APPENDIX D

AIR QUALITY AND GREENHOUSE GAS ANALYSIS

RECON

Air Quality and Greenhouse Gas Analysis for the Drew Solar Project, Imperial County, California

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ATTACHMENT

Acronyms

°F	degrees Fahrenheit
AB	Assembly Bill
APCD	Air Pollution Control District
APN	Assessor's Parcel Number
AQMD	Air Quality Monitoring District
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAISO	California Independent Service Operator
CalEEMod	California Emissions Estimator Model
CalGreen	California Green Building Standards Code
CARB	California Air Resources Board
CBC	California Building Code
CCAA	California Clean Air Act
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CH_4	methane
CO	carbon monoxide
CO_2	carbon dioxide
CO_2E	carbon dioxide equivalent
County	County of Imperial
DPM	diesel-exhaust particulate matter
Drew Switchyard	San Diego Gas & Electric's Drew Switchyard
EO	Executive Order
GHG	greenhouse gas
GWP	Global Warming Potential
IID	Imperial Irrigation District
ITE	Institute of Transportation Engineers
LOS	Level of Service
MMT	million metric ton
mph	miles per hour
MPO	Metropolitan Planning Organization
MT	metric ton
MW	megawatt
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NHTSA	National Highway Traffic Safety Administration
NO_2	nitrogen dioxide
NO_x	oxides of nitrogen
O&M	operations and maintenance
Pb	lead
PM_{10}	particulate matter less than 10 microns in diameter
$PM_{2.5}$	Particulate matter less than 2.5 microns in diameter
project	Drew Solar Project
PV	photovoltaic
ROC	reactive organic compounds

ROG	reactive organic gases
RPS	Renewable Portfolio Standard
RTP	Regional Transportation Plan
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCS	Sustainable Communities Strategy
SIP	State Implementation Plan
SO_2	sulfur dioxide
SOx	oxides of sulfur
SR-98	State Route 98
TAC	toxic air contaminant
U.S. EPA	U.S. Environmental Protection Agency
USC	United States Code
VOC	volatile organic compounds

Executive Summary

This report provides the results of the air quality and greenhouse gas (GHG) emissions analysis performed for the proposed Drew Solar Project (project) in Imperial County, California. The project would involve construction of an approximately 100-megawatt (MW) alternating current solar generation facility, which may include energy storage facilities on an 844.2-gross-acre (855-gross acre after the project's Parcel Map is recorded) and 762.8-net-farmable-acre site. The project site is bounded by Kubler Road to the north, Westside Main and Wormwood Canals to the west, State Route 98 (SR-98) to the south, and Pulliam Road to the east.

This analysis evaluates the significance of the proposed project in accordance with the California Environmental Quality Act and guidance from the Imperial County Air Pollution Control District (Imperial County APCD). The project was evaluated to determine if it would (1) conflict with applicable air quality plans, (2) violate ambient air quality standards, (3) result in cumulative impacts to air quality, (4) impact sensitive receptors, (5) expose a substantial number of people to objectionable odors, (6) significantly contribute to cumulative statewide GHG emissions, and (7) conflict with regulations, plans, and policies aimed at reducing GHG emissions. Project emissions were calculated using the California Emissions Estimator Model Version 2016.3.2.

A significant air quality impact would occur if the project conflicted with the Imperial County APCD's ozone and particulate matter air quality plans. Based on the project vehicle trip generation and associated air pollutant emission calculations, the project air pollutant emissions would be accounted for in regional growth projections and the air quality plan emission forecasts. As such, impacts would be considered less than significant.

A significant air quality impact would occur if construction or operation of the project contributed to an air quality violation. Construction- and operation-related emissions would be less than all applicable significance thresholds. Impacts associated with attainment of air quality standards would be less than significant.

A significant air quality impact would occur if the project resulted in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment. The project site is in a non-attainment area for ozone, particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}), and particulate matter with an aerodynamic diameter of 2.5 microns or less ($PM_{2.5}$) emissions. Project ozone precursor, PM_{10}, and $PM_{2.5}$ emissions would be less than applicable significance thresholds. Thus, the project would not result in a cumulatively considerable net increase of ozone precursors or particulate matter emissions. Impacts would be less than significant.

A significant air quality impact would occur if the project exposed sensitive receptors to substantial pollutant concentration including air toxics. Sensitive receptors in the vicinity of the project site include a single-family residence immediately west of the intersection of Drew Road and SR-98 and another single-family residence northwest of the intersection of

Kubler Road and Pulliam Road. The project would result in the generation of diesel-exhaust particulate matter (DPM) during construction and mobile-source carbon monoxide (CO) during operation. Due to the limited intensity of construction, DPM generated by project construction activities is not expected to create conditions where the incremental cancer risk exceeds the Imperial County APCD's ten in one million significance threshold; thus impacts from DPM exposure would be less than significant. Due to the limited traffic generated by the project, the project would not substantially contribute to elevated CO concentrations; impacts from mobile-source CO emissions would be less than significant. The components of solar generation facilities, including the proposed storage and transmission components, are not known to result in substantial air toxic emissions. Localized air quality impacts from project operations would be less than significant.

Project construction would result in temporary odors associated with diesel exhaust. Odors generated from construction would be temporary and intermittent, and would largely dissipate at short distances from the source. Solar generation facilities, including the proposed storage and transmission components, are not known to emit odors during operation. Thus, the project would not create objectionable odors affecting a substantial number of people. Impacts would be less than significant.

No GHG emission significance threshold has been adopted by the Imperial County APCD. Project GHG emissions were evaluated against the South Coast Air Quality Management District (South Coast AQMD) screening level of 3,000 equivalent metric tons of carbon dioxide (MT CO_2E). The project's combined gross construction, operational, and decommissioning emissions would be 366 MT CO_2E in 2020; accounting for the GHG emissions offset by the renewable energy generation of the solar generation facility, the project would result in a 73,829 MT CO_2E reduction in 2020. The project's gross annual GHG emissions and the GHG emissions offset by the renewable energy generation of the solar generation facility would gradually decline as a result of federal, state, and local implementation measures. As emissions do not exceed the South Coast AQMD's screening threshold, the project would not result in a cumulatively considerable impact to GHG emissions and would not conflict with the state GHG reduction targets. Impacts would be less than significant.

