities in children.
3. **Nitrogen Dioxide (NO₂):** is a reactive, oxidizing gas capable of damaging cells lining the respiratory tract and is one of the nitrogen oxides emitted from high-temperature combustion, such as those occurring in trucks, cars, power plants, home heaters, and gas stoves. In the presence of other air contaminants, NO₂ is usually visible as a reddish-brown air layer over urban areas. NO₂ along with other traffic-related pollutants is associated with respiratory symptoms, respiratory illness and respiratory impairment. Studies in animals have reported biochemical, structural, and cellular changes in the lung when exposed to NO₂ above the level of the current state air quality standard. Clinical studies of human subjects suggest that NO₂ exposure to levels near the current standard may worsen the effect of allergens.
4. **Particulate Matter (PM₁₀ or PM_{2.5}):** is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary in shape, size and chemical composition, and can be made up of multiple materials such as metal, soot, soil, and dust. PM₁₀ particles are 10 microns (μm) or less and PM_{2.5} particles are 2.5 (μm) or less. Exposure to PM levels exceeding current air quality standards increases the risk of allergies such as asthma and respiratory illness.
5. **Ozone (O₃):** is a highly oxidative unstable gas capable of damaging the linings of the respiratory tract. This pollutant forms in the atmosphere through reactions between chemicals directly emitted from vehicles, industrial plants, and many other sources. Exposure to ozone above ambient air quality standards can lead to human health effects such as lung inflammation, tissue damage and impaired lung functioning.
6. **Sulfur Dioxide (SO₂):** is a gaseous compound of sulfur and oxygen and is formed when sulfur-containing fuel is burned by mobile sources, such as locomotives, ships, and off-road diesel

equipment. SO₂ is also emitted from several industrial processes, such as petroleum refining and metal processing. Effects from SO₂ exposures at levels near the one-hour standard include bronchoconstriction accompanied by symptoms, which may include wheezing, shortness of breath and chest tightness, especially during exercise or physical activity. Continued exposure at elevated levels of SO₂ results in increased incidence of pulmonary symptoms and disease, decreased pulmonary function, and increased risk of mortality.

2.3.2 State Standards and Definitions

The State of California Air Resources Board (ARB) sets the laws and regulations for air quality on the state level. ARB has established the California Ambient Air Quality Standards (CAAQS), which include the six federal criteria air pollutants identified as well as the following four air pollutants. The CAAQS are either the same as or more restrictive than the NAAQS. Table 2.1 on the following page identifies both the NAAQS and CAAQS.

1. **Visibility Reducing Particles:** *particles in the air that obstruct visibility.*
2. **Sulfates:** *are salts of Sulfuric Acid. Sulfates occur as microscopic particles (aerosols) resulting from fossil fuel and biomass combustion. They increase the acidity of the atmosphere and form acid rain.*
3. **Hydrogen Sulfide (H₂S):** *is a colorless, toxic and flammable gas with a recognizable smell of rotten eggs or flatulence. Usually, H₂S is formed from bacterial breakdown of organic matter. Exposure to low concentrations of hydrogen sulfide may cause irritation to the eyes, nose, or throat.*
4. **Vinyl Chloride:** *is also known as chloroethene and is a toxic, carcinogenic, colorless gas with a sweet odor. It is an industrial chemical mainly used to produce its polymer, polyvinyl chloride (PVC).*

Table 2.1: Ambient Air Quality Standards

Ambient Air Quality Standards											
Pollutant	Average Time	California Standards ¹		Federal Standards ²							
		Concentration ³	Method ⁴	Primary ^{3,5}	Secondary ^{3,6}	Method ⁷					
Ozone (O ₃) ⁸	1 Hour	0.09 ppm (180 µg/m ³)	Ultraviolet Photometry	-	Same as Primary Standard	Ultraviolet Photometry					
	8 Hour	0.070 ppm (137 µg/m ³)		0.070 ppm (137 µg/m ³)							
Respirable Particulate Matter (PM10) ⁹	24 Hour	50 µg/m ³	Gravimetric or Beta Attenuation	150 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis					
	Annual Arithmetic Mean	20 µg/m ³		-							
Fine Particulate Matter (PM2.5) ⁹	24 Hour	No Separate State Standard		35 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis					
	Annual Arithmetic Mean	12 µg/m ³	Gravimetric or Beta Attenuation	12.0 µg/m ³							
Carbon Monoxide (CO)	8 hour	9.0 ppm (10mg/m ³)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m ³)	-	Non-Dispersive Infrared Photometry					
	1 hour	20 ppm (23 mg/m ³)		35 ppm (40 mg/m ³)							
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m ³)		-							
Nitrogen Dioxide (NO ₂) ¹⁰	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m ³) ⁸	Same as Primary Standard	Gas Phase Chemiluminescence					
	1 Hour	0.18 ppm (339 µg/m ³)		0.100 ppm ⁸ (188 µg/m ³)							
Sulfur Dioxide (SO ₂) ¹¹	Annual Arithmetic Mean	-	Ultraviolet Fluorescence	0.030 ppm ¹⁰ (for Certain Areas)	-	Ultraviolet Fluorescence; Spectrophotometry (Pararoosaniline Method) ⁹					
	24 Hour	0.04 ppm (105 µg/m ³)		0.14 ppm ¹⁰ (for Certain Areas) (See Footnote 9)	-						
	3 Hour	-		-	0.5 ppm (1300 µg/m ³)						
	1 Hour	0.25 ppm (655 µg/m ³)		75 ppb (196 µg/m ³)	-						
Lead ^{12,13}	30 Day Average	1.5 µg/m ³	Atomic Absorption	-	-	-					
	Calendar Quarter	-		1.5 µg/m ³	Same as Primary Standard	High Volume Sampler and Atomic Absorption					
	Rolling 3-Month Average	-		0.15 µg/m ³							
Visibility Reducing Particles	8 Hour	See footnote 13									
Sulfates	24 Hour	25 µg/m ³	Ion Chromatography								
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m ³)	Ultraviolet Fluorescence								
Vinyl Chloride ¹²	24 Hour	0.01 ppm (26 µg/m ³)	Gas Chromatography								
1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.											
2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m ³ is equal to or less than one. For PM2.5, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.											
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.											
4. Any equivalent procedure which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.											
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.											
6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.											
7. Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.											
8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.											
9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 µg/m ³ to 12.0 µg/m ³ . The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 µg/m ³ , as was the annual secondary standard of 15 µg/m ³ . The existing 24-hour PM10 standards (primary and secondary) of 150 µg/m ³ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.											
10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.											
11. On June 2, 2010, a new 1-hour SO ₂ standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO ₂ national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.											
12. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.											
13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m ³ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.											
14. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.											
Source: (California Air Resources Board, 10/1/15)											

2.3.3 Regional Standards

The State of California has 35 specific air districts, which are each responsible for ensuring that the criteria pollutants are below the NAAQS and CAAQS. Air basins that exceed either the NAAQS or the CAAQS for any criteria pollutants are designated as “non-attainment areas” for that pollutant. Currently, there are 15 non-attainment areas for the federal ozone standard and two non-attainment areas for the PM2.5 standard. The state therefore created the California State Implementation Plan (SIP), which is designed to provide control measures needed for California Air basins to attain ambient air quality standards.

The Imperial County Air Pollution Control District (ICAPCD) is the government agency which regulates stationary sources of air pollution within Imperial County and the SSAB. Currently, the SSAB is in “non-attainment” status for O₃ and serious non-attainment of PM10. Therefore, the ICAPCD developed an Ambient Air Quality Plan (AAQP) to provide control measures to try to achieve attainment status. The AAQP was adopted in 1991. A new NAAQS for ozone was adopted by EPA in 1997 and required modified strategies to decrease higher ozone concentrations. In order to guide non-attainment areas closer to NAAQS requirements an 8-hr Ozone Air Quality Management Plan (AQMP) was approved by ICAPCD in 2009 and was accepted by the EPA in 2010. Similarly, in 2009 the County revised their SIP to address the serious non-attainment status of PM 10. The purpose of the SIP is to outline a plan that would provide attainment status as expeditiously as possible and require a 5% yearly reduction of emissions. The criteria pollutant standards are generally attained when each monitor within the region that has had no exceedances during the previous three calendar years.

2.4 California Environmental Quality Act (CEQA) Significance Thresholds

The California Environmental Quality Act has provided a checklist to identify the significance of air quality impacts. These guidelines are found in Appendix G of the CEQA Guidelines. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

A: Conflict with or obstruct implementation of the applicable air quality plan?

- B: Violate any air quality standard or contribute substantially to an existing or project air quality violation?*
- C: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?*
- D: Expose sensitive receptors to substantial pollutant concentrations?*
- E: Create objectionable odors affecting a substantial number of people?*

2.5 ICAPCD Air Quality Impact Assessment Screening Thresholds (CEQA)

The ICAPCD has established significance thresholds in the 2007 ICAPCD CEQA Handbook for the preparation of Air Quality Impact Assessments (AQIA). The screening criteria within this handbook can be used to determine whether a project's total emissions would result in a significant impact as defined by CEQA. Should emissions be found to exceed these thresholds, additional modeling is required to demonstrate that the project's total air quality impacts are below the state and federal ambient air quality standards. These screening thresholds for construction and daily operations are shown in Table 2.2 below.

Table 2.2: Screening Threshold for Criteria Pollutants

Pollutant	Total Emissions (Pounds per Day)	
Construction Emissions		
Respirable Particulate Matter (PM ₁₀ and PM _{2.5})	150	
Nitrogen Oxide (NO _x)	100	
Carbon Monoxide (CO)	550	
Reactive Organic Gases (ROG)	75	
Operational Emissions		
Pollutant	Tier I (Pounds per Day)	Tier II (Pounds per Day)
PM ₁₀ and Sulfur Oxide (SO _x)	< 150	150 or greater
NO _x and ROG	< 55	55 or greater
CO	< 550	550 or greater
Level of Significance:	Less Than Significant	Significant Impact
Level of Analysis:	Initial Study	Comprehensive Air Quality Analysis Report
Environmental Document:	Negative Declaration	Mitigated ND or EIR
Source: ICAPCD-CEQA Air Quality Handbook (11/2007)		

The CEQA handbook further states that any proposed project with a potential to emit less than the Tier I thresholds during operations may potentially still have adverse impacts on the local air quality and would be required to develop an Initial Study to help the Lead Agency determine whether the project would have a less than significant impact. On the other hand, if the proposed project's operational development fits within the Tier II classification, it is considered to have a significant impact on regional and local air quality. Therefore, Tier II projects are required to implement all standard mitigation measures as well as all feasible discretionary mitigation measures.

Additionally, ICAPCD defined standard mitigation measures for construction equipment and fugitive PM₁₀ must be implemented at all construction sites. The implementation of mitigation measures discretionary, as listed in the ICAPCD CEQA handbook, apply to those construction sites which are 5 acres or more for non-residential developments such as the proposed Project. Additionally, in an effort to reduce PM₁₀ or Fugitive Dust from ambient air, the Project would be required to develop a dust management plan consistent with Regulation VIII of ICAPCD's Rules and Regulations. Additionally, the project shall not exceed the 20 percent opacity threshold under Rule 801.

Should the project be sufficiently large enough that operational mitigation measures simply cannot reduce pollutant levels below thresholds of significance, pollutant levels the ICAPCD has adopted the Operation Development Fee as was adopted under Rule 310 which provides the ICAPCD with a sound method for mitigating the emissions produced from the operation of new commercial and residential development projects. Projects unmitigable through standard procedures are assessed a one-time fee for either Ozone Precursors or PM₁₀ impacts, which is based upon either the square footage of the commercial development or the number of residential units. Impacts of this sort are calculated based on the assumption that the worst-case daily emissions are allowed for an entire year and then converted to an annual emission equivalent. Emissions exceeding annual thresholds would pay a fair share sum to reduce impacts to below significance.

Furthermore, to be consistent with the California Air Resource Board, ICAPCD requires PM₁₀ emitted by diesel powered construction equipment (DPM) to be analyzed. DPM can potentially increase the cancer risk for nearby residential receptors if any. Generally, sites increasing the cancer risk between one and ten in

one million need to implement toxics best available control technology or impose effective emission limitations, emission control devices or control techniques to reduce the cancer risk. Finally, at no time shall the project increase the cancer risk to over 10 in one million.

2.6 Local Air Quality

Criteria pollutants are measured continuously throughout the County of Imperial and the data is used to track ambient air quality patterns throughout the County. As mentioned earlier, this data is also used to determine attainment status when compared to the NAAQS and CAAQS. The ICAPCD is responsible for monitoring four sites which collect meteorological and criteria pollutant data used by the district to assist with pollutant forecasting, data analysis and characterization of air pollutant transport. Also, a fifth monitoring locations is located in the City of Calexico which is monitored by CARB.

The monitoring station that is closest to the proposed Project is the Ethel Street monitoring station in Calexico, which is approximately 14 miles from the project site. Table 2.3 on the following page provides the criteria pollutant levels monitored at these two stations for 2013-2015, which is the most current data at this time. The criteria pollutants monitored closest to the Project [Ambient data was obtained from the California Environmental Protection Agency's Air Resources Board Website (Source: <http://www.arb.ca.gov/adam>)]. Figure 2-A below shows the relative locations of the ambient air quality monitoring sites.

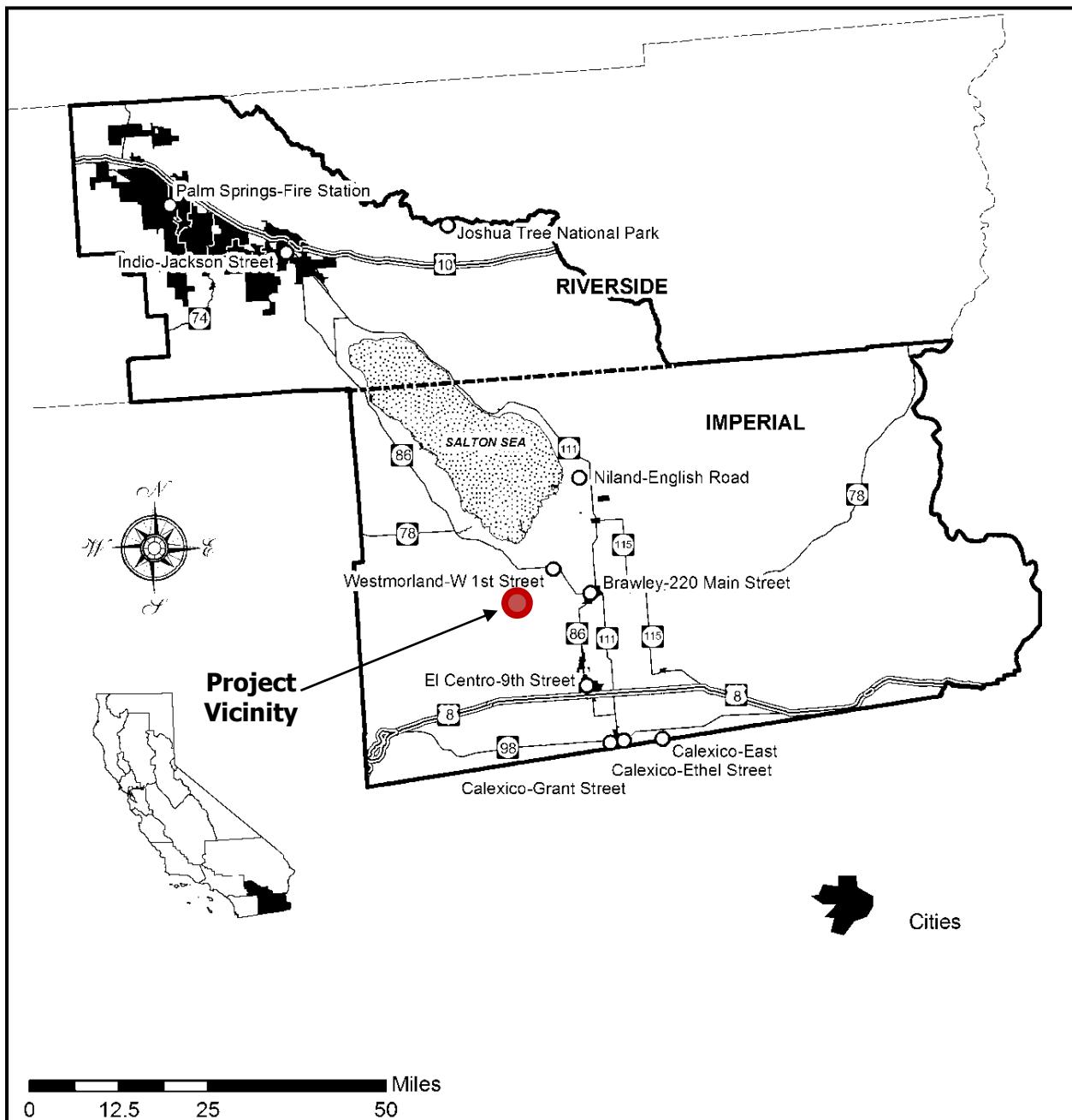
Based on review of the ambient data, Both Ozone and PM emissions exceed AAQS and therefore are in non-attainment status. The 8 hour Ozone non-Attainment is considered moderate Non-Attainment while the 24-Hour PM10 is considered "Serious" Non-Attainment. Therefore, to comply with the ICAPCDs SIP and AAQP, the project must implement Best Available Control Measure (BACM) and BACT as outlined in Section 2.5 of this report above.

Table 2.3: Latest Three-Year Ambient Air Quality data near Project Site

Pollutant	Closest Recorded Ambient Monitoring Site	Averaging Time	CAAQS	NAAQS	2013	2014	2015
O3 (ppm)	Calexico Ethel Street	1 Hour	0.09 ppm	-	0.110	0.105	0.106
	Calexico Ethel Street	8 Hour	0.070 ppm	0.075 ppm	0.098	0.086	0.082
PM10 ($\mu\text{g}/\text{m}^3$)	Calexico Ethel Street	24 Hour	50 $\mu\text{g}/\text{m}^3$	150 $\mu\text{g}/\text{m}^3$	141.2	131.8	134.2
PM2.5 ($\mu\text{g}/\text{m}^3$)	Calexico Ethel Street	24 Hour	-	35 $\mu\text{g}/\text{m}^3$	36.3	51.7	87.1
	Calexico Ethel Street	Annual Arithmetic Mean	12 $\mu\text{g}/\text{m}^3$	15 $\mu\text{g}/\text{m}^3$	13.8	13.9	12.9
NO2 (ppm)	Calexico Ethel Street	Annual Arithmetic Mean	0.030 ppm	0.053 ppm	0.012	N/A	0.011
	Calexico Ethel Street	1 Hour	0.18 ppm	-	0.156	0.094	0.083

ppm=Parts per Million
N/A=Not Available for give year

FIGURE 2-A: Ambient Air Quality Monitoring Stations (SSAB – ARB)



3.0 METHODOLOGY

3.1 Construction Emissions Calculations

Air Quality impacts related to construction and daily operations were calculated using the latest CalEEMod air quality model, which was developed by ENVIRON International Corporation for South Coast Air Quality Management District (SCAQMD) in 2013. The construction module in CalEEMod is used to calculate the emissions associated with the construction of the project and uses methodologies presented in the US EPA AP-42 document with emphasis on Chapter 11.9. The construction effort and site footprint is so small that cancer health risks from diesel particulate matter would not be expected. The CalEEMod output for both construction and operations is shown in **Attachment A** to this report. Finally, the project would also have decommissioning emissions sometime in the future but would not be higher than actual construction emissions. Given this, decommissions will not be analyzed.

3.2 Construction Assumptions

The Project construction dates are estimated to begin late 2016 for Phase 1 and Phase 2 will be completed in 2018 with the total number of construction days at or around 226 days. Table 3.1 below and continued on the following page shows the expected timeframes for the construction processes as well as the expected number of pieces of equipment to complete the project.

Table 3.1: Expected Construction Equipment

Equipment Identification	Proposed Start	Proposed Finish	Quantity
Grading Phase 1 (700 SF Foundation)	12/15/2016	1/18/2017	
Tractors/Loaders/Backhoes			2
Phase 1 Construction (Pour Foundations)	12/15/2016	1/18/2017	
Cement and Mortar Mixers			2
Tractors/Loaders/Backhoes			1
Phase 1 (Crane to set Equipment)	1/5/2017	2/6/2017	
Cranes			1
This equipment list is based upon equipment inventory within CALLEEMOD 2013.2.2. The quantity and types are based upon discussions with the project applicant.			

Table 3.1 Cont: Expected Construction Equipment

Equipment Identification	Proposed Start	Proposed Finish	Quantity
Phase 1 (Set up Equipment)	1/5/2017	2/6/2017	
Generator Sets			1
Grading Phase 2 (16,000 SF Foundations)	5/10/2018	5/23/2018	
Tractors/Loaders/Backhoes			2
Phase 2 Construction (Pour Foundations)	5/24/2018	6/6/2018	
Cement and Mortar Mixers			1
Tractors/Loaders/Backhoes			2
Phase 2 (Crane to set Equipment)	6/7/2018	6/13/2018	
Cranes			1
Phase 2 (Set up Equipment)	5/24/2018	12/19/2018	
Generator Sets			2
Welders			2
This equipment list is based upon equipment inventory within CALLEEMOD 2013.2.2. The quantity and types are based upon discussions with the project applicant.			

3.3 Operational Impacts

The post construction operations and maintenance of the Battery Energy Storage Facility will be monitored by the six operators currently on-site as part of the existing Campo Verde Solar Facility operations. No additional full time staff is anticipated as part of the Battery Energy Storage Facility; however, technicians will be brought in if necessary, thus there is no anticipated new trip generation for the maintenance and project operations. Also, it was assumed that the cumulative net average of the power required to operate the battery storage facility to include electrical demand for HVAC, lighting and equipment would be generated from the solar project. Although electrical energy usage from utility providers at night would be expected, the overall project would produce more power than it would use, resulting in a cumulative gain and yielding a netzero footprint. Given this operational Air Quality impacts would not be expected or further analyzed.

4.0 FINDINGS

4.1 Construction Findings

The Project construction dates are estimated to begin late 2016 for Phase 1 and Phase 2 will be completed in 2018 with the total number of construction days at or around 226 days. It should be noted however that as a design feature, the project will only use Tier 4 equipment as defined by California Air Resource Board (ARB). A summary of the construction emissions is shown below in Table 4.1. Given these findings, no fugitive dust impacts are expected during construction. Also, it should be noted that all ICAPCD standard mitigation measures will be required as they are required for all construction projects within the County. Based on this, the air quality emissions would be reduced from those presented in Table 4.1.

Table 4.1: Expected Construction Emissions Summary (Pounds per Day)

Year	ROG	NO _x	CO	PM ₁₀ (Dust)	PM ₁₀ (Exhaust)	PM ₁₀ (Total)	PM _{2.5} (Dust)	PM _{2.5} (Exhaust)	PM _{2.5} (Total)
2016 (lb/day)	1.01	5.41	9.31	10.42	0.38	10.80	1.12	0.35	1.47
2017 (lb/day)	0.86	2.20	6.80	10.42	0.12	10.53	1.12	0.12	1.24
2018 (lb/day)	1.84	6.47	13.88	19.88	0.39	20.28	2.14	0.36	2.51
Significance Threshold (lb/day)	75	100	550	-	-	150	-	-	150
ICAPCD Impact?	No	No	No	-	-	No	-	-	No

4.2 Odor Impact Findings

Odor impacts from construction operations would be considered short term events and would not be considered an impact.

4.3 Conclusion of Findings

Based on this analysis, no construction or operational impacts are expected. No mitigation will be required for any construction activities. In summary responses to CEQA questions are as follows:

A: Conflict with or obstruct implementation of the applicable air quality plan?

The proposed project would not obstruct the implementation of the air quality plan. Diesel construction equipment will utilize Tier IV technologies. Furthermore, air quality emissions would not exceed ICAPCD thresholds.

B: Violate any air quality standard or contribute substantially to an existing or project air quality violation?

The proposed project would not violate any air quality standards or significantly contribute to existing or project air quality violations. Diesel construction equipment will utilize Tier IV technologies. Furthermore, air quality emissions would not exceed ICAPCD thresholds.

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

The proposed project will follow all ICAPCD requirements for grading. Also, all diesel equipment will be Tier IV rated. Furthermore, all air quality impacts would be less than significant. Therefore no cumulatively considerable net increases would be expected in air quality.

D: Expose sensitive receptors to substantial pollutant concentrations?

The proposed project isn't located near any sensitive receptors. Furthermore, air quality emissions generated from the construction work would be relatively small. Given this, sensitive receptors wouldn't be exposed to substantial pollutant concentrations.

E: Create objectionable odors affecting a substantial number of people?

The proposed project would not generate objectionable odors.

5.0 CERTIFICATIONS

The contents of this report represent an accurate depiction of the air quality environment and impacts within and surrounding the Campo Verde Battery Storage Project. The information contained in this report was based on the best available data at the time of preparation.