1.0 Introduction

1.1 Purpose of the Report

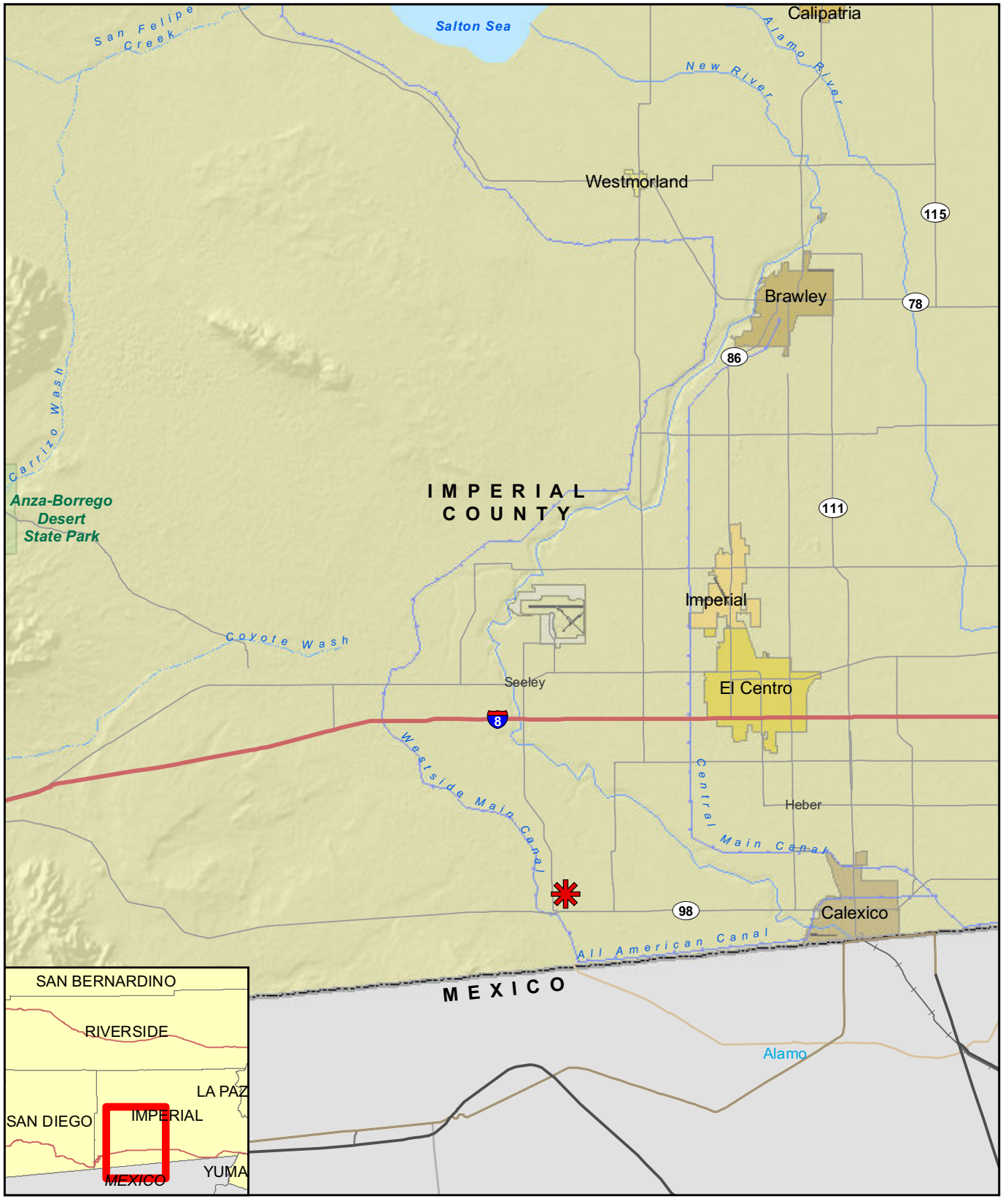
This report evaluates the significance of air quality and greenhouse gas (GHG) emissions associated with the proposed Drew Solar Project (project). This report characterizes existing conditions at the project site and in the region, identifies applicable rules and regulations, and assesses impacts to air quality and climate change from construction and operation of the project.

1.2 Project Description

The project is a proposed solar photovoltaic generation facility which may include energy storage located in Imperial County, California. The project site is located in the unincorporated Mount Signal area, approximately 6.5 miles southwest of the city of El Centro and approximately 1.85 miles north of the U.S.-Mexico border. Figure 1 shows the regional location of the project site.

The project site is approximately 844.2 gross-acres (855 gross acres after the project's Parcel Map is recorded) and 762.8 net farmable-acres and comprises six parcels: Assessor's Parcel Numbers (APNs) 052-170-031, 052-170-032, 052-170-037, 052-170-039, 052-170-056, and 052-170-067. The project site is bounded by Kubler Road to the north, Westside Main and Wormwood Canals to the west, State Route 98 (SR-98) to the south, and Pulliam Road to the east. Agricultural uses are located on the project site and properties to the north, west, and southwest. Solar generation facilities are located on properties to the east and south of the project site. A single-family residence is located immediately west of the intersection of Drew Road and SR-98 (approximately 100 feet from project site), and another single-family residence is located northeast of the intersection of Kubler Road and Pulliam Road (approximately 400 feet from project site). Figure 2 shows an aerial photograph of the project site and vicinity.

The purpose of the project is to generate approximately 100 MW of renewable electricity, and the storage of power from both the generation portion of the project and power from the California Independent Service Operator (CAISO) for the State of California. Five solar power generation and potential energy storage conditional use permits (CUPs) are proposed, and a sixth CUP for energy storage as a component of solar. The project may include an operations and maintenance (O&M) building or buildings, substation(s), photovoltaic modules mounted on horizontal single-axis trackers, energy storage facilities, inverters, internal roadways, and may also include auxiliary improvements for storm water retention, fire water storage, water filtration and treatment, equipment control buildings, septic systems, and parking. The project would connect to San Diego Gas & Electric's Drew Switchyard (Drew Switchyard), which is located immediately south of the project, across SR-98, for power transmission to the CAISO grid. Figure 3 shows the anticipated site plan.



Project Location

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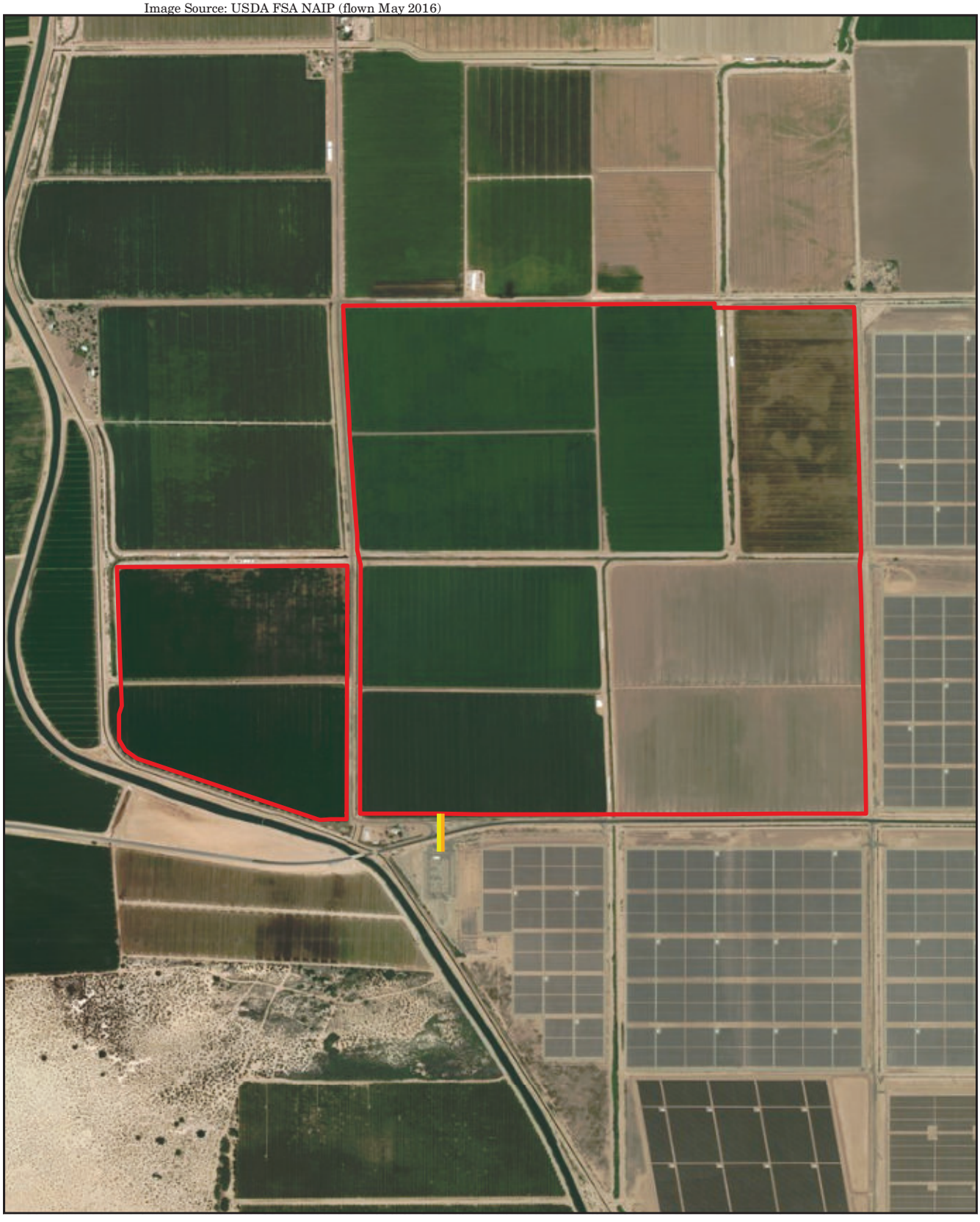
FIGURE 1

Regional Location

Image Source: USDA FSA NAIP (flown May 2016)



0 Feet 1,500

Project Boundary

Gen-Ties

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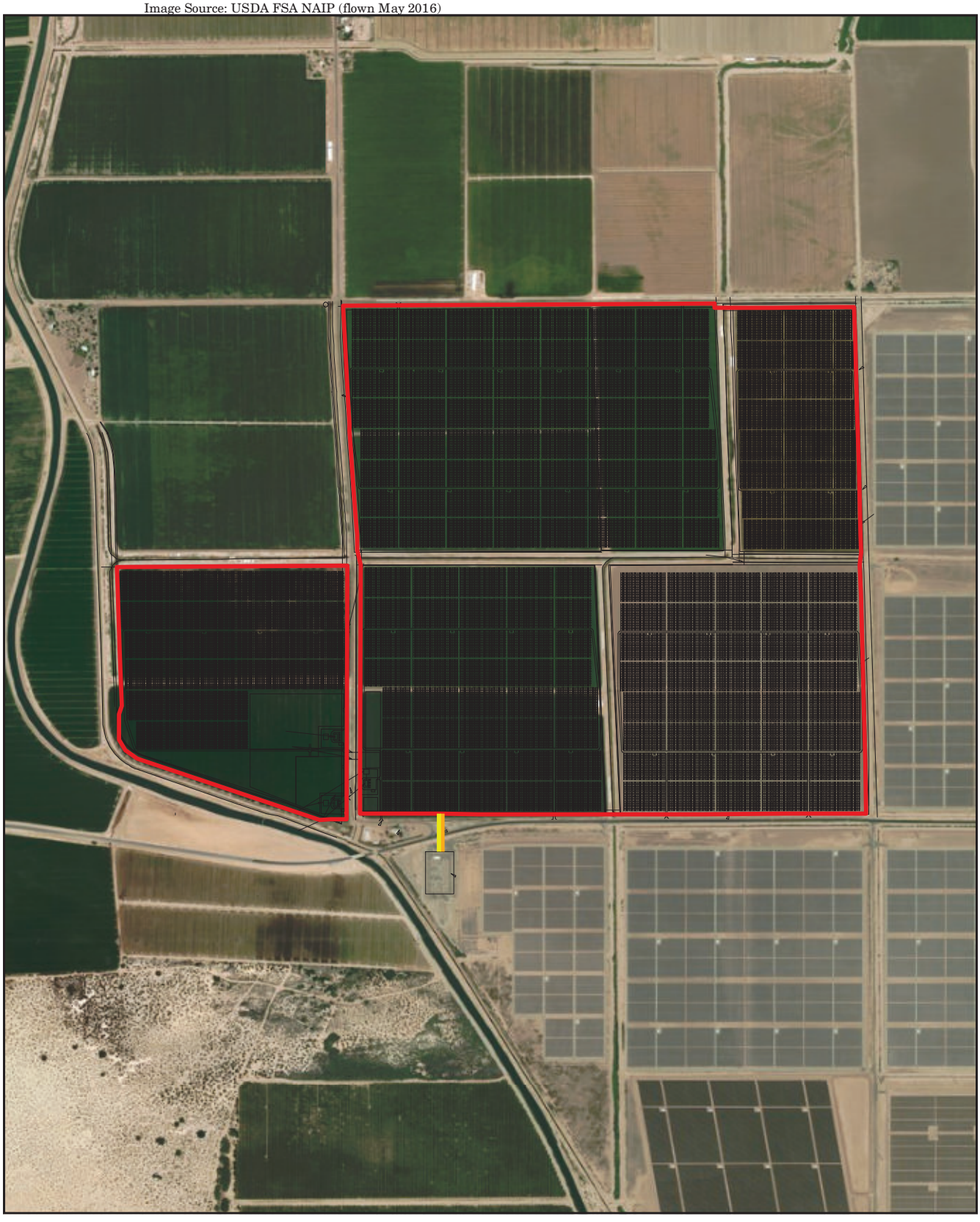
FIGURE 2

Project Location on Aerial Photograph

Image Source: USDA FSA NAIP (flown May 2016)



0 Feet 1,500

Project Boundary
Gen-Ties
Site Plan Lines

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FIGURE 3
Site Plan

The project may also incorporate an energy storage component. The field of energy storage is rapidly advancing; thus a single technology or provider has not been selected for the energy storage component of the project. The storage component may be centralized and located adjacent to the substation, or alternatively, the energy storage component may be distributed throughout the plant adjacent to individual power conversion centers. The storage component would be housed in a warehouse type building or alternatively in smaller modular structures such as cargo shipping containers.

The project site is owned by Imperial Irrigation District (IID) and would be leased by the Applicant for at least the duration of the Development Agreement. Project development would be phased, with renewable energy generation and energy storage facilities developed at a flexible rate based on market conditions and changing utility procurement plans. Development phases would occur under up to six separate CUPs. Under the development agreement, the CUPs will be valid for 40 years with up to 10 years to commence construction. At the conclusion of the term of the CUPs, the project entitlements require the Applicant to decommission the site and restore it to farmland uses in accordance with a future reclamation Plan.

Project approvals would include the Development Agreement, Zone Change to add Renewable Energy (RE) Overlay, General Plan Amendment of the Renewable Energy and Transmission Element, 6 CUPs, 1 Parcel Map, 2 Lot-Tie Agreements, one Variance for power pole height requirements, and certification of the Environmental Impact Report.

1.2.1 Project Construction and Phasing

The construction schedule would be phased based on market conditions and changing utility procurement plans; the specific phasing is not known at this time. If the project construction were to occur in a single phase, construction would take place over approximately 18 months.

No structures are present on the project site and the project site has previously been graded to accommodate agricultural uses. The construction would involve site preparation activities such as clearing, grading, perimeter fencing, development of staging areas and site access roads; and would involve facility installation activities such as installation of support masts (impact pile driving), trenching utility connections, installation of racks and panels on support masts, installation of energy storage facilities including buildings and/or shipping containers, construction of electrical distribution facilities, construction of the O&M building(s), and construction of substation(s) and gen-tie(s). Daily trip generation during the construction would include up to 436 worker commute trips per day and 10 average daily hauling trips (up to 40 heavy-duty truck trips per day).

1.2.2 Project Operation

Operation of the project would require routine maintenance and security; the operations phase will have approximately 10 full-time personnel. Operation of the project would generate up to 20 trips per day.

1.2.3 Project Decommissioning

Consistent with the County of Imperial (County) decommissioning requirements, the project site would be restored to its existing condition upon project conclusion. Although there have been no solar facilities decommissioned in Imperial County, the activities and equipment involved in decommissioning are anticipated to be similar to those involved in construction, thus decommissioning would result in similar air and GHG emissions as construction.