DRAFT

Jeremy Louden, Principal
Ldn Consulting, Inc.
760-473-1253
jlouden@ldnconsulting.net

Date September 20, 2016

ATTACHMENT A

CalEEMod Construction Air Quality Emissions

Campo Verde Battery Storage Project

Imperial County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	0.50	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	3.4	Precipitation Freq (Days)	12
Climate Zone	15			Operational Year	2018
Utility Company	Imperial Irrigation District				
CO2 Intensity (lb/MWhr)	1270.9	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project site area is less than 0.5 acres

Construction Phase - Construction Schedule

Off-road Equipment -

Off-road Equipment - CE

Off-road Equipment -

Off-road Equipment - CE

Off-road Equipment - CE

Off-road Equipment -

Off-road Equipment - ce

Off-road Equipment - ce

Trips and VMT - Worst Case Trips assumed every day

Grading - .5 acres

Vehicle Trips - no more than 2 trips per day

Construction Off-road Equipment Mitigation - mitigation

On-road Fugitive Dust - Project roadways were assumed to be 99% paved and 1% dirt

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	100.00	5.00
tblConstructionPhase	NumDays	100.00	2.00
tblConstructionPhase	NumDays	100.00	49.00
tblConstructionPhase	NumDays	100.00	10.00
tblConstructionPhase	NumDays	100.00	5.00
tblConstructionPhase	NumDays	100.00	135.00
tblConstructionPhase	NumDays	2.00	10.00
tblConstructionPhase	NumDays	2.00	10.00
tblConstructionPhase	PhaseEndDate	2/14/2017	5/23/2018
tblConstructionPhase	PhaseStartDate	2/1/2017	5/10/2018
tblLandUse	LotAcreage	0.00	0.50
tblOffRoadEquipment	HorsePower	84.00	10.00
tblOffRoadEquipment	HorsePower	84.00	10.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOnRoadDust	HaulingPercentPave	50.00	99.00
tblOnRoadDust	HaulingPercentPave	50.00	99.00
tblOnRoadDust	HaulingPercentPave	50.00	99.00
tblOnRoadDust	HaulingPercentPave	50.00	99.00
tblOnRoadDust	HaulingPercentPave	50.00	99.00
tblOnRoadDust	HaulingPercentPave	50.00	99.00
tblOnRoadDust	HaulingPercentPave	50.00	99.00
tblOnRoadDust	VendorPercentPave	50.00	99.00

tblOnRoadDust	VendorPercentPave	50.00	99.00
tblOnRoadDust	VendorPercentPave	50.00	99.00
tblOnRoadDust	VendorPercentPave	50.00	99.00
tblOnRoadDust	VendorPercentPave	50.00	99.00
tblOnRoadDust	VendorPercentPave	50.00	99.00
tblOnRoadDust	VendorPercentPave	50.00	99.00
tblOnRoadDust	VendorPercentPave	50.00	99.00
tblOnRoadDust	WorkerPercentPave	50.00	99.00
tblOnRoadDust	WorkerPercentPave	50.00	99.00
tblOnRoadDust	WorkerPercentPave	50.00	99.00
tblOnRoadDust	WorkerPercentPave	50.00	99.00
tblOnRoadDust	WorkerPercentPave	50.00	99.00
tblOnRoadDust	WorkerPercentPave	50.00	99.00
tblOnRoadDust	WorkerPercentPave	50.00	99.00
tblProjectCharacteristics	OperationalYear	2014	2018
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	WorkerTripNumber	5.00	66.00
tblTripsAndVMT	WorkerTripNumber	0.00	66.00
tblTripsAndVMT	WorkerTripNumber	0.00	66.00
tblTripsAndVMT	WorkerTripNumber	0.00	66.00
tblTripsAndVMT	WorkerTripNumber	5.00	126.00
tblTripsAndVMT	WorkerTripNumber	0.00	126.00
tblTripsAndVMT	WorkerTripNumber	0.00	126.00
tblTripsAndVMT	WorkerTripNumber	0.00	126.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Year	lb/day											lb/day					
2016	1.0124	5.4078	9.3138	0.0106	10.4157	0.3796	10.7954	1.1234	0.3492	1.4726	0.0000	954.4725	954.4725	0.1858	0.0000	958.3740	
2017	0.8553	2.2001	6.7996	8.5200e-003	10.4157	0.1160	10.5317	1.1234	0.1157	1.2391	0.0000	653.4309	653.4309	0.0727	0.0000	654.9582	
2018	1.8378	6.4686	13.8757	0.0184	19.8846	0.3936	20.2782	2.1446	0.3633	2.5079	0.0000	1,501.3913	1,501.3913	0.2649	0.0000	1,506.9538	
Total	3.7055	14.0765	29.9891	0.0375	40.7160	0.8893	41.6053	4.3914	0.8283	5.2196	0.0000	3,109.2947	3,109.2947	0.5234	0.0000	3,120.2860	

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Year	lb/day											lb/day					
2016	0.5585	1.1527	9.2080	0.0106	10.4157	4.8400e-003	10.4206	1.1234	4.5300e-003	1.1279	0.0000	954.4725	954.4725	0.1858	0.0000	958.3740	
2017	0.4784	1.1070	6.0700	8.5200e-003	10.4157	3.8000e-003	10.4195	1.1234	3.5200e-003	1.1269	0.0000	653.4309	653.4309	0.0727	0.0000	654.9582	
2018	0.8647	2.8490	13.5781	0.0184	19.8846	8.0300e-003	19.8926	2.1446	7.5400e-003	2.1522	0.0000	1,501.3913	1,501.3913	0.2649	0.0000	1,506.9538	
Total	1.9015	5.1087	28.8560	0.0375	40.7160	0.0167	40.7327	4.3914	0.0156	4.4069	0.0000	3,109.2947	3,109.2947	0.5234	0.0000	3,120.2860	

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	48.68	63.71	3.78	0.00	0.00	98.13	2.10	0.00	98.12	15.57	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	2.2000e-004	2.2000e-004	0.0000			2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.0000e-005	0.0000	1.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.2000e-004	2.2000e-004	0.0000	0.0000	0.0000	2.3000e-004

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	2.2000e-004	2.2000e-004	0.0000			2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.0000e-005	0.0000	1.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.2000e-004	2.2000e-004	0.0000	0.0000	0.0000	2.3000e-004

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading Phase 1 (700 SF Foundation)	Grading	11/1/2016	11/14/2016	5	10	
2	Phase 1 Construction (Pour Foundations)	Building Construction	11/15/2016	11/21/2016	5	5	
3	Phase 1 (Crane to set Equipment)	Building Construction	11/22/2016	11/23/2016	5	2	
4	Phase 1 (Set up Equipment)	Building Construction	11/24/2016	1/31/2017	5	49	
5	Grading Phase 2 (16,000 SF Foundations)	Grading	5/10/2018	5/23/2018	5	10	
6	Phase 2 Construction (Pour Foundations)	Building Construction	5/24/2018	6/6/2018	5	10	
7	Phase 2 (Crane to set Equipment)	Building Construction	6/7/2018	6/13/2018	5	5	
8	Phase 2 (Set up Equipment)	Building Construction	6/14/2018	12/19/2018	5	135	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading Phase 1 (700 SF Foundation)	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Phase 1 Construction (Pour Foundations)	Cement and Mortar Mixers	2	8.00	9	0.56
Phase 1 Construction (Pour Foundations)	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Phase 1 (Crane to set Equipment)	Cranes	1	4.00	226	0.29
Phase 1 (Set up Equipment)	Generator Sets	1	8.00	10	0.74
Phase 1 (Set up Equipment)	Welders	1	5.00	46	0.45
Grading Phase 2 (16,000 SF Foundations)	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Phase 2 Construction (Pour Foundations)	Cement and Mortar Mixers	1	8.00	9	0.56
Phase 2 Construction (Pour Foundations)	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 2 (Crane to set Equipment)	Cranes	1	4.00	226	0.29
Phase 2 (Set up Equipment)	Generator Sets	2	8.00	10	0.74
Phase 2 (Set up Equipment)	Welders	2	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading Phase 1 (700 SF Foundation)	2	66.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1 Construction (Pour Foundations)	3	66.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1 (Crane to set Equipment)	1	66.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1 (Set up Equipment)	2	66.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading Phase 2 (16,000 SF Foundations)	2	126.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 Construction (Pour Foundations)	3	126.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 (Crane to set Equipment)	1	126.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 (Set up Equipment)	4	126.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

3.2 Grading Phase 1 (700 SF Foundation) - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.5109	4.8826	3.6189	4.6700e-003		0.3759	0.3759		0.3459	0.3459		485.5159	485.5159	0.1465		488.5913
Total	0.5109	4.8826	3.6189	4.6700e-003	0.0000	0.3759	0.3759	0.0000	0.3459	0.3459		485.5159	485.5159	0.1465		488.5913

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	
Worker	0.5015	0.5252	5.6949	5.8900e-003	10.4157	3.7000e-003	10.4194	1.1234	3.3900e-003	1.1268			468.9566	468.9566	0.0393		469.7827
Total	0.5015	0.5252	5.6949	5.8900e-003	10.4157	3.7000e-003	10.4194	1.1234	3.3900e-003	1.1268			468.9566	468.9566	0.0393		469.7827

3.2 Grading Phase 1 (700 SF Foundation) - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000	
Off-Road	0.0570	0.2469	3.5131	4.6700e-003		1.1400e-003	1.1400e-003		1.1400e-003	1.1400e-003	0.0000	485.5159	485.5159	0.1465		488.5913	
Total	0.0570	0.2469	3.5131	4.6700e-003	0.0000	1.1400e-003	1.1400e-003	0.0000	1.1400e-003	1.1400e-003	0.0000	485.5159	485.5159	0.1465		488.5913	

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	
Worker	0.5015	0.5252	5.6949	5.8900e-003	10.4157	3.7000e-003	10.4194	1.1234	3.3900e-003	1.1268			468.9566	468.9566	0.0393	469.7827	
Total	0.5015	0.5252	5.6949	5.8900e-003	10.4157	3.7000e-003	10.4194	1.1234	3.3900e-003	1.1268			468.9566	468.9566	0.0393	469.7827	

3.3 Phase 1 Construction (Pour Foundations) - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	0.4583	3.9934	3.0293	4.5400e-003		0.2803	0.2803		0.2603	0.2603		424.7101	424.7101	0.1081		426.9806	
Total	0.4583	3.9934	3.0293	4.5400e-003		0.2803	0.2803		0.2603	0.2603		424.7101	424.7101	0.1081		426.9806	

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000	
Worker	0.5015	0.5252	5.6949	5.8900e-003	10.4157	3.7000e-003	10.4194	1.1234	3.3900e-003	1.1268		468.9566	468.9566	0.0393		469.7827	
Total	0.5015	0.5252	5.6949	5.8900e-003	10.4157	3.7000e-003	10.4194	1.1234	3.3900e-003	1.1268		468.9566	468.9566	0.0393		469.7827	

3.3 Phase 1 Construction (Pour Foundations) - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	0.0380	0.1646	2.3421	4.5400e-003		7.6000e-004	7.6000e-004		7.6000e-004	7.6000e-004	0.0000	424.7101	424.7101	0.1081		426.9806	
Total	0.0380	0.1646	2.3421	4.5400e-003		7.6000e-004	7.6000e-004		7.6000e-004	7.6000e-004	0.0000	424.7101	424.7101	0.1081		426.9806	

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.5015	0.5252	5.6949	5.8900e-003	10.4157	3.7000e-003	10.4194	1.1234	3.3900e-003	1.1268	468.9566	468.9566	0.0393			469.7827	
Total	0.5015	0.5252	5.6949	5.8900e-003	10.4157	3.7000e-003	10.4194	1.1234	3.3900e-003	1.1268	468.9566	468.9566	0.0393			469.7827	

3.4 Phase 1 (Crane to set Equipment) - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	0.3600	4.2658	1.4924	2.8200e-003		0.1936	0.1936		0.1781	0.1781		293.1174	293.1174	0.0884		294.9741	
Total	0.3600	4.2658	1.4924	2.8200e-003		0.1936	0.1936		0.1781	0.1781		293.1174	293.1174	0.0884		294.9741	

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000	
Worker	0.5015	0.5252	5.6949	5.8900e-003	10.4157	3.7000e-003	10.4194	1.1234	3.3900e-003	1.1268		468.9566	468.9566	0.0393		469.7827	
Total	0.5015	0.5252	5.6949	5.8900e-003	10.4157	3.7000e-003	10.4194	1.1234	3.3900e-003	1.1268		468.9566	468.9566	0.0393		469.7827	

3.4 Phase 1 (Crane to set Equipment) - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	0.0347	0.1503	1.2715	2.8200e-003		6.9000e-004	6.9000e-004		6.9000e-004	6.9000e-004	0.0000	293.1174	293.1174	0.0884		294.9741	
Total	0.0347	0.1503	1.2715	2.8200e-003		6.9000e-004	6.9000e-004		6.9000e-004	6.9000e-004	0.0000	293.1174	293.1174	0.0884		294.9741	

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.5015	0.5252	5.6949	5.8900e-003	10.4157	3.7000e-003	10.4194	1.1234	3.3900e-003	1.1268	468.9566	468.9566	0.0393			469.7827	
Total	0.5015	0.5252	5.6949	5.8900e-003	10.4157	3.7000e-003	10.4194	1.1234	3.3900e-003	1.1268	468.9566	468.9566	0.0393			469.7827	

3.5 Phase 1 (Set up Equipment) - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4454	1.7760	1.7037	2.6400e-003		0.1232	0.1232		0.1232	0.1232	203.8444	203.8444	0.0400			204.6838
Total	0.4454	1.7760	1.7037	2.6400e-003		0.1232	0.1232		0.1232	0.1232	203.8444	203.8444	0.0400			204.6838

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Worker	0.5015	0.5252	5.6949	5.8900e-003	10.4157	3.7000e-003	10.4194	1.1234	3.3900e-003	1.1268	468.9566	468.9566	0.0393			469.7827
Total	0.5015	0.5252	5.6949	5.8900e-003	10.4157	3.7000e-003	10.4194	1.1234	3.3900e-003	1.1268	468.9566	468.9566	0.0393			469.7827

3.5 Phase 1 (Set up Equipment) - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day															lb/day	
Off-Road	0.0274	0.6275	0.9355	2.6400e-003		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004	0.0000	203.8444	203.8444	0.0400		204.6838	
Total	0.0274	0.6275	0.9355	2.6400e-003		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004	0.0000	203.8444	203.8444	0.0400		204.6838	

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day															lb/day	
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	
Worker	0.5015	0.5252	5.6949	5.8900e-003	10.4157	3.7000e-003	10.4194	1.1234	3.3900e-003	1.1268	468.9566	468.9566	0.0393			469.7827	
Total	0.5015	0.5252	5.6949	5.8900e-003	10.4157	3.7000e-003	10.4194	1.1234	3.3900e-003	1.1268	468.9566	468.9566	0.0393			469.7827	