1.3 Fundamentals of Air Quality

Air quality impacts can result from the emission of pollutants associated with construction and operation of a project. Construction impacts are short term and may result from fugitive dust, equipment exhaust, and indirect effects associated with construction workers and deliveries. Operational impacts are long term and may result from equipment and processes used in the project (e.g., water heaters, engines, boilers, and paints or solvents), motor vehicle emissions associated with the project, regional impacts resulting from growth-inducing development, and local hot-spot effects stemming from sensitive receivers being placed close to highly congested roadways. Health effects can include the following:

- Increased respiratory infections
- Increased discomfort
- Missed days from work and school
- Increased mortality

The analysis of air quality impacts is based on National and California Ambient Air Quality Standards (NAAQS and CAAQS). NAAQS and CAAQS represent the maximum levels of background pollution considered safe, with an adequate margin of safety, to protect the public health and welfare. Six pollutants of key concern known as "criteria pollutants" include ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter (PM_{10} and $PM_{2.5}$), and lead (Pb).

1.3.1 Ozone

Ozone is the primary component of smog. Ozone is not directly emitted into the air but is formed through complex chemical reactions between precursor emissions of nitrogen oxides (NO_X) and reactive organic gases (ROG) (a.k.a. volatile organic chemicals [VOC] or reactive organic compounds) in the presence of sunlight. The adverse health effects associated with exposure to ozone pertain primarily to the respiratory system. Scientific evidence indicates that ambient levels of ozone affect not only sensitive receptors, such as asthma sufferers and children, but healthy adults as well. Exposure to ozone has been found to significantly alter lung functions by increasing respiratory rates and pulmonary resistance, decreasing tidal volumes (the amount of air inhaled and exhaled), and impairing respiratory mechanics. Symptomatic responses include such as throat dryness, chest tightness, headache, and nausea. About half of smog-forming emissions come from automobiles.

1.3.2 Carbon Monoxide

Carbon monoxide is a colorless, odorless gas that is formed when carbon in fuel is not burned completely. It is a component of motor vehicle exhaust, which contributes about 56 percent of all CO emissions nationwide. CO enters the bloodstream through the lungs by combining with hemoglobin, which normally supplies oxygen to the cells. However, CO combines with hemoglobin much more readily than oxygen does, resulting in a drastic reduction in the amount of oxygen available to the cells. Adverse health effects associated with exposure to CO concentrations include such symptoms as dizziness, headaches, and fatigue (United States Environmental Protection Agency [U.S. EPA] 2017a).

Small-scale, localized concentrations of CO above the NAAQS and CAAQS may occur at intersections with stagnation points such as those that occur on major highways and heavily traveled and congested roadways. Localized high concentrations of CO are referred to as "CO hotspots" and are a concern at congested intersections, where automobile engines burn fuel less efficiently and their exhaust contains more CO.

1.3.3 Nitrogen Dioxide

Nitrogen dioxide is a brownish, highly reactive gas that is present in all urban environments. The major human-made sources of NO_2 are combustion devices, such as boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines. Inhalation is the most common route of exposure to NO_2. Because NO_2 has relatively low solubility in water, the principal site of toxicity is in the lower respiratory tract. The severity of the adverse health effects depends primarily on the concentration inhaled rather than the duration of exposure. An individual may experience a variety of acute symptoms, including coughing, difficulty with breathing, vomiting, headache, and eye irritation during or shortly after exposure. After a period of approximately 4 to 12 hours, an exposed individual may experience chemical pneumonitis or pulmonary edema with breathing abnormalities, cough, cyanosis, chest pain, and rapid heartbeat.

1.3.4 Sulfur Dioxide

Sulfur dioxide is a combustion product, with the primary source being power plants and heavy industries that use coal or oil as fuel. SO_2 is also a product of diesel engine combustion. The health effects of SO_2 include lung disease and breathing problems for people with asthma. SO_2 in the atmosphere contributes to the formation of acid rain.

1.3.5 Particulate Matter

Health studies have shown a significant association between exposure to particulate matter and premature death in people with heart or lung diseases. Other important effects include aggravation of respiratory and cardiovascular disease, lung disease, decreased lung function, asthma attacks, and certain cardiovascular problems such as heart attacks and irregular heartbeat (U.S. EPA 2017b).

Inhalable Coarse Particles (PM_{10})

PM_{10} is particulate matter with an aerodynamic diameter of 10 microns or less. Ten microns is about one-seventh of the diameter of a human hair. Particulate matter is a complex mixture of very tiny solid or liquid particles composed of chemicals, soot, and dust. Under typical conditions (i.e., no wildfires) particles classified under the PM_{10} category are mainly emitted directly from activities that disturb the soil including travel on roads and construction, mining, or agricultural operations. Other sources include windblown dust, salts, brake dust, and tire wear.

Inhalable Fine Particles ($PM_{2.5}$)

Airborne, inhalable particles with aerodynamic diameter of 2.5 microns or less have been recognized as an air quality concern requiring regular monitoring. Federal regulations required that $PM_{2.5}$ monitoring begin January 1, 1999. Similar to PM_{10}, $PM_{2.5}$ is also inhaled into the lungs and causes serious health problems.

1.3.6 Lead

Lead is a metal found naturally in the environment as well as in manufactured products. At high levels of exposure, lead can have detrimental effects on the central nervous system. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phase-out of leaded gasoline, metal processing is currently the primary source of lead emissions.

1.4 Fundamentals of Climate Change

1.4.1 Understanding Global Climate Change

Global climate change is a change in the average weather of the earth, which can be measured by wind patterns, storms, precipitation, and temperature. The earth's climate is in a state of constant flux with periodic warming and cooling cycles. Extreme periods of cooling are termed "ice ages," which may then be followed by extended periods of warmth. For most of the earth's geologic history, these periods of warming and cooling have been the result of many complicated interacting natural factors that include: volcanic eruptions that spew gases and particles (dust) into the atmosphere; the amount of water, vegetation, and ice covering the earth's surface; subtle changes in the earth's orbit; and the amount of energy released by the sun (sun cycles). However, since the beginning of the Industrial Revolution around 1750, the average temperature of the earth has been increasing at a rate that is faster than can be explained by natural climate cycles alone.

With the Industrial Revolution came an increase in the combustion of carbon-based fuels such as wood, coal, oil, natural gas, and biomass. Industrial processes have also created emissions of substances not found in nature. This in turn has led to a marked increase in the emissions of gases shown to influence the world's climate. These gases, termed "greenhouse" gases, influence the amount of heat trapped in the earth's atmosphere.

Because recently observed increased concentrations of GHGs in the atmosphere are related to increased emissions resulting from human activity, the current cycle of "global warming" is generally believed to be largely due to human activity. Of late, the issue of global warming or global climate change has arguably become the most important and widely debated environmental issue in the United States and the world. Because it is the collective of human actions taking place throughout the world that contributes to climate change, it is quintessentially a global or cumulative issue.

1.4.2 Greenhouse Gases of Primary Concern

There are numerous GHGs, both naturally occurring and manmade. Each GHG has variable atmospheric lifetime and global warming potential (GWP). The atmospheric lifetime of the gas is the average time a molecule stays stable in the atmosphere. Most GHGs have long atmospheric lifetimes, staying in the atmosphere hundreds or thousands of years. GWP is a measure of the potential for a gas to trap heat and warm the atmosphere. Although GWP is related to its atmospheric lifetime, many other factors including chemical reactivity of the gas also influence GWP. GWP is reported as a unitless factor representing the potential for the gas to affect global climate relative to the potential of carbon dioxide (CO_2). Because CO_2 is the reference gas for establishing GWP, by definition its GWP is 1. Although methane (CH_4) has a shorter atmospheric lifetime than CO_2, it has a 100-year GWP of 25; this means that CH_4 has 25 times more effect on global warming than CO_2 on a molecule-by-molecule basis.