3.5 Phase 1 (Set up Equipment) - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	0.4043	1.7206	1.6652	2.6400e-003		0.1125	0.1125		0.1125	0.1125		203.8444	203.8444	0.0363		204.6064	
Total	0.4043	1.7206	1.6652	2.6400e-003		0.1125	0.1125		0.1125	0.1125		203.8444	203.8444	0.0363		204.6064	

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000	
Worker	0.4510	0.4795	5.1344	5.8800e-003	10.4157	3.5300e-003	10.4193	1.1234	3.2400e-003	1.1266		449.5866	449.5866	0.0364		450.3518	
Total	0.4510	0.4795	5.1344	5.8800e-003	10.4157	3.5300e-003	10.4193	1.1234	3.2400e-003	1.1266		449.5866	449.5866	0.0364		450.3518	

3.5 Phase 1 (Set up Equipment) - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	0.0274	0.6275	0.9355	2.6400e-003		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004	0.0000	203.8444	203.8444	0.0363		204.6064	
Total	0.0274	0.6275	0.9355	2.6400e-003		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004	0.0000	203.8444	203.8444	0.0363		204.6064	

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	
Worker	0.4510	0.4795	5.1344	5.8800e-003	10.4157	3.5300e-003	10.4193	1.1234	3.2400e-003	1.1266	449.5866	449.5866	0.0364			450.3518	
Total	0.4510	0.4795	5.1344	5.8800e-003	10.4157	3.5300e-003	10.4193	1.1234	3.2400e-003	1.1266	449.5866	449.5866	0.0364			450.3518	

3.6 Grading Phase 2 (16,000 SF Foundations) - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.3992	3.9446	3.5051	4.6600e-003		0.2795	0.2795		0.2571	0.2571		469.1639	469.1639	0.1461		472.2311
Total	0.3992	3.9446	3.5051	4.6600e-003	0.0000	0.2795	0.2795	0.0000	0.2571	0.2571		469.1639	469.1639	0.1461		472.2311

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	
Worker	0.7770	0.8410	8.8939	0.0112	19.8846	6.5200e-003	19.8911	2.1446	6.0200e-003	2.1506			825.3230	825.3230	0.0649		826.6858
Total	0.7770	0.8410	8.8939	0.0112	19.8846	6.5200e-003	19.8911	2.1446	6.0200e-003	2.1506			825.3230	825.3230	0.0649		826.6858

3.6 Grading Phase 2 (16,000 SF Foundations) - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000	
Off-Road	0.0570	0.2469	3.5131	4.6600e-003		1.1400e-003	1.1400e-003		1.1400e-003	1.1400e-003	0.0000	469.1639	469.1639	0.1461		472.2311	
Total	0.0570	0.2469	3.5131	4.6600e-003	0.0000	1.1400e-003	1.1400e-003	0.0000	1.1400e-003	1.1400e-003	0.0000	469.1639	469.1639	0.1461		472.2311	

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	
Worker	0.7770	0.8410	8.8939	0.0112	19.8846	6.5200e-003	19.8911	2.1446	6.0200e-003	2.1506			825.3230	825.3230	0.0649		826.6858
Total	0.7770	0.8410	8.8939	0.0112	19.8846	6.5200e-003	19.8911	2.1446	6.0200e-003	2.1506			825.3230	825.3230	0.0649		826.6858

3.7 Phase 2 Construction (Pour Foundations) - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	0.5910	5.6276	4.9818	6.9300e-003		0.3871	0.3871		0.3573	0.3573		676.0682	676.0682	0.2000		680.2680	
Total	0.5910	5.6276	4.9818	6.9300e-003		0.3871	0.3871		0.3573	0.3573		676.0682	676.0682	0.2000		680.2680	

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000	
Worker	0.7770	0.8410	8.8939	0.0112	19.8846	6.5200e-003	19.8911	2.1446	6.0200e-003	2.1506		825.3230	825.3230	0.0649		826.6858	
Total	0.7770	0.8410	8.8939	0.0112	19.8846	6.5200e-003	19.8911	2.1446	6.0200e-003	2.1506		825.3230	825.3230	0.0649		826.6858	

3.7 Phase 2 Construction (Pour Foundations) - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	0.0760	0.3292	4.6841	6.9300e-003		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	676.0682	676.0682	0.2000		680.2680	
Total	0.0760	0.3292	4.6841	6.9300e-003		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	676.0682	676.0682	0.2000		680.2680	

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.7770	0.8410	8.8939	0.0112	19.8846	6.5200e-003	19.8911	2.1446	6.0200e-003	2.1506	825.3230	825.3230	0.0649			826.6858	
Total	0.7770	0.8410	8.8939	0.0112	19.8846	6.5200e-003	19.8911	2.1446	6.0200e-003	2.1506		825.3230	825.3230	0.0649		826.6858	

3.8 Phase 2 (Crane to set Equipment) - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	0.2792	3.3366	1.2336	2.8200e-003		0.1444	0.1444		0.1329	0.1329		284.0154	284.0154	0.0884		285.8722	
Total	0.2792	3.3366	1.2336	2.8200e-003		0.1444	0.1444		0.1329	0.1329		284.0154	284.0154	0.0884		285.8722	

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000	
Worker	0.7770	0.8410	8.8939	0.0112	19.8846	6.5200e-003	19.8911	2.1446	6.0200e-003	2.1506		825.3230	825.3230	0.0649		826.6858	
Total	0.7770	0.8410	8.8939	0.0112	19.8846	6.5200e-003	19.8911	2.1446	6.0200e-003	2.1506		825.3230	825.3230	0.0649		826.6858	

3.8 Phase 2 (Crane to set Equipment) - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	0.0347	0.1503	1.2715	2.8200e-003		6.9000e-004	6.9000e-004		6.9000e-004	6.9000e-004	0.0000	284.0154	284.0154	0.0884		285.8722	
Total	0.0347	0.1503	1.2715	2.8200e-003		6.9000e-004	6.9000e-004		6.9000e-004	6.9000e-004	0.0000	284.0154	284.0154	0.0884		285.8722	

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.7770	0.8410	8.8939	0.0112	19.8846	6.5200e-003	19.8911	2.1446	6.0200e-003	2.1506	825.3230	825.3230	0.0649			826.6858	
Total	0.7770	0.8410	8.8939	0.0112	19.8846	6.5200e-003	19.8911	2.1446	6.0200e-003	2.1506		825.3230	825.3230	0.0649		826.6858	

3.9 Phase 2 (Set up Equipment) - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	1.0607	4.5980	4.6525	7.2000e-003		0.2890	0.2890		0.2890	0.2890		563.2970	563.2970	0.0955		565.3028	
Total	1.0607	4.5980	4.6525	7.2000e-003		0.2890	0.2890		0.2890	0.2890		563.2970	563.2970	0.0955		565.3028	

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000	
Worker	0.7770	0.8410	8.8939	0.0112	19.8846	6.5200e-003	19.8911	2.1446	6.0200e-003	2.1506		825.3230	825.3230	0.0649		826.6858	
Total	0.7770	0.8410	8.8939	0.0112	19.8846	6.5200e-003	19.8911	2.1446	6.0200e-003	2.1506		825.3230	825.3230	0.0649		826.6858	

3.9 Phase 2 (Set up Equipment) - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	0.0876	2.0080	2.9937	7.2000e-003		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004	0.0000	563.2970	563.2970	0.0955		565.3028	
Total	0.0876	2.0080	2.9937	7.2000e-003		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004	0.0000	563.2970	563.2970	0.0955		565.3028	

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.7770	0.8410	8.8939	0.0112	19.8846	6.5200e-003	19.8911	2.1446	6.0200e-003	2.1506	825.3230	825.3230	0.0649			826.6858	
Total	0.7770	0.8410	8.8939	0.0112	19.8846	6.5200e-003	19.8911	2.1446	6.0200e-003	2.1506		825.3230	825.3230	0.0649		826.6858	

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated		Mitigated	
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00	-	-	-	-
Total	0.00	0.00	0.00	-	-	-	-

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	16.40	9.50	11.90	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.452392	0.071570	0.166401	0.163397	0.043822	0.005604	0.012812	0.076909	0.001840	0.000151	0.002370	0.000668	0.002066

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Land Use	kBTU/yr	lb/day										lb/day						
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000						

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.0000e-005	0.0000	1.0000e-004	0.0000			0.0000	0.0000		0.0000	0.0000	2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	1.0000e-005	0.0000	1.0000e-004	0.0000			0.0000	0.0000		0.0000	0.0000	2.2000e-004	2.2000e-004	0.0000		2.3000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000						0.0000	0.0000		0.0000	0.0000			0.0000		0.0000
Consumer Products	0.0000						0.0000	0.0000		0.0000	0.0000			0.0000		0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000			0.0000	0.0000		0.0000	0.0000	2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.0000e-004	0.0000			0.0000	0.0000		0.0000	0.0000	2.2000e-004	2.2000e-004	0.0000		2.3000e-004

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000						0.0000	0.0000		0.0000	0.0000			0.0000		0.0000
Consumer Products	0.0000						0.0000	0.0000		0.0000	0.0000			0.0000		0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000			0.0000	0.0000		0.0000	0.0000	2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.0000e-004	0.0000			0.0000	0.0000		0.0000	0.0000	2.2000e-004	2.2000e-004	0.0000		2.3000e-004

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	-----------	-------------	-------------	-----------

10.0 Vegetation

Campo Verde Battery Storage Project

Imperial County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	0.50	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	3.4	Precipitation Freq (Days)	12
Climate Zone	15			Operational Year	2018
Utility Company	Imperial Irrigation District				
CO2 Intensity (lb/MWhr)	1270.9	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project site area is less than 0.5 acres

Construction Phase - Construction Schedule

Off-road Equipment -

Off-road Equipment - CE

Off-road Equipment -

Off-road Equipment - CE

Off-road Equipment - CE

Off-road Equipment -

Off-road Equipment - ce

Off-road Equipment - ce

Trips and VMT - Worst Case Trips assumed every day

Grading - .5 acres

Vehicle Trips - no more than 2 trips per day

Construction Off-road Equipment Mitigation - mitigation

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	100.00	5.00
tblConstructionPhase	NumDays	100.00	2.00
tblConstructionPhase	NumDays	100.00	49.00
tblConstructionPhase	NumDays	100.00	10.00
tblConstructionPhase	NumDays	100.00	5.00
tblConstructionPhase	NumDays	100.00	135.00
tblConstructionPhase	NumDays	2.00	10.00
tblConstructionPhase	NumDays	2.00	10.00
tblConstructionPhase	PhaseEndDate	2/14/2017	5/23/2018
tblConstructionPhase	PhaseStartDate	2/1/2017	5/10/2018
tblLandUse	LotAcreage	0.00	0.50
tblOffRoadEquipment	HorsePower	84.00	10.00
tblOffRoadEquipment	HorsePower	84.00	10.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblProjectCharacteristics	OperationalYear	2014	2018
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	WorkerTripNumber	5.00	66.00
tblTripsAndVMT	WorkerTripNumber	0.00	66.00
tblTripsAndVMT	WorkerTripNumber	0.00	66.00
tblTripsAndVMT	WorkerTripNumber	0.00	66.00
tblTripsAndVMT	WorkerTripNumber	5.00	126.00
tblTripsAndVMT	WorkerTripNumber	0.00	126.00
tblTripsAndVMT	WorkerTripNumber	0.00	126.00
tblTripsAndVMT	WorkerTripNumber	0.00	126.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Year	lb/day											lb/day					
2016	0.8911	5.4781	8.3362	0.0101	495.6936	0.3796	496.0732	49.5126	0.3492	49.8618	0.0000	918.1896	918.1896	0.1858	0.0000	922.0910	
2017	0.7451	2.2631	5.9130	8.0500e-003	495.6936	0.1160	495.8096	49.5126	0.1157	49.6283	0.0000	618.5535	618.5535	0.0727	0.0000	620.0807	
2018	1.6459	6.5773	12.3303	0.0175	946.3241	0.3936	946.7177	94.5240	0.3633	94.8873	0.0000	1,437.2461	1,437.2461	0.2649	0.0000	1,442.8087	
Total	3.2821	14.3185	26.5794	0.0357	1,937.7112	0.8893	1,938.6005	193.5491	0.8283	194.3774	0.0000	2,973.9891	2,973.9891	0.5234	0.0000	2,984.9804	

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Year	lb/day											lb/day					
2016	0.4372	1.2230	8.2304	0.0101	495.6936	4.8400e-003	495.6984	49.5126	4.5300e-003	49.5171	0.0000	918.1896	918.1896	0.1858	0.0000	922.0910	
2017	0.3682	1.1700	5.1833	8.0500e-003	495.6936	3.8000e-003	495.6974	49.5126	3.5200e-003	49.5161	0.0000	618.5535	618.5535	0.0727	0.0000	620.0807	
2018	0.6728	2.9577	12.0326	0.0175	946.3241	8.0300e-003	946.3321	94.5240	7.5400e-003	94.5315	0.0000	1,437.2461	1,437.2461	0.2649	0.0000	1,442.8087	
Total	1.4782	5.3506	25.4463	0.0357	1,937.7112	0.0167	1,937.7279	193.5491	0.0156	193.5647	0.0000	2,973.9891	2,973.9891	0.5234	0.0000	2,984.9804	