The GWP is officially defined as "[T]he cumulative radiative forcing—both direct and indirect effects—integrated over a period of time from the emission of a unit mass of gas relative to some reference gas" (U.S. EPA 2010). GHG emissions estimates are typically represented in terms of metric tons (MT) of CO_2 equivalent (CO_2E). CO_2E emissions are the product of the amount of each gas by its GWP. The effects of several GHGs may be discussed in terms of MT CO_2E and can be summed to represent the total potential of these gases to warm the global climate. Table 1 summarizes some of the most common GHGs.

All of the gases in Table 1 are produced by both biogenic (natural) and anthropogenic (human) sources. These are the GHGs of primary concern in this analysis. CO_2 would be emitted by the project due to the combustion of fossil fuels in vehicles (including construction), from electricity generation and natural gas consumption, water use, and from solid waste disposal. Smaller amounts of CH_4 and nitrous oxide (N_2O) would be emitted from these activities.

Table 1
Global Warming Potentials and Atmospheric Lifetimes

Gas	Atmospheric Lifetime (years)	100-year GWP	20-year GWP
Carbon dioxide (CO_2)	50–200	1	1
Methane (CH_4)*	12.4	28	84
Nitrous oxide (N_2O)	121	265	264
HFC-23	222	12,400	10,800
HFC-32	5.2	677	2,430

Table 1
Global Warming Potentials and Atmospheric Lifetimes

Gas	Atmospheric Lifetime (years)	100-year GWP	20-year GWP
HFC-125	28.2	3,170	6,090
HFC-134a	13.4	1,300	3,710
HFC-143a	47.1	4,800	6,940
HFC-152a	1.5	138	506
HFC-227ea	38.9	3,350	5,360
HFC-236fa	242	8,060	6,940
HFC-43-10mee	16.1	1,650	4,310
CF_4	50,000	6,630	4,880
C_2F_6	10,000	11,100	8,210
C_3F_8	2,600	8,900	6,640
C_4F_{10}	2,600	9,200	6,870
c-C_4F_8	3,200	9,540	7,110
C_5F_{12}	4,100	8,550	6,350
C_6F_{14}	3,100	7,910	5,890
SF_6	3,200	23,500	17,500

SOURCE: Intergovernmental Panel on Climate Change (IPCC) 2014.

2.0 Existing Conditions

2.1 Site Conditions

The project site is relatively flat and is currently an agricultural use. Sources of air pollutant emissions associated with the existing agricultural use include mobile sources and area source emissions such as N_2O emissions resulting from fertilizer use and exhaust from farming equipment. Sources of GHG emissions include water use emissions, mobile emissions, solid waste emissions, and exhaust from farming equipment.

2.2 Land Use Environment

The General Plan land use designation for the project site and all surrounding parcels is Agriculture.

Agricultural uses are located on the project site and properties to the north, west, and southwest; associated buildings include a single-family residence located immediately west of the intersection of Drew Road and SR-98 (approximately 100 feet from project site), and another single-family residence located northwest of the intersection of Kubler Road and Pulliam Road (approximately 400 feet from project site). Additionally, three single-family residences are located to the southwest of the intersection of Kubler Road and Mandrapa Road (0.5 mile from project site).

Solar generation facilities are located on properties to the east and south of the project site; associated buildings include an O&M building at the Drew Switchyard (approximately 400

feet from project site), and an O&M building at the Centinela Solar Farm (0.7 mile east of the project site).

2.3 Regional Setting and Climate

Climate conditions at the project site, like the rest of Imperial County, are governed by the large-scale sinking and warming of air in the semi-permanent tropical high-pressure center of the Pacific Ocean. The high-pressure ridge blocks out most storms except in winter when it is weakest and farthest south. The coastal mountains prevent the intrusion of any cool, damp air found in California coastal environs. Because of the barrier and weakened storms, Imperial County experiences clear skies, extremely hot summers, mild winters, and little rainfall (Imperial County APCD 2017a).

Winters are mild and dry with daily average temperatures ranging between 65 and 75 degrees Fahrenheit (°F). Summers are extremely hot with daily average temperatures ranging between 104 and 115°F. The flat terrain and the strong temperature differentials created by intense solar heating result in moderate winds and deep thermal convection. The combination of subsiding air, protective mountains, and distance from the ocean all combine to severely limit precipitation (Imperial County APCD 2017a).

The large daily oscillation of temperature produces a corresponding large variation in the relative humidity. Nocturnal humidity rises to 50 to 60 percent, but drops to about 10 percent during the day. Prevailing winds are from the west-northwest through southwest; a secondary flow maximum from the southeast is also evident. The prevailing winds from the west and northwest occur seasonally from fall through spring and are known to be from the Los Angeles area. Occasionally, Imperial County experiences periods of extremely high wind speeds. Wind speeds can exceed 31 miles per hour and this occurs most frequently during the months of April and May. However, speeds of less than 6.8 miles per hour account for more than one-half of the observed wind measurements (Imperial County APCD 2017a).

2.4 Existing Air Quality

Air quality at a particular location is a function of the kinds, amounts, and dispersal rates of pollutants being emitted into the air locally and regionally. The major factors affecting pollutant dispersion are wind speed and direction, the vertical dispersion of pollutants (which is affected by temperature inversions), and topography.

Imperial County experiences surface inversions almost every day of the year. Due to strong surface heating, these inversions are usually broken and allow pollutants to be more easily dispersed. In some circumstances, the presence of the Pacific high-pressure cell can cause the air to warm to a temperature higher than the air below. This highly stable atmospheric condition, termed a subsidence inversion can act as a nearly impenetrable lid to the vertical mixing of pollutants. The strength of these inversions makes them difficult to disrupt. Consequently, they can persist for one or more days, causing air stagnation and the build-up of pollutants. Highest and worst-case ozone levels are often associated with the presence of subsidence inversions (Imperial County APCD 2017a).

Air quality is commonly expressed as the number of days in which air pollution levels exceed state standards set by California Air Resources Board (CARB) or federal standards set by the U.S. EPA. The Imperial County Air Pollution Control District (Imperial County APCD) maintains five air quality monitoring stations located throughout the region. Air pollutant concentrations and meteorological information are continuously recorded at these stations. Measurements are then used by scientists to help forecast daily air pollution levels, and to gauge compliance with state and federal air quality standards.

The nearest active monitoring station is the El Centro Monitoring Station located approximately 8 miles northeast of the project site. The El Centro Monitoring Station measures ozone, NO_2, PM_{10}, and $PM_{2.5}$. Table 2 provides a summary of measurements collected at the El Centro Monitoring Station for the years 2014 through 2016.

Table 2
Summary of Air Quality Measurements - El Centro Monitoring Station

Pollutant/Standard	2014	2015	2016
Ozone			
Days State 1-hour Standard Exceeded (0.09 ppm)	2	2	4
Days State 8-hour Standard Exceeded (0.07 ppm)	13	12	11
Days Federal 8-hour Standard Exceeded (0.07 ppm)	12	11	11
Max. 1-hr (ppm)	0.101	0.099	0.108
Max 8-hr (ppm)	0.081	0.080	0.082
Nitrogen Dioxide			
Days State 1-hour Standard Exceeded (0.18 ppm)	0	0	0
Days Federal 1-hour Standard Exceeded (0.100 ppm)	0	0	0
Max 1-hr (ppm)	0.059	0.059	0.051
Annual Average (ppm)	0.007	0.007	0.005
*PM_{10}**			
Measured Days State 24-hour Standard Exceeded (50 µg/m^3)	15	7	NA
Calculated Days State 24-hour Standard Exceeded (50 µg/m^3)	90.0	44.1	NA
Measured Days Federal 24-hour Standard Exceeded (150 µg/m^3)	0	1	9
Calculated Days Federal 24-hour Standard Exceeded (150 µg/m^3)	0	6.1	9.0
Max. Daily (µg/m^3)	120.4	172.1	207.5
State Annual Average (µg/m^3)	40.8	35.6	NA
Federal Annual Average (µg/m^3)	40.8	35.6	44.3
*$PM_{2.5}$**			
Days Federal 24-hour Standard Exceeded (35 µg/m^3)	0	0	0
Max. Daily (µg/m^3)	27.5	31.2	31.3
State Annual Average (µg/m^3)	6.6	6.3	9.5
Federal Annual Average (µg/m^3)	6.5	6.2	9.4

SOURCE: California Air Resources Board (CARB) 2017a.
ppm = parts per million; µg/m^3 = micrograms per cubic meter
* Calculated days value. Calculated days are the estimated number of days that a measurement would have been greater than the level of the standard had measurements been collected every day. The number of days above the standard is not necessarily the number of violations of the standard for the year.

2.5 Existing Greenhouse Gas Emissions

The CARB performs statewide GHG inventories. The inventory is divided into nine broad sectors of economic activity: agriculture, commercial, electricity generation, forestry, high GWP emitters, industrial, recycling and waste, residential, and transportation. Emissions

are quantified in million metric tons (MMT) of CO_2E. Table 3 shows the estimated statewide GHG emissions for the years 1990, 2005, and 2015.

Table 3
California Greenhouse Gas Emissions by Sector in 1990, 2008, and 2015

Emissions Sector	1990 Emissions in MMT CO_2E (% total)[1,2]	2005 Emissions in MMT CO_2E (% total)[2,3,4]	2015 Emissions in MMT CO_2E (% total)[2,3,4]
Agriculture	23.4 (5%)	34.52 (7%)	34.65 (8%)
Commercial	14.4 (3%)	14.27 (3%)	14.75 (3%)
Electricity Generation	110.6 (26%)	107.85 (22%)	83.67 (19%)
High Global Warming Potential	--	9.42 (2%)	19.05 (4%)
Industrial	103.0 (24%)	95.45 (20%)	91.71 (21%)
Recycling and Waste	--	7.78 (2%)	8.73 (2%)
Residential	29.7 (7%)	27.98 (6%)	23.17 (5%)
Transportation	150.7 (35%)	184.48 (38%)	164.63 (37%)
Forestry (Net CO_2 flux)	*-6.5*	--	--
Not Specified	1.3	--	--
TOTAL	**426.6**	**481.75**	**440.36**

SOURCE: CARB 2007 and 2017a.
MMT CO_2E = million metric tons of CO_2 equivalent
[1] 1990 data was retrieved from the CARB 2007 source.
[2] Quantities and percentages may not total properly due to rounding.
[3] 2005 and 2015 data was retrieved from the CARB 2017a source.
[4] Reported emissions for key sectors. The inventory totals for 2005 and 2015 did not include Forestry or Not Specified sources.

As shown in Table 3, statewide GHG source emissions totaled about 427 MMT CO_2E in 1990, 480 MMT CO_2E in 2005, and 440 MMT CO_2E in 2015. Many factors affect year-to-year changes in GHG emissions, including economic activity, demographic influences, environmental conditions such as drought, and the impact of regulatory efforts to control GHG emissions. However, transportation-related emissions consistently contribute the most GHG emissions, followed by electricity generation and industrial emissions.

3.0 Regulatory Framework

3.1 Air Quality Regulations

3.1.1 Federal Air Quality Regulations

3.1.1.1 National Ambient Air Quality Standards

The NAAQS represent the maximum levels of background pollution considered safe, with an adequate margin of safety, to protect the public health and welfare. The Clean Air Act (CAA) was enacted in 1970 and amended in 1977 and 1990 (42 United States Code [USC] 7401) for the purposes of protecting and enhancing the quality of the nation's air resources to benefit public health, welfare, and productivity. In 1971, in order to achieve the purposes

of Section 109 of the CAA (42 USC 7409), the U.S. EPA developed primary and secondary NAAQS.

Six criteria pollutants of primary concern have been designated: ozone, CO, SO_2, NO_2, lead, and respirable particulate matter (PM_{10} and $PM_{2.5}$). The primary NAAQS ". . . in the judgment of the Administrator, based on such criteria and allowing an adequate margin of safety, are requisite to protect the public health . . . " and the secondary standards ". . . protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air" (42 USC 7409(b)(2)). The NAAQS are presented in Table 4 (CARB 2016).

An area within a state is designated as either attainment or non-attainment for a particular pollutant. States are required to adopt enforceable plans, known as a State Implementation Plan (SIP), to achieve and maintain air quality meeting the NAAQS. State plans also must control emissions that drift across state lines and harm air quality in downwind states. Once a non-attainment area has achieved the NAAQS for a particular pollutant, it is redesignated as an attainment area for that pollutant. To be redesignated, the area must meet air quality standards for three consecutive years. After re-designation to attainment, the area is known as a maintenance area and must develop a 10-year plan for continuing to meet and maintain air quality standards, as well as satisfy other requirements of the CAA.

National Ambient Air Quality Standards Attainment Status

The project site is located in Imperial County, which is a moderate non-attainment area for the 1997 and 2008 federal ozone standards (U.S. EPA 2017c). The Imperial Valley portion of the County is a serious non-attainment area for the 1987 federal PM_{10} standard (U.S. EPA 2017c). The portion of Imperial County that includes El Centro and other cities in the Imperial Valley (nonattainment area is defined by townships) is a moderate non-attainment area for the 2012 federal $PM_{2.5}$ standards (U.S. EPA 2017c). On May 13, 2017, the U.S. EPA issued a clean data determination declaring that Imperial County had achieved attainment of the 2006 federal $PM_{2.5}$ standard (U.S. EPA 2017d).

Table 4
State and National Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]		National Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone[8]	1 Hour	0.09 ppm (180 µg/m³)	Ultraviolet Photometry	–	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.07 ppm (137 µg/m³)		0.070 ppm (137 µg/m³)		
Respirable Particulate Matter (PM_{10})[9]	24 Hour	50 µg/m³	Gravimetric or Beta Attenuation	150 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m³		–		
Fine Particulate Matter ($PM_{2.5}$)[9]	24 Hour	No Separate State Standard		35 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m³	Gravimetric or Beta Attenuation	12 µg/m³	15 µg/m³	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m³)	Non-dispersive Infrared Photometry	35 ppm (40 mg/m³)	–	Non-dispersive Infrared Photometry
	8 Hour	9.0 ppm (10 mg/m³)		9 ppm (10 mg/m³)	–	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m³)		–	–	
Nitrogen Dioxide (NO_2)[10]	1 Hour	0.18 ppm (339 µg/m³)	Gas Phase Chemi-luminescence	100 ppb (188 µg/m³)	–	Gas Phase Chemi-luminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m³)		0.053 ppm (100 µg/m³)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	1 Hour	0.25 ppm (655 µg/m³)	Ultraviolet Fluorescence	75 ppb (196 µg/m³)	–	Ultraviolet Fluorescence; Spectro-photometry (Pararosaniline Method)
	3 Hour	–		–	0.5 ppm (1,300 µg/m³)	
	24 Hour	0.04 ppm (105 µg/m³)		0.14 ppm (for certain areas)[10]	–	
	Annual Arithmetic Mean	–		0.030 ppm (for certain areas)[10]	–	
Lead[12,13]	30 Day Average	1.5 µg/m³	Atomic Absorption	–	–	High Volume Sampler and Atomic Absorption
	Calendar Quarter	–		1.5 µg/m³ (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	–		0.15 µg/m³		
Visibility Reducing Particles[14]	8 Hour	See footnote 13	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m³	Ion Chroma-tography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m³)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 Hour	0.01 ppm (26 µg/m³)	Gas Chroma-tography			

See footnotes on next page.