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	54.96	62.63	4.26	0.00	0.00	98.13	0.05	0.00	98.12	0.42	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	2.2000e-004	2.2000e-004	0.0000			2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.0000e-005	0.0000	1.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.2000e-004	2.2000e-004	0.0000	0.0000	0.0000	2.3000e-004

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	2.2000e-004	2.2000e-004	0.0000			2.3000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.0000e-005	0.0000	1.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.2000e-004	2.2000e-004	0.0000	0.0000	0.0000	2.3000e-004

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading Phase 1 (700 SF Foundation)	Grading	11/1/2016	11/14/2016	5	10	
2	Phase 1 Construction (Pour Foundations)	Building Construction	11/15/2016	11/21/2016	5	5	
3	Phase 1 (Crane to set Equipment)	Building Construction	11/22/2016	11/23/2016	5	2	
4	Phase 1 (Set up Equipment)	Building Construction	11/24/2016	1/31/2017	5	49	
5	Grading Phase 2 (16,000 SF Foundations)	Grading	5/10/2018	5/23/2018	5	10	
6	Phase 2 Construction (Pour Foundations)	Building Construction	5/24/2018	6/6/2018	5	10	
7	Phase 2 (Crane to set Equipment)	Building Construction	6/7/2018	6/13/2018	5	5	
8	Phase 2 (Set up Equipment)	Building Construction	6/14/2018	12/19/2018	5	135	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading Phase 1 (700 SF Foundation)	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Phase 1 Construction (Pour Foundations)	Cement and Mortar Mixers	2	8.00	9	0.56
Phase 1 Construction (Pour Foundations)	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Phase 1 (Crane to set Equipment)	Cranes	1	4.00	226	0.29
Phase 1 (Set up Equipment)	Generator Sets	1	8.00	10	0.74
Phase 1 (Set up Equipment)	Welders	1	5.00	46	0.45
Grading Phase 2 (16,000 SF Foundations)	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Phase 2 Construction (Pour Foundations)	Cement and Mortar Mixers	1	8.00	9	0.56
Phase 2 Construction (Pour Foundations)	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 2 (Crane to set Equipment)	Cranes	1	4.00	226	0.29
Phase 2 (Set up Equipment)	Generator Sets	2	8.00	10	0.74
Phase 2 (Set up Equipment)	Welders	2	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading Phase 1 (700 SF Foundation)	2	66.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1 Construction (Pour Foundations)	3	66.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1 (Crane to set Equipment)	1	66.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1 (Set up Equipment)	2	66.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading Phase 2 (16,000 SF Foundations)	2	126.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 Construction (Pour Foundations)	3	126.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 (Crane to set Equipment)	1	126.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 (Set up Equipment)	4	126.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

3.2 Grading Phase 1 (700 SF Foundation) - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.5109	4.8826	3.6189	4.6700e-003		0.3759	0.3759		0.3459	0.3459		485.5159	485.5159	0.1465		488.5913
Total	0.5109	4.8826	3.6189	4.6700e-003	0.0000	0.3759	0.3759	0.0000	0.3459	0.3459		485.5159	485.5159	0.1465		488.5913

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	
Worker	0.3803	0.5955	4.7173	5.4200e-003	495.6936	3.7000e-003	495.6973	49.5126	3.3900e-003	49.5160			432.6736	432.6736	0.0393		433.4997
Total	0.3803	0.5955	4.7173	5.4200e-003	495.6936	3.7000e-003	495.6973	49.5126	3.3900e-003	49.5160			432.6736	432.6736	0.0393		433.4997

3.2 Grading Phase 1 (700 SF Foundation) - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000	
Off-Road	0.0570	0.2469	3.5131	4.6700e-003		1.1400e-003	1.1400e-003		1.1400e-003	1.1400e-003	0.0000	485.5159	485.5159	0.1465		488.5913	
Total	0.0570	0.2469	3.5131	4.6700e-003	0.0000	1.1400e-003	1.1400e-003	0.0000	1.1400e-003	1.1400e-003	0.0000	485.5159	485.5159	0.1465		488.5913	

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	
Worker	0.3803	0.5955	4.7173	5.4200e-003	495.6936	3.7000e-003	495.6973	49.5126	3.3900e-003	49.5160			432.6736	432.6736	0.0393		433.4997
Total	0.3803	0.5955	4.7173	5.4200e-003	495.6936	3.7000e-003	495.6973	49.5126	3.3900e-003	49.5160			432.6736	432.6736	0.0393		433.4997

3.3 Phase 1 Construction (Pour Foundations) - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	0.4583	3.9934	3.0293	4.5400e-003		0.2803	0.2803		0.2603	0.2603		424.7101	424.7101	0.1081		426.9806	
Total	0.4583	3.9934	3.0293	4.5400e-003		0.2803	0.2803		0.2603	0.2603		424.7101	424.7101	0.1081		426.9806	

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000	
Worker	0.3803	0.5955	4.7173	5.4200e-003	495.6936	3.7000e-003	495.6973	49.5126	3.3900e-003	49.5160		432.6736	432.6736	0.0393		433.4997	
Total	0.3803	0.5955	4.7173	5.4200e-003	495.6936	3.7000e-003	495.6973	49.5126	3.3900e-003	49.5160		432.6736	432.6736	0.0393		433.4997	

3.3 Phase 1 Construction (Pour Foundations) - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	0.0380	0.1646	2.3421	4.5400e-003		7.6000e-004	7.6000e-004		7.6000e-004	7.6000e-004	0.0000	424.7101	424.7101	0.1081		426.9806	
Total	0.0380	0.1646	2.3421	4.5400e-003		7.6000e-004	7.6000e-004		7.6000e-004	7.6000e-004	0.0000	424.7101	424.7101	0.1081		426.9806	

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	
Worker	0.3803	0.5955	4.7173	5.4200e-003	495.6936	3.7000e-003	495.6973	49.5126	3.3900e-003	49.5160		432.6736	432.6736	0.0393		433.4997	
Total	0.3803	0.5955	4.7173	5.4200e-003	495.6936	3.7000e-003	495.6973	49.5126	3.3900e-003	49.5160		432.6736	432.6736	0.0393		433.4997	

3.4 Phase 1 (Crane to set Equipment) - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	0.3600	4.2658	1.4924	2.8200e-003		0.1936	0.1936		0.1781	0.1781		293.1174	293.1174	0.0884		294.9741	
Total	0.3600	4.2658	1.4924	2.8200e-003		0.1936	0.1936		0.1781	0.1781		293.1174	293.1174	0.0884		294.9741	

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000	
Worker	0.3803	0.5955	4.7173	5.4200e-003	495.6936	3.7000e-003	495.6973	49.5126	3.3900e-003	49.5160		432.6736	432.6736	0.0393		433.4997	
Total	0.3803	0.5955	4.7173	5.4200e-003	495.6936	3.7000e-003	495.6973	49.5126	3.3900e-003	49.5160		432.6736	432.6736	0.0393		433.4997	

3.4 Phase 1 (Crane to set Equipment) - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	0.0347	0.1503	1.2715	2.8200e-003		6.9000e-004	6.9000e-004		6.9000e-004	6.9000e-004	0.0000	293.1174	293.1174	0.0884		294.9741	
Total	0.0347	0.1503	1.2715	2.8200e-003		6.9000e-004	6.9000e-004		6.9000e-004	6.9000e-004	0.0000	293.1174	293.1174	0.0884		294.9741	

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000	
Worker	0.3803	0.5955	4.7173	5.4200e-003	495.6936	3.7000e-003	495.6973	49.5126	3.3900e-003	49.5160		432.6736	432.6736	0.0393		433.4997	
Total	0.3803	0.5955	4.7173	5.4200e-003	495.6936	3.7000e-003	495.6973	49.5126	3.3900e-003	49.5160		432.6736	432.6736	0.0393		433.4997	

3.5 Phase 1 (Set up Equipment) - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	0.4454	1.7760	1.7037	2.6400e-003		0.1232	0.1232		0.1232	0.1232		203.8444	203.8444	0.0400		204.6838	
Total	0.4454	1.7760	1.7037	2.6400e-003		0.1232	0.1232		0.1232	0.1232		203.8444	203.8444	0.0400		204.6838	

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000	
Worker	0.3803	0.5955	4.7173	5.4200e-003	495.6936	3.7000e-003	495.6973	49.5126	3.3900e-003	49.5160		432.6736	432.6736	0.0393		433.4997	
Total	0.3803	0.5955	4.7173	5.4200e-003	495.6936	3.7000e-003	495.6973	49.5126	3.3900e-003	49.5160		432.6736	432.6736	0.0393		433.4997	

3.5 Phase 1 (Set up Equipment) - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	0.0274	0.6275	0.9355	2.6400e-003		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004	0.0000	203.8444	203.8444	0.0400		204.6838	
Total	0.0274	0.6275	0.9355	2.6400e-003		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004	0.0000	203.8444	203.8444	0.0400		204.6838	

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	
Worker	0.3803	0.5955	4.7173	5.4200e-003	495.6936	3.7000e-003	495.6973	49.5126	3.3900e-003	49.5160		432.6736	432.6736	0.0393		433.4997	
Total	0.3803	0.5955	4.7173	5.4200e-003	495.6936	3.7000e-003	495.6973	49.5126	3.3900e-003	49.5160		432.6736	432.6736	0.0393		433.4997	

3.5 Phase 1 (Set up Equipment) - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	0.4043	1.7206	1.6652	2.6400e-003		0.1125	0.1125		0.1125	0.1125		203.8444	203.8444	0.0363		204.6064	
Total	0.4043	1.7206	1.6652	2.6400e-003		0.1125	0.1125		0.1125	0.1125		203.8444	203.8444	0.0363		204.6064	

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000	
Worker	0.3408	0.5425	4.2478	5.4100e-003	495.6936	3.5300e-003	495.6971	49.5126	3.2400e-003	49.5158		414.7091	414.7091	0.0364		415.4743	
Total	0.3408	0.5425	4.2478	5.4100e-003	495.6936	3.5300e-003	495.6971	49.5126	3.2400e-003	49.5158		414.7091	414.7091	0.0364		415.4743	

3.5 Phase 1 (Set up Equipment) - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	0.0274	0.6275	0.9355	2.6400e-003		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004	0.0000	203.8444	203.8444	0.0363		204.6064	
Total	0.0274	0.6275	0.9355	2.6400e-003		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004	0.0000	203.8444	203.8444	0.0363		204.6064	

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	
Worker	0.3408	0.5425	4.2478	5.4100e-003	495.6936	3.5300e-003	495.6971	49.5126	3.2400e-003	49.5158		414.7091	414.7091	0.0364		415.4743	
Total	0.3408	0.5425	4.2478	5.4100e-003	495.6936	3.5300e-003	495.6971	49.5126	3.2400e-003	49.5158		414.7091	414.7091	0.0364		415.4743	

3.6 Grading Phase 2 (16,000 SF Foundations) - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.3992	3.9446	3.5051	4.6600e-003		0.2795	0.2795		0.2571	0.2571		469.1639	469.1639	0.1461		472.2311
Total	0.3992	3.9446	3.5051	4.6600e-003	0.0000	0.2795	0.2795	0.0000	0.2571	0.2571		469.1639	469.1639	0.1461		472.2311

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	
Worker	0.5852	0.9497	7.3485	0.0103	946.3241	6.5200e-003	946.3306	94.5240	6.0200e-003	94.5300			761.1779	761.1779	0.0649		762.5407
Total	0.5852	0.9497	7.3485	0.0103	946.3241	6.5200e-003	946.3306	94.5240	6.0200e-003	94.5300			761.1779	761.1779	0.0649		762.5407

3.6 Grading Phase 2 (16,000 SF Foundations) - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000	
Off-Road	0.0570	0.2469	3.5131	4.6600e-003		1.1400e-003	1.1400e-003		1.1400e-003	1.1400e-003	0.0000	469.1639	469.1639	0.1461		472.2311	
Total	0.0570	0.2469	3.5131	4.6600e-003	0.0000	1.1400e-003	1.1400e-003	0.0000	1.1400e-003	1.1400e-003	0.0000	469.1639	469.1639	0.1461		472.2311	

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000	0.0000	0.0000	
Worker	0.5852	0.9497	7.3485	0.0103	946.3241	6.5200e-003	946.3306	94.5240	6.0200e-003	94.5300			761.1779	761.1779	0.0649		762.5407
Total	0.5852	0.9497	7.3485	0.0103	946.3241	6.5200e-003	946.3306	94.5240	6.0200e-003	94.5300			761.1779	761.1779	0.0649		762.5407

3.7 Phase 2 Construction (Pour Foundations) - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	0.5910	5.6276	4.9818	6.9300e-003		0.3871	0.3871		0.3573	0.3573		676.0682	676.0682	0.2000		680.2680	
Total	0.5910	5.6276	4.9818	6.9300e-003		0.3871	0.3871		0.3573	0.3573		676.0682	676.0682	0.2000		680.2680	

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000	
Worker	0.5852	0.9497	7.3485	0.0103	946.3241	6.5200e-003	946.3306	94.5240	6.0200e-003	94.5300		761.1779	761.1779	0.0649		762.5407	
Total	0.5852	0.9497	7.3485	0.0103	946.3241	6.5200e-003	946.3306	94.5240	6.0200e-003	94.5300		761.1779	761.1779	0.0649		762.5407	

3.7 Phase 2 Construction (Pour Foundations) - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	0.0760	0.3292	4.6841	6.9300e-003		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	676.0682	676.0682	0.2000		680.2680	
Total	0.0760	0.3292	4.6841	6.9300e-003		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	676.0682	676.0682	0.2000		680.2680	

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	
Worker	0.5852	0.9497	7.3485	0.0103	946.3241	6.5200e-003	946.3306	94.5240	6.0200e-003	94.5300		761.1779	761.1779	0.0649		762.5407	
Total	0.5852	0.9497	7.3485	0.0103	946.3241	6.5200e-003	946.3306	94.5240	6.0200e-003	94.5300		761.1779	761.1779	0.0649		762.5407	

3.8 Phase 2 (Crane to set Equipment) - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	0.2792	3.3366	1.2336	2.8200e-003		0.1444	0.1444		0.1329	0.1329		284.0154	284.0154	0.0884		285.8722	
Total	0.2792	3.3366	1.2336	2.8200e-003		0.1444	0.1444		0.1329	0.1329		284.0154	284.0154	0.0884		285.8722	

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000	
Worker	0.5852	0.9497	7.3485	0.0103	946.3241	6.5200e-003	946.3306	94.5240	6.0200e-003	94.5300		761.1779	761.1779	0.0649		762.5407	
Total	0.5852	0.9497	7.3485	0.0103	946.3241	6.5200e-003	946.3306	94.5240	6.0200e-003	94.5300		761.1779	761.1779	0.0649		762.5407	

3.8 Phase 2 (Crane to set Equipment) - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	0.0347	0.1503	1.2715	2.8200e-003		6.9000e-004	6.9000e-004		6.9000e-004	6.9000e-004	0.0000	284.0154	284.0154	0.0884		285.8722	
Total	0.0347	0.1503	1.2715	2.8200e-003		6.9000e-004	6.9000e-004		6.9000e-004	6.9000e-004	0.0000	284.0154	284.0154	0.0884		285.8722	

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.5852	0.9497	7.3485	0.0103	946.3241	6.5200e-003	946.3306	94.5240	6.0200e-003	94.5300	761.1779	761.1779	0.0649			762.5407	
Total	0.5852	0.9497	7.3485	0.0103	946.3241	6.5200e-003	946.3306	94.5240	6.0200e-003	94.5300		761.1779	761.1779	0.0649		762.5407	

3.9 Phase 2 (Set up Equipment) - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0607	4.5980	4.6525	7.2000e-003		0.2890	0.2890		0.2890	0.2890	563.2970	563.2970	0.0955			565.3028
Total	1.0607	4.5980	4.6525	7.2000e-003		0.2890	0.2890		0.2890	0.2890	563.2970	563.2970	0.0955			565.3028

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.5852	0.9497	7.3485	0.0103	946.3241	6.5200e-003	946.3306	94.5240	6.0200e-003	94.5300	761.1779	761.1779	0.0649			762.5407	
Total	0.5852	0.9497	7.3485	0.0103	946.3241	6.5200e-003	946.3306	94.5240	6.0200e-003	94.5300		761.1779	761.1779	0.0649			762.5407

3.9 Phase 2 (Set up Equipment) - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Off-Road	0.0876	2.0080	2.9937	7.2000e-003		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004	0.0000	563.2970	563.2970	0.0955		565.3028	
Total	0.0876	2.0080	2.9937	7.2000e-003		8.8000e-004	8.8000e-004		8.8000e-004	8.8000e-004	0.0000	563.2970	563.2970	0.0955		565.3028	

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.5852	0.9497	7.3485	0.0103	946.3241	6.5200e-003	946.3306	94.5240	6.0200e-003	94.5300	761.1779	761.1779	0.0649			762.5407	
Total	0.5852	0.9497	7.3485	0.0103	946.3241	6.5200e-003	946.3306	94.5240	6.0200e-003	94.5300		761.1779	761.1779	0.0649		762.5407	

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day											lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated		Mitigated	
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT	Annual VMT	Annual VMT
User Defined Industrial	0.00	0.00	0.00	-	-	-	-
Total	0.00	0.00	0.00	-	-	-	-

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	16.40	9.50	11.90	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.452392	0.071570	0.166401	0.163397	0.043822	0.005604	0.012812	0.076909	0.001840	0.000151	0.002370	0.000668	0.002066

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Land Use	kBTU/yr	lb/day										lb/day						
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000						

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.0000e-005	0.0000	1.0000e-004	0.0000			0.0000	0.0000		0.0000	0.0000	2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	1.0000e-005	0.0000	1.0000e-004	0.0000			0.0000	0.0000		0.0000	0.0000	2.2000e-004	2.2000e-004	0.0000		2.3000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000						0.0000	0.0000		0.0000	0.0000			0.0000		0.0000
Consumer Products	0.0000						0.0000	0.0000		0.0000	0.0000			0.0000		0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000			0.0000	0.0000		0.0000	0.0000	2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.0000e-004	0.0000			0.0000	0.0000		0.0000	0.0000	2.2000e-004	2.2000e-004	0.0000		2.3000e-004

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000						0.0000	0.0000		0.0000	0.0000			0.0000		0.0000
Consumer Products	0.0000						0.0000	0.0000		0.0000	0.0000			0.0000		0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000			0.0000	0.0000		0.0000	0.0000	2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	1.0000e-005	0.0000	1.0000e-004	0.0000			0.0000	0.0000		0.0000	0.0000	2.2000e-004	2.2000e-004	0.0000		2.3000e-004

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	-----------	-------------	-------------	-----------

10.0 Vegetation

GREENHOUSE GAS SCREENING LETTER

Ldn Consulting, Inc.

12428 Chisolm Trail, Marietta CA 92562

www.ldnconsulting.net

phone 760-473-1253

fax 760-689-4943

September 20, 2016

Ericsson-Grant
418 Parkwood Lane, Suite 200
Encinitas, CA 92024

RE: Campo Verde Battery Storage Facility Greenhouse Gas (GHG) Screening Letter

The purpose of this greenhouse gas screening letter is to identify potential Greenhouse Gas impacts, if any, which may be created from the construction/decommissioning and operation of the proposed that may be created during the construction or operation of the proposed Campo Verde Solar Battery Storage facilities which would be designed to store up to 105 Megawatt hours (MWh) of solar generated power onsite at the Campo Verde Solar Generation facility.

California's investor-owned electric utilities are required to add energy storage to the grid. To help meet this storage mandate, Campo Verde Solar, LLC, wishes to install a utility-scale Battery Energy Storage System on the existing site of the Campo Verde Solar Facility and contract with a customer who will buy the electricity. Campo Verde Solar, LLC wishes to amend CUP 11-0007 to allow for the lithium Ion battery storage system to be located on land previously disturbed and is planned to be constructed in two phases:

- Phase 1- up to 5 MWh to begin commissioning in the fourth quarter of 2016
- Phase 2- up to 100 MWh to begin commissioning by third quarter of 2018.

The battery energy storage system will charge from electricity generated by the Campo Verde Solar Facility and connect to the existing onsite Campo Verde substation, which interconnects to the existing Imperial Valley Substation. The battery energy storage system will be capable of charging off the grid, although at this time, that is not anticipated to occur.

The battery systems are designed to operate seamlessly and automatically within the existing photovoltaic (PV) system architecture. Both phases will be designed to receive, per their program instructions, solar-generated electricity during times of excess generation or times of less desirable generation and store that power for release when the customer deems it to be more valuable. The system thus becomes a valuable tool in allowing the customer and system

operators to manage intermittent renewable generation and convert it into reliable, dispatchable generation.

The post construction operations and maintenance of the Battery Energy Storage Facility will be monitored by existing six operators currently on-site as part of the existing Campo Verde Solar Facility operations. No additional full time staff is anticipated as part of the Battery Energy Storage Facility; however, technicians will be brought in if necessary, thus there is no anticipated new trip generation for the maintenance and project operations.

The State of California Greenhouse Gas laws are based on the "the California Global Warming Solutions Act of 2006" (AB32), requires the California Air Resources Board (CARB) to adopt rules and regulations that would reduce GHG emissions to 1990 levels by 2020 and is outlined by the California Air Resource Board (ARB) (California Air Resource Board, 2014).

As part of AB32 (Section 38562-A), the state board shall adopt greenhouse gas emission limits and emission reduction measures before January 1, 2011 and enforce these measures starting January 1, 2012. Currently, greenhouse gas emission limits for industrial projects such as the proposed project, have not been adopted by the State or Imperial County.

The California Air Pollution Control Officers Association (CAPCOA) published a white paper which suggested screening criteria of 900 metric tons of GHGs (CAPCOA, 2010). Projects creating more than 900 metric tons per year of GHGs generally are considered significant and would require reduction measures from business as usual with a goal of 28.3%. For purposes of this analysis in Imperial County, these screening and reduction thresholds will be utilized. Also, the threshold would be for both construction and operations and any overlap between the two.

Greenhouse Gasses contributed from the proposed project are Carbon Dioxide (CO₂), Methane (CH₄), and Nitrous Oxide (N₂O). For purposes of analysis, both CH₄ and N₂O can be converted to an equivalent amount of CO₂ (CO₂e) by multiplying the calculated levels of CH₄ and N₂O by a Global Warming Potential (GWP). The U.S. Environmental Protection Agency publishes GWPs for various GHGs and reports that the GWP for CH₄ and N₂O is 21 and 310 respectively.

CO₂e emissions generated from the Project would primarily be from construction and to a lesser extent operations. Although, onsite indirect electrical usage emissions from utility providers at night would be expected, the overall project would produce more power than it would use, resulting in a cumulative gain and yielding a netzero footprint. Given this, electrical GHG emissions would not be expected or would be offset to zero for the site. All GHG emissions will be calculated using the California Emissions Estimator Model (CalEEMod 2013.2.2) which has been approved for use within Imperial County.

Project Related Construction Emissions

The Project construction dates are estimated to begin late 2016 for Phase 1 and Phase 2 will be completed in 2018 with the total number of construction days at or around 226 days. Table 1 below shows the expected timeframes for the construction processes as well as the expected number of pieces of equipment to complete the project.

Table 1: Expected Construction Equipment

Equipment Identification	Proposed Start	Proposed Finish	Quantity
Grading Phase 1 (700 SF Foundation)	12/15/2016	1/18/2016	
Tractors/Loaders/Backhoes			2
Phase 1 Construction (Pour Foundations)	12/15/2016	1/18/2016	
Cement and Mortar Mixers			2
Tractors/Loaders/Backhoes			1
Phase 1 (Crane to set Equipment)	1/5/2017	2/6/2017	
Cranes			1
Phase 1 (Set up Equipment)	1/5/2017	2/6/2017	
Generator Sets			1
Welders			1
Grading Phase 2 (16,000 SF Foundations)	5/10/2018	5/23/2018	
Tractors/Loaders/Backhoes			2
Phase 2 Construction (Pour Foundations)	5/24/2018	6/6/2018	
Cement and Mortar Mixers			1
Tractors/Loaders/Backhoes			2
Phase 2 (Crane to set Equipment)	6/7/2018	6/13/2018	
Cranes			1
Phase 2 (Set up Equipment)	5/24/2018	12/19/2018	
Generator Sets			2
Welders			2
This equipment list is based upon equipment inventory within CALLEEMOD 2013.2.2. The quantity and types are based upon discussions with the project applicant.			

LDN utilized the CalEEMod CO₂ annual outputs estimated for the construction years over the life of the project (2016 – 2018). The emissions in emissions as calculated in CalEEMod are reported in Metric Tons and are shown in Table 2 and can be seen as Attachment A to this letter.

Table 2: Expected Construction Emissions Summary MT/Year

Year	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
2016	0.00	15.06	15.06	0.00	0.00	15.11
2017	0.00	6.41	6.41	0.00	0.00	6.43
2018	0.00	98.77	98.77	0.01	0.00	99.03
Expected Construction emissions are based upon CalEEMod modeling assumptions for equipment listed in Table 1 above.						

Project Related Operational Emissions

As previously discussed, electrical energy usage from utility providers at night would be expected, the overall project would produce more power than it would use, resulting in a cumulative gain and yielding a netzero footprint. Furthermore, since the project was designed to have minimal onsite oversite, very few vehicular trips will be required to operate the site. In the event of a problem or alarm, a technician would drive to the site to repair the problem. It was assumed that an average daily trip generation of two (2) trips would be worst case. Since the model inputs are so small GHG emissions were calculated to be nearly zero which can be seen in Attachment A to this letter.

Based upon the findings for the proposed project, neither construction activities nor operational activities would generate yearly GHG emissions in excess of the 900 Metric ton screening threshold. Therefore, no impacts would be expected. If you have any questions, please do not hesitate to contact me directly at (760) 473-1253.