Table 4
State and National Ambient Air Quality Standards

ppm = parts per million; ppb = parts per billion; µg/m^3 = micrograms per cubic meter; – = not applicable.

[1] California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, particulate matter (PM_{10}, $PM_{2.5}$, 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 PM_{10}, 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 $PM_{2.5}$, 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 measurement method which can be shown to the satisfaction of the Air Resources Board 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 U.S. 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 U.S. 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 $PM_{2.5}$ primary standard was lowered from 15 µg/m^3 to 12.0 µg/m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 µg/m^3, as was the annual secondary standards of 15 µg/m^3. The existing 24-hour PM_{10} 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 standards are in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national standards 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.
Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

[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: CARB 2016.

3.1.2 State Air Quality Regulations

3.1.2.1 California Ambient Air Quality Standards (CAAQS)

The California Clean Air Act was enacted in 1988 (California Health & Safety Code Section 39000 et seq.). Under the California Clean Air Act, CARB has developed the CAAQS and generally has set more stringent limits on the criteria pollutants than the NAAQS (see Table 4). In addition to the federal criteria pollutants, the CAAQS also specify standards for visibility-reducing particles, sulfates, hydrogen sulfide, and vinyl chloride (see Table 4).

The state of California is divided geographically into 15 air basins for managing the air resources of the state on a regional basis. Areas within each air basin are considered to share the same air masses and, therefore, are expected to have similar ambient air quality. Similar to the CAA, the state classifies these specific geographic areas as either "attainment" or "nonattainment" areas for each pollutant based on the comparison of measured data with the CAAQS.

California Ambient Air Quality Standards Attainment Status

The project site is located in the Salton Sea Air Basin, which encompasses Imperial County and parts of Riverside County (Coachella Valley). The Salton Sea Air Basin is a non-attainment area for the CAAQS for ozone and PM_{10} (CARB 2017b).

3.1.2.2 Toxic Air Contaminants

The public's exposure to toxic air contaminants (TACs) is a significant public health issue in California. Diesel-exhaust particulate matter (DPM) emissions have been established as TACs. In 1983, the California Legislature enacted a program to identify the health effects of TACs and to reduce exposure to these contaminants to protect the public health (Assembly Bill [AB] 1807: California Health and Safety Code Sections 39650–39674). The California Legislature established a two-step process to address the potential health effects from TACs. The first step is the risk assessment (or identification) phase. The second step is the risk management (or control) phase of the process.

The California Air Toxics Program establishes the process for the identification and control of TACs and includes provisions to make the public aware of significant toxic exposures and for reducing risk. Additionally, the Air Toxics "Hot Spots" Information and Assessment Act (AB 2588, 1987, Connelly Bill) was enacted in 1987 and requires stationary sources to report the types and quantities of certain substances routinely released into the air. The goals of the Air Toxics "Hot Spots" Act are to collect emission data, to identify facilities having localized impacts, to ascertain health risks, to notify nearby residents of significant risks, and to reduce those significant risks to acceptable levels.

The Children's Environmental Health Protection Act, California Senate Bill (SB) 25 (Chapter 731, Escutia, Statutes of 1999), focuses on children's exposure to air pollutants. SB 25 requires CARB to review its air quality standards from a children's health

perspective, evaluate the statewide air monitoring network, and develop any additional air toxic control measures needed to protect children's health. Locally, toxic air pollutants are regulated through the Imperial County APCD's Regulation X. Of particular concern statewide are DPM emissions. DPM was established as a TAC in 1998, and is estimated to represent a majority of the cancer risk from TACs statewide (based on the statewide average). Diesel exhaust is a complex mixture of gases, vapors, and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by CARB and are listed as carcinogens either under the state's Proposition 65 or under the federal Hazardous Air Pollutants program.

Following the identification of DPM as a TAC in 1998, CARB has worked on developing strategies and regulations aimed at reducing the risk from DPM. The overall strategy for achieving these reductions is found in CARB's *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles* (CARB 2000). A stated goal of the plan is to reduce the statewide cancer risk arising from exposure to DPM by 85 percent by 2020.

In April 2005, CARB published the *Air Quality and Land Use Handbook: A Community Health Perspective* (CARB 2005). The CARB Air Quality Handbook makes recommendations directed at protecting sensitive land uses from air pollutant emissions while balancing a myriad of other land use issues (e.g., housing, transportation needs, economics, etc.). It notes that the CARB Air Quality Handbook is not regulatory or binding on local agencies and recognizes that application takes a qualitative approach. As reflected in the CARB Air Quality Handbook, there is currently no adopted standard for the significance of health effects from mobile sources. Therefore, CARB has provided guidelines for the siting of land uses near heavily traveled roadways. Of pertinence to this analysis, CARB guidelines indicate that siting new sensitive land uses within 1,000 feet of distribution centers with heavy truck traffic should be avoided when possible.

As an ongoing process, CARB will continue to establish new programs and regulations for the control of diesel particulate and other air-toxics emissions as appropriate. The continued development and implementation of these programs and policies will continue to reduce the public's exposure to DPM.

3.1.2.3 State Implementation Plan

The California SIP is a collection of documents that set forth the state's strategies for achieving the NAAQS. The California SIP is a compilation of new and previously submitted plans, programs (such as air quality management plans, monitoring, modeling, permitting, etc.), district rules, state regulations, and federal controls. CARB is the lead agency for all purposes related to the California SIP under federal law. Local air districts and other agencies, such as the Department of Pesticide Regulation and the Bureau of Automotive Repair, prepare SIP elements and submit them to CARB for review and approval. CARB then forwards revisions to the U.S. EPA for approval and publication in the *Federal*

Register. All of the items included in the California SIP are listed in the Code of Federal Regulations (CFR) at 40 CFR 52.220.

The Imperial County APCD is responsible for preparing and implementing the portion of the California SIP applicable to the portion of the SSAB that is in Imperial County. These portions include:

- *Imperial County 2009 State Implementation Plan for Particulate matter Less than 10 Microns in Aerodynamic Diameter*
- *Imperial County 2013 State Implementation Plan for the 2006 24-Hour $PM_{2.5}$ Moderate Non-attainment Area*
- *Imperial County 2017 State Implementation Plan for the 2008 8-Hour Ozone Standard*

3.1.2.4 California In-Use Off-Road Diesel-Fueled Fleets Regulation

The California In-Use Off-Road Diesel-Fueled Fleets Regulations were approved by CARB in July 2007, and subsequent major amendments were incorporated in December 2011. The regulations are intended to reduce diesel-exhaust and NO_X emissions from in-use off-road heavy-duty diesel vehicles in California. The regulation requires that any operator of diesel-powered off-road vehicles with 25-horsepower or greater engines meet specific fleet average targets. CARB maintains schedules for small, medium, and large equipment fleets that require equipment retrofits or replacements over time to gradually bring the existing equipment up to standard. As of January 2018, all newly purchased equipment for medium and large equipment fleets will be required to meet Tier 3 or higher engine standards.

3.1.3 Local Air Quality Regulations

3.1.3.1 CEQA Air Quality Handbook

The Imperial County APCD adopted its *CEQA Air Quality Handbook: Guidelines for the Implementation of the California Environmental Quality Act of 1970* in 2007 and amended the handbook in December 2017 (Imperial County APCD 2017b). The Imperial County APCD CEQA Air Quality Handbook provides guidance on how to determine the significance of impacts, including air pollutant emissions, related to the development of residential, commercial, and industrial projects. Where impacts are determined to be significant, the Imperial County APCD CEQA Air Quality Handbook provides guidance to mitigate adverse impacts to air quality from development projects.