Sincerely, Ldn Consulting

Jeremy Louden, Principal

References:

- California Air Resource Board. (2014, August 5). *Assembly Bill 32 Overview*. Retrieved 2016, from <http://www.arb.ca.gov/>: <http://www.arb.ca.gov/cc/ab32/ab32.htm>
- CAPCOA. (2010). *www.CAPCOA.ORG*. Retrieved 2016, from <http://capcoa.org/wp-content/uploads/downloads/2010/05/CAPCOA-White-Paper.pdf>

Attachment A: CalEEMod Model Results

Campo Verde Battery Storage Project

Imperial County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	0.50	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	3.4	Precipitation Freq (Days)	12
Climate Zone	15			Operational Year	2018
Utility Company	Imperial Irrigation District				
CO2 Intensity (lb/MWhr)	1270.9	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project site area is less than 0.5 acres

Construction Phase - Construction Schedule

Off-road Equipment -

Off-road Equipment - CE

Off-road Equipment -

Off-road Equipment - CE

Off-road Equipment - CE

Off-road Equipment -

Off-road Equipment - ce

Off-road Equipment - ce

Trips and VMT - Worst Case Trips assumed every day

Grading - .5 acres

Vehicle Trips - no more than 2 trips per day

Construction Off-road Equipment Mitigation - mitigation

On-road Fugitive Dust - Project roadways were assumed to be 99% paved and 1% dirt

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	100.00	5.00
tblConstructionPhase	NumDays	100.00	2.00
tblConstructionPhase	NumDays	100.00	49.00
tblConstructionPhase	NumDays	100.00	10.00
tblConstructionPhase	NumDays	100.00	5.00
tblConstructionPhase	NumDays	100.00	135.00
tblConstructionPhase	NumDays	2.00	10.00
tblConstructionPhase	NumDays	2.00	10.00
tblConstructionPhase	PhaseEndDate	2/14/2017	5/23/2018
tblConstructionPhase	PhaseStartDate	2/1/2017	5/10/2018
tblLandUse	LotAcreage	0.00	0.50
tblOffRoadEquipment	HorsePower	84.00	10.00
tblOffRoadEquipment	HorsePower	84.00	10.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOnRoadDust	HaulingPercentPave	50.00	99.00
tblOnRoadDust	HaulingPercentPave	50.00	99.00
tblOnRoadDust	HaulingPercentPave	50.00	99.00
tblOnRoadDust	HaulingPercentPave	50.00	99.00
tblOnRoadDust	HaulingPercentPave	50.00	99.00
tblOnRoadDust	HaulingPercentPave	50.00	99.00
tblOnRoadDust	HaulingPercentPave	50.00	99.00
tblOnRoadDust	VendorPercentPave	50.00	99.00

tblOnRoadDust	VendorPercentPave	50.00	99.00
tblOnRoadDust	VendorPercentPave	50.00	99.00
tblOnRoadDust	VendorPercentPave	50.00	99.00
tblOnRoadDust	VendorPercentPave	50.00	99.00
tblOnRoadDust	VendorPercentPave	50.00	99.00
tblOnRoadDust	VendorPercentPave	50.00	99.00
tblOnRoadDust	VendorPercentPave	50.00	99.00
tblOnRoadDust	WorkerPercentPave	50.00	99.00
tblOnRoadDust	WorkerPercentPave	50.00	99.00
tblOnRoadDust	WorkerPercentPave	50.00	99.00
tblOnRoadDust	WorkerPercentPave	50.00	99.00
tblOnRoadDust	WorkerPercentPave	50.00	99.00
tblOnRoadDust	WorkerPercentPave	50.00	99.00
tblOnRoadDust	WorkerPercentPave	50.00	99.00
tblProjectCharacteristics	OperationalYear	2014	2018
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	WorkerTripNumber	5.00	66.00
tblTripsAndVMT	WorkerTripNumber	0.00	66.00
tblTripsAndVMT	WorkerTripNumber	0.00	66.00
tblTripsAndVMT	WorkerTripNumber	0.00	66.00
tblTripsAndVMT	WorkerTripNumber	5.00	126.00
tblTripsAndVMT	WorkerTripNumber	0.00	126.00
tblTripsAndVMT	WorkerTripNumber	0.00	126.00
tblTripsAndVMT	WorkerTripNumber	0.00	126.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	0.0191	0.0753	0.1612	2.0000e-004	0.2219	4.5200e-003	0.2264	0.0240	4.3000e-003	0.0283	0.0000	15.0609	15.0609	2.2600e-003	0.0000	15.1085
2017	8.5100e-003	0.0247	0.0684	9.0000e-005	0.1110	1.2800e-003	0.1122	0.0120	1.2700e-003	0.0133	0.0000	6.4118	6.4118	7.3000e-004	0.0000	6.4270
2018	0.1281	0.4403	0.9915	1.4300e-003	1.5405	0.0237	1.5642	0.1665	0.0234	0.1899	0.0000	98.7744	98.7744	0.0123	0.0000	99.0333
Total	0.1557	0.5403	1.2211	1.7200e-003	1.8733	0.0295	1.9028	0.2024	0.0290	0.2314	0.0000	120.2472	120.2472	0.0153	0.0000	120.5689

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2016	9.8200e-003	0.0230	0.1484	2.0000e-004	0.2219	9.0000e-005	0.2220	0.0240	9.0000e-005	0.0241	0.0000	15.0609	15.0609	2.2600e-003	0.0000	15.1085
2017	4.3600e-003	0.0127	0.0604	9.0000e-005	0.1110	4.0000e-005	0.1110	0.0120	4.0000e-005	0.0120	0.0000	6.4118	6.4118	7.3000e-004	0.0000	6.4270
2018	0.0575	0.2125	0.8782	1.4300e-003	1.5405	6.0000e-004	1.5411	0.1665	5.6000e-004	0.1670	0.0000	98.7744	98.7744	0.0123	0.0000	99.0333
Total	0.0716	0.2482	1.0869	1.7200e-003	1.8733	7.3000e-004	1.8740	0.2024	6.9000e-004	0.2031	0.0000	120.2471	120.2471	0.0153	0.0000	120.5688

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	53.98	54.07	10.99	0.00	0.00	97.53	1.51	0.00	97.62	12.22	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000			0.0000	0.0000		0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste							0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water							0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Area	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005	
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Total	0.0000	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005	

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading Phase 1 (700 SF Foundation)	Grading	11/1/2016	11/14/2016	5	10	
2	Phase 1 Construction (Pour Foundations)	Building Construction	11/15/2016	11/21/2016	5	5	
3	Phase 1 (Crane to set Equipment)	Building Construction	11/22/2016	11/23/2016	5	2	
4	Phase 1 (Set up Equipment)	Building Construction	11/24/2016	1/31/2017	5	49	
5	Grading Phase 2 (16,000 SF Foundations)	Grading	5/10/2018	5/23/2018	5	10	
6	Phase 2 Construction (Pour Foundations)	Building Construction	5/24/2018	6/6/2018	5	10	
7	Phase 2 (Crane to set Equipment)	Building Construction	6/7/2018	6/13/2018	5	5	
8	Phase 2 (Set up Equipment)	Building Construction	6/14/2018	12/19/2018	5	135	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading Phase 1 (700 SF Foundation)	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Phase 1 Construction (Pour Foundations)	Cement and Mortar Mixers	2	8.00	9	0.56
Phase 1 Construction (Pour Foundations)	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Phase 1 (Crane to set Equipment)	Cranes	1	4.00	226	0.29
Phase 1 (Set up Equipment)	Generator Sets	1	8.00	10	0.74
Phase 1 (Set up Equipment)	Welders	1	5.00	46	0.45
Grading Phase 2 (16,000 SF Foundations)	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Phase 2 Construction (Pour Foundations)	Cement and Mortar Mixers	1	8.00	9	0.56
Phase 2 Construction (Pour Foundations)	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase 2 (Crane to set Equipment)	Cranes	1	4.00	226	0.29
Phase 2 (Set up Equipment)	Generator Sets	2	8.00	10	0.74
Phase 2 (Set up Equipment)	Welders	2	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading Phase 1 (700 SF Foundation)	2	66.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1 Construction (Pour Foundations)	3	66.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1 (Crane to set Equipment)	1	66.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1 (Set up Equipment)	2	66.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading Phase 2 (16,000 SF Foundations)	2	126.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 Construction (Pour Foundations)	3	126.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 (Crane to set Equipment)	1	126.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 (Set up Equipment)	4	126.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

3.2 Grading Phase 1 (700 SF Foundation) - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.5500e-003	0.0244	0.0181	2.0000e-005		1.8800e-003	1.8800e-003		1.7300e-003	1.7300e-003	0.0000	2.2023	2.2023	6.6000e-004	0.0000	2.2162
Total	2.5500e-003	0.0244	0.0181	2.0000e-005	0.0000	1.8800e-003	1.8800e-003	0.0000	1.7300e-003	1.7300e-003	0.0000	2.2023	2.2023	6.6000e-004	0.0000	2.2162

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0500e-003	2.8800e-003	0.0252	3.0000e-005	0.0504	2.0000e-005	0.0505	5.4500e-003	2.0000e-005	5.4700e-003	0.0000	2.0757	2.0757	1.8000e-004	0.0000	2.0794
Total	2.0500e-003	2.8800e-003	0.0252	3.0000e-005	0.0504	2.0000e-005	0.0505	5.4500e-003	2.0000e-005	5.4700e-003	0.0000	2.0757	2.0757	1.8000e-004	0.0000	2.0794

3.2 Grading Phase 1 (700 SF Foundation) - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Off-Road	2.8000e-004	1.2300e-003	0.0176	2.0000e-005		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.2023	2.2023	6.6000e-004	0.0000	2.2162	
Total	2.8000e-004	1.2300e-003	0.0176	2.0000e-005	0.0000	1.0000e-005	1.0000e-005	0.0000	1.0000e-005	1.0000e-005	0.0000	2.2023	2.2023	6.6000e-004	0.0000	2.2162	

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	2.0500e-003	2.8800e-003	0.0252	3.0000e-005	0.0504	2.0000e-005	0.0505	5.4500e-003	2.0000e-005	5.4700e-003	0.0000	2.0757	2.0757	1.8000e-004	0.0000	2.0794	
Total	2.0500e-003	2.8800e-003	0.0252	3.0000e-005	0.0504	2.0000e-005	0.0505	5.4500e-003	2.0000e-005	5.4700e-003	0.0000	2.0757	2.0757	1.8000e-004	0.0000	2.0794	

3.3 Phase 1 Construction (Pour Foundations) - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Off-Road	1.1500e-003	9.9800e-003	7.5700e-003	1.0000e-005		7.0000e-004	7.0000e-004		6.5000e-004	6.5000e-004	0.0000	0.9632	0.9632	2.5000e-004	0.0000	0.9684	
Total	1.1500e-003	9.9800e-003	7.5700e-003	1.0000e-005		7.0000e-004	7.0000e-004		6.5000e-004	6.5000e-004	0.0000	0.9632	0.9632	2.5000e-004	0.0000	0.9684	

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	1.0300e-003	1.4400e-003	0.0126	1.0000e-005	0.0252	1.0000e-005	0.0252	2.7200e-003	1.0000e-005	2.7300e-003	0.0000	1.0379	1.0379	9.0000e-005	0.0000	1.0397	
Total	1.0300e-003	1.4400e-003	0.0126	1.0000e-005	0.0252	1.0000e-005	0.0252	2.7200e-003	1.0000e-005	2.7300e-003	0.0000	1.0379	1.0379	9.0000e-005	0.0000	1.0397	

3.3 Phase 1 Construction (Pour Foundations) - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr												MT/yr			
Off-Road	9.0000e-005	4.1000e-004	5.8600e-003	1.0000e-005			0.0000	0.0000		0.0000	0.0000	0.9632	0.9632	2.5000e-004	0.0000	0.9684
Total	9.0000e-005	4.1000e-004	5.8600e-003	1.0000e-005			0.0000	0.0000		0.0000	0.0000	0.9632	0.9632	2.5000e-004	0.0000	0.9684

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr												MT/yr			
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0300e-003	1.4400e-003	0.0126	1.0000e-005	0.0252	1.0000e-005	0.0252	2.7200e-003	1.0000e-005	2.7300e-003	0.0000	1.0379	1.0379	9.0000e-005	0.0000	1.0397
Total	1.0300e-003	1.4400e-003	0.0126	1.0000e-005	0.0252	1.0000e-005	0.0252	2.7200e-003	1.0000e-005	2.7300e-003	0.0000	1.0379	1.0379	9.0000e-005	0.0000	1.0397

3.4 Phase 1 (Crane to set Equipment) - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Off-Road	3.6000e-004	4.2700e-003	1.4900e-003	0.0000		1.9000e-004	1.9000e-004		1.8000e-004	1.8000e-004	0.0000	0.2659	0.2659	8.0000e-005	0.0000	0.2676	
Total	3.6000e-004	4.2700e-003	1.4900e-003	0.0000		1.9000e-004	1.9000e-004		1.8000e-004	1.8000e-004	0.0000	0.2659	0.2659	8.0000e-005	0.0000	0.2676	

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	4.1000e-004	5.8000e-004	5.0500e-003	1.0000e-005	0.0101	0.0000	0.0101	1.0900e-003	0.0000	1.0900e-003	0.0000	0.4151	0.4151	4.0000e-005	0.0000	0.4159	
Total	4.1000e-004	5.8000e-004	5.0500e-003	1.0000e-005	0.0101	0.0000	0.0101	1.0900e-003	0.0000	1.0900e-003	0.0000	0.4151	0.4151	4.0000e-005	0.0000	0.4159	

3.4 Phase 1 (Crane to set Equipment) - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Off-Road	3.0000e-005	1.5000e-004	1.2700e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.2659	0.2659	8.0000e-005	0.0000	0.2676	
Total	3.0000e-005	1.5000e-004	1.2700e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.2659	0.2659	8.0000e-005	0.0000	0.2676	

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	4.1000e-004	5.8000e-004	5.0500e-003	1.0000e-005	0.0101	0.0000	0.0101	1.0900e-003	0.0000	1.0900e-003	0.0000	0.4151	0.4151	4.0000e-005	0.0000	0.4159	
Total	4.1000e-004	5.8000e-004	5.0500e-003	1.0000e-005	0.0101	0.0000	0.0101	1.0900e-003	0.0000	1.0900e-003	0.0000	0.4151	0.4151	4.0000e-005	0.0000	0.4159	

3.5 Phase 1 (Set up Equipment) - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Off-Road	6.0100e-003	0.0240	0.0230	4.0000e-005		1.6600e-003	1.6600e-003		1.6600e-003	1.6600e-003	0.0000	2.4965	2.4965	4.9000e-004	0.0000	2.5068	
Total	6.0100e-003	0.0240	0.0230	4.0000e-005		1.6600e-003	1.6600e-003		1.6600e-003	1.6600e-003	0.0000	2.4965	2.4965	4.9000e-004	0.0000	2.5068	

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	5.5400e-003	7.7900e-003	0.0682	8.0000e-005	0.1362	5.0000e-005	0.1362	0.0147	5.0000e-005	0.0148	0.0000	5.6044	5.6044	4.8000e-004	0.0000	5.6145	
Total	5.5400e-003	7.7900e-003	0.0682	8.0000e-005	0.1362	5.0000e-005	0.1362	0.0147	5.0000e-005	0.0148	0.0000	5.6044	5.6044	4.8000e-004	0.0000	5.6145	

3.5 Phase 1 (Set up Equipment) - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Off-Road	3.7000e-004	8.4700e-003	0.0126	4.0000e-005		0.0000	0.0000		0.0000	0.0000	0.0000	2.4965	2.4965	4.9000e-004	0.0000	2.5068	
Total	3.7000e-004	8.4700e-003	0.0126	4.0000e-005		0.0000	0.0000		0.0000	0.0000	0.0000	2.4965	2.4965	4.9000e-004	0.0000	2.5068	

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	5.5400e-003	7.7900e-003	0.0682	8.0000e-005	0.1362	5.0000e-005	0.1362	0.0147	5.0000e-005	0.0148	0.0000	5.6044	5.6044	4.8000e-004	0.0000	5.6145	
Total	5.5400e-003	7.7900e-003	0.0682	8.0000e-005	0.1362	5.0000e-005	0.1362	0.0147	5.0000e-005	0.0148	0.0000	5.6044	5.6044	4.8000e-004	0.0000	5.6145	

3.5 Phase 1 (Set up Equipment) - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Off-Road	4.4500e-003	0.0189	0.0183	3.0000e-005		1.2400e-003	1.2400e-003		1.2400e-003	1.2400e-003	0.0000	2.0342	2.0342	3.6000e-004	0.0000	2.0418	
Total	4.4500e-003	0.0189	0.0183	3.0000e-005		1.2400e-003	1.2400e-003		1.2400e-003	1.2400e-003	0.0000	2.0342	2.0342	3.6000e-004	0.0000	2.0418	

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	4.0600e-003	5.7900e-003	0.0501	6.0000e-005	0.1110	4.0000e-005	0.1110	0.0120	4.0000e-005	0.0120	0.0000	4.3776	4.3776	3.6000e-004	0.0000	4.3853	
Total	4.0600e-003	5.7900e-003	0.0501	6.0000e-005	0.1110	4.0000e-005	0.1110	0.0120	4.0000e-005	0.0120	0.0000	4.3776	4.3776	3.6000e-004	0.0000	4.3853	

3.5 Phase 1 (Set up Equipment) - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr															MT/yr	
Off-Road	3.0000e-004	6.9000e-003	0.0103	3.0000e-005		0.0000	0.0000		0.0000	0.0000	0.0000	2.0342	2.0342	3.6000e-004	0.0000	2.0418	
Total	3.0000e-004	6.9000e-003	0.0103	3.0000e-005		0.0000	0.0000		0.0000	0.0000	0.0000	2.0342	2.0342	3.6000e-004	0.0000	2.0418	

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr															MT/yr	
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	4.0600e-003	5.7900e-003	0.0501	6.0000e-005	0.1110	4.0000e-005	0.1110	0.0120	4.0000e-005	0.0120	0.0000	4.3776	4.3776	3.6000e-004	0.0000	4.3853	
Total	4.0600e-003	5.7900e-003	0.0501	6.0000e-005	0.1110	4.0000e-005	0.1110	0.0120	4.0000e-005	0.0120	0.0000	4.3776	4.3776	3.6000e-004	0.0000	4.3853	

3.6 Grading Phase 2 (16,000 SF Foundations) - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Off-Road	2.0000e-003	0.0197	0.0175	2.0000e-005		1.4000e-003	1.4000e-003		1.2900e-003	1.2900e-003	0.0000	2.1281	2.1281	6.6000e-004	0.0000	2.1420	
Total	2.0000e-003	0.0197	0.0175	2.0000e-005	0.0000	1.4000e-003	1.4000e-003	0.0000	1.2900e-003	1.2900e-003	0.0000	2.1281	2.1281	6.6000e-004	0.0000	2.1420	

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	3.1700e-003	4.6100e-003	0.0395	5.0000e-005	0.0963	3.0000e-005	0.0963	0.0104	3.0000e-005	0.0104	0.0000	3.6526	3.6526	2.9000e-004	0.0000	3.6588	
Total	3.1700e-003	4.6100e-003	0.0395	5.0000e-005	0.0963	3.0000e-005	0.0963	0.0104	3.0000e-005	0.0104	0.0000	3.6526	3.6526	2.9000e-004	0.0000	3.6588	

3.6 Grading Phase 2 (16,000 SF Foundations) - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Off-Road	2.8000e-004	1.2300e-003	0.0176	2.0000e-005		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.1281	2.1281	6.6000e-004	0.0000	2.1420	
Total	2.8000e-004	1.2300e-003	0.0176	2.0000e-005	0.0000	1.0000e-005	1.0000e-005	0.0000	1.0000e-005	1.0000e-005	0.0000	2.1281	2.1281	6.6000e-004	0.0000	2.1420	

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	3.1700e-003	4.6100e-003	0.0395	5.0000e-005	0.0963	3.0000e-005	0.0963	0.0104	3.0000e-005	0.0104	0.0000	3.6526	3.6526	2.9000e-004	0.0000	3.6588	
Total	3.1700e-003	4.6100e-003	0.0395	5.0000e-005	0.0963	3.0000e-005	0.0963	0.0104	3.0000e-005	0.0104	0.0000	3.6526	3.6526	2.9000e-004	0.0000	3.6588	

3.7 Phase 2 Construction (Pour Foundations) - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Off-Road	2.9500e-003	0.0281	0.0249	3.0000e-005		1.9400e-003	1.9400e-003		1.7900e-003	1.7900e-003	0.0000	3.0666	3.0666	9.1000e-004	0.0000	3.0856	
Total	2.9500e-003	0.0281	0.0249	3.0000e-005		1.9400e-003	1.9400e-003		1.7900e-003	1.7900e-003	0.0000	3.0666	3.0666	9.1000e-004	0.0000	3.0856	

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	3.1700e-003	4.6100e-003	0.0395	5.0000e-005	0.0963	3.0000e-005	0.0963	0.0104	3.0000e-005	0.0104	0.0000	3.6526	3.6526	2.9000e-004	0.0000	3.6588	
Total	3.1700e-003	4.6100e-003	0.0395	5.0000e-005	0.0963	3.0000e-005	0.0963	0.0104	3.0000e-005	0.0104	0.0000	3.6526	3.6526	2.9000e-004	0.0000	3.6588	

3.7 Phase 2 Construction (Pour Foundations) - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Off-Road	3.8000e-004	1.6500e-003	0.0234	3.0000e-005		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.0666	3.0666	9.1000e-004	0.0000	3.0856	
Total	3.8000e-004	1.6500e-003	0.0234	3.0000e-005		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.0666	3.0666	9.1000e-004	0.0000	3.0856	

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	3.1700e-003	4.6100e-003	0.0395	5.0000e-005	0.0963	3.0000e-005	0.0963	0.0104	3.0000e-005	0.0104	0.0000	3.6526	3.6526	2.9000e-004	0.0000	3.6588	
Total	3.1700e-003	4.6100e-003	0.0395	5.0000e-005	0.0963	3.0000e-005	0.0963	0.0104	3.0000e-005	0.0104	0.0000	3.6526	3.6526	2.9000e-004	0.0000	3.6588	

3.8 Phase 2 (Crane to set Equipment) - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.0000e-004	8.3400e-003	3.0800e-003	1.0000e-005		3.6000e-004	3.6000e-004		3.3000e-004	3.3000e-004	0.0000	0.6441	0.6441	2.0000e-004	0.0000	0.6484
Total	7.0000e-004	8.3400e-003	3.0800e-003	1.0000e-005		3.6000e-004	3.6000e-004		3.3000e-004	3.3000e-004	0.0000	0.6441	0.6441	2.0000e-004	0.0000	0.6484

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5900e-003	2.3000e-003	0.0198	3.0000e-005	0.0481	2.0000e-005	0.0482	5.2000e-003	2.0000e-005	5.2200e-003	0.0000	1.8263	1.8263	1.5000e-004	0.0000	1.8294
Total	1.5900e-003	2.3000e-003	0.0198	3.0000e-005	0.0481	2.0000e-005	0.0482	5.2000e-003	2.0000e-005	5.2200e-003	0.0000	1.8263	1.8263	1.5000e-004	0.0000	1.8294

3.8 Phase 2 (Crane to set Equipment) - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Off-Road	9.0000e-005	3.8000e-004	3.1800e-003	1.0000e-005			0.0000	0.0000		0.0000	0.0000	0.6441	0.6441	2.0000e-004	0.0000	0.6484	
Total	9.0000e-005	3.8000e-004	3.1800e-003	1.0000e-005			0.0000	0.0000		0.0000	0.0000	0.6441	0.6441	2.0000e-004	0.0000	0.6484	

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	1.5900e-003	2.3000e-003	0.0198	3.0000e-005	0.0481	2.0000e-005	0.0482	5.2000e-003	2.0000e-005	5.2200e-003	0.0000	1.8263	1.8263	1.5000e-004	0.0000	1.8294	
Total	1.5900e-003	2.3000e-003	0.0198	3.0000e-005	0.0481	2.0000e-005	0.0482	5.2000e-003	2.0000e-005	5.2200e-003	0.0000	1.8263	1.8263	1.5000e-004	0.0000	1.8294	

3.9 Phase 2 (Set up Equipment) - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Off-Road	0.0716	0.3104	0.3140	4.9000e-004		0.0195	0.0195		0.0195	0.0195	0.0000	34.4935	34.4935	5.8500e-003	0.0000	34.6163	
Total	0.0716	0.3104	0.3140	4.9000e-004		0.0195	0.0195		0.0195	0.0195	0.0000	34.4935	34.4935	5.8500e-003	0.0000	34.6163	

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0429	0.0622	0.5332	7.4000e-004	1.2998	4.4000e-004	1.3002	0.1405	4.1000e-004	0.1409	0.0000	49.3106	49.3106	3.9700e-003	0.0000	49.3940	
Total	0.0429	0.0622	0.5332	7.4000e-004	1.2998	4.4000e-004	1.3002	0.1405	4.1000e-004	0.1409	0.0000	49.3106	49.3106	3.9700e-003	0.0000	49.3940	

3.9 Phase 2 (Set up Equipment) - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Off-Road	5.9100e-003	0.1355	0.2021	4.9000e-004		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	34.4934	34.4934	5.8500e-003	0.0000	34.6163	
Total	5.9100e-003	0.1355	0.2021	4.9000e-004		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	34.4934	34.4934	5.8500e-003	0.0000	34.6163	

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0429	0.0622	0.5332	7.4000e-004	1.2998	4.4000e-004	1.3002	0.1405	4.1000e-004	0.1409	0.0000	49.3106	49.3106	3.9700e-003	0.0000	49.3940	
Total	0.0429	0.0622	0.5332	7.4000e-004	1.2998	4.4000e-004	1.3002	0.1405	4.1000e-004	0.1409	0.0000	49.3106	49.3106	3.9700e-003	0.0000	49.3940	

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr											MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	

4.2 Trip Summary Information

		Average Daily Trip Rate			Unmitigated		Mitigated	
Land Use		Weekday	Saturday	Sunday	Annual VMT		Annual VMT	
User Defined Industrial		0.00	0.00	0.00				
Total		0.00	0.00	0.00				

4.3 Trip Type Information

		Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by	
User Defined Industrial	16.40	9.50	11.90	0.00	0.00	0.00	0	0	0	

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.452392	0.071570	0.166401	0.163397	0.043822	0.005604	0.012812	0.076909	0.001840	0.000151	0.002370	0.000668	0.002066

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

5.2 Energy by Land Use - NaturalGas

Unmitigated

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Land Use	kBTU/yr	tons/yr											MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Total		0.0000	0.0000	0.0000	0.0000			0.0000	0.0000		0.0000							

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	1.0000e-005	0.0000			0.0000	0.0000		0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	0.0000	0.0000	1.0000e-005	0.0000			0.0000	0.0000		0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Out door Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Mitigated

	Indoor/Out door Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined	0 / 0	0.0000	0.0000	0.0000	0.0000
Industrial					
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	-----------	-------------	-------------	-----------

10.0 Vegetation