3.1.3.2 Stationary Source Permitting

Pursuant to Imperial County APCD Rule 207 (New & Modified Stationary Source Review) and associated rules such as Rule 201 (Permits Required) and Rule 208 (Permit to

Operate), the construction, installation, modification, replacement, and operation of any equipment which may emit air contaminants requires Imperial County APCD permits. The Imperial County APCD requires that all such equipment be assessed for the potential to result in health risk impacts, and permits to operate equipment must be renewed each year equipment is in use or upon the modification of equipment.

3.1.3.3 Fugitive Dust Control

The Imperial County APCD Regulation VIII regulates emissions of fugitive dust. Fugitive dust is:

> Particulate Matter entrained in the ambient air which is caused from man-made and natural activities such as, but not limited to, movement of soil, vehicles, equipment, blasting, and wind. This excludes Particulate Matter emitted directly in the exhaust of motor vehicles or other fuel combustion devices, from portable brazing, soldering, or welding equipment, pile drivers, and stack emissions from stationary sources (Imperial County APCD, Rule 800 (c)(18)).

Regulation VIII includes the following specific rules:

- Rule 800–Fugitive Dust Requirements for Control of $PM_{2.5}$
- Rule 801–Construction and Earthmoving Activities
- Rule 802–Bulk Materials
- Rule 803–Carry Out and Track Out
- Rule 804–Open Areas
- Rule 805–Paved and Unpaved Roads
- Rule 806–Conservation Management Practices

3.2 Climate Change Regulations

In response to rising concern associated with increasing GHG emissions and global climate change impacts, several plans and regulations have been adopted at the international, national, and state levels with the aim of reducing GHG emissions. The following is a discussion of the federal, state, and local plans and regulations most applicable to the project.

3.2.1 Federal

3.2.1.1 U.S. Environmental Protection Agency

The U.S. EPA has many federal level programs and projects to reduce GHG emissions. The U.S. EPA provides technical expertise and encourages voluntary reductions from the private sector. One of the voluntary programs applicable to the project is the Energy Star program.

Energy Star is a joint program of U.S. EPA and the U.S. Department of Energy, which promotes energy-efficient products and practices. Tools and initiatives include the Energy Star Portfolio Manager, which helps track and assess energy and water consumption across an entire portfolio of buildings, and the Energy Star Most Efficient 2013, which provides information on exceptional products that represent the leading edge in energy-efficient products in 2013 (U.S. EPA 2013).

3.2.1.2 Corporate Average Fuel Economy Standards

The federal Corporate Average Fuel Economy standards established by National Highway Traffic Safety Administration determine the fuel efficiency of certain vehicle classes in the United States. Current Corporate Average Fuel Economy standards require vehicle manufacturers of passenger cars and light-duty trucks to achieve an average fuel economy of 35.5 miles per gallon by 2016 and an average fuel economy of 54.5 miles per gallon by 2025. With improved gas mileage, fewer gallons of transportation fuel would be combusted to travel the same distance, thereby reducing nationwide GHG emissions associated with vehicle travel.

3.2.2 State

3.2.2.1 Statewide GHG Emission Targets

Executive Order S-3-05—Statewide GHG Emission Targets

This executive order (EO) establishes the following GHG emissions reduction goals for the state of California:

- by 2010, reduce GHG emissions to 2000 levels;
- by 2020, reduce GHG emissions to 1990 levels; and
- by 2050, reduce GHG emissions to 80 percent below 1990 levels.

This EO also directs the Secretary of the California EPA to oversee the efforts made to reach these targets, and to prepare biannual reports on the progress made toward meeting the targets and on the impacts to California related to global warming, including impacts to water supply, public health, agriculture, the coastline, and forestry. With regard to impacts, the report shall also prepare and report on mitigation and adaptation plans to combat the impacts. The first Climate Action Team Assessment Report was produced in March 2006, and has been updated every two years since then.

Executive Order B-30-15—2030 Statewide GHG Emission Goal

This EO, issued on April 29, 2015, establishes an interim GHG emission reduction goal for the state of California to reduce GHG emissions 40 percent below 1990 levels by 2030. This EO also directs all state agencies with jurisdiction over GHG-emitting sources to implement measures designed to achieve the new interim 2030 goal, as well as the pre-existing, long-term 2050 goal identified in EO S-3-05. Additionally, this EO directs CARB to update its

Climate Change Scoping Plan to address the 2030 goal. CARB released the update to the Climate Change Scoping Plan in November 2017 (See Section 3.2.2.4).

3.2.2.2 Assembly Bill 32—California Global Warming Solutions Act of 2006

In response to EO S-3-05, the California Legislature passed AB 32, the California Global Warming Solutions Act of 2006, and thereby enacted Sections 38500–38599 of the California Health and Safety Code. The heart of AB 32 is its requirement that CARB establish an emissions cap and adopt rules and regulations that would reduce GHG emissions to 1990 levels by 2020. AB 32 also required CARB to adopt a plan by January 1, 2009, indicating how emission reductions would be achieved from significant GHG sources via regulations, market mechanisms, and other actions.

3.2.2.3 Senate Bill 32—California Global Warming Solutions Act of 2006

Approved in September 2016, SB 32 updates the California Global Warming Solutions Act of 2006. Under SB 32, the state would reduce its GHG emissions to 40 percent below 1990 levels by 2030. In implementing the 40 percent reduction goal, CARB is required to prioritize emissions reductions to consider the social costs of the emissions of GHGs; where "social costs" is defined as "an estimate of the economic damages, including, but not limited to, changes in net agricultural productivity; impacts to public health; climate adaptation impacts, such as property damages from increased flood risk; and changes in energy system costs, per metric ton of greenhouse gas emission per year."

Implementation of SB 32 was contingent upon adoption of AB 197, State Air Resources Board: greenhouse gases: regulations, prior to January 1, 2017. AB 197 includes certain administrative changes to CARB and directs CARB to update the State Scoping Plan. AB 197 was adopted in September 2016.

3.2.2.4 Climate Change Scoping Plan

As directed by the California Global Warming Solutions Act of 2006, in 2008, CARB adopted the Climate Change Scoping Plan: A Framework for Change (Original Scoping Plan). CARB has periodically revised GHG emissions forecasts and prepared supplemental revisions to the Original Scoping Plan. In 2014, CARB adopted the comprehensive First Update to the Climate Change Scoping Plan: Building on the Framework (First Update to the Scoping Plan) (CARB 2014a). The First Update to the Scoping Plan ". . . highlights California's success to date in reducing its GHG emissions and lays the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050" (CARB 2014a). The First Update to the Scoping Plan found that California is on track to meet the 2020 emissions reduction mandate established by AB 32 and notes that California could reduce emissions further by 2030 to levels squarely in line with those needed to stay on track to reduce emissions to 80 percent

below 1990 levels by 2050 if the state realizes the expected benefits of existing policy goals (CARB 2014a).

In conjunction with the First Update to the Scoping Plan, CARB identified "six key focus areas comprising major components of the state's economy to evaluate and describe the larger transformative actions that will be needed to meet the state's more expansive emission reduction needs by 2050" (CARB 2014a). Those six areas are: (1) energy; (2) transportation (vehicles/equipment, sustainable communities, housing, fuels, and infrastructure); (3) agriculture; (4) water; (5) waste management; and (6) natural and working lands. The First Update identifies key recommended actions for each sector that will facilitate achievement of the 2050 reduction goal.

Based on CARB's research efforts, it has a "strong sense of the mix of technologies needed to reduce emissions through 2050" (CARB 2014a). Those technologies include energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings and industrial machinery; decarbonizing electricity and fuel supplies; and the rapid market penetration of efficient and clean energy technologies.

In November 2017, CARB released the 2017 Climate Change Scoping Plan Update, the Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target (2017 Scoping Plan; CARB 2017c). The 2017 Scoping Plan identifies state strategies for achieving the state's 2030 interim GHG emissions reduction target codified by SB 32. Measures under the 2017 Scoping Plan Scenario build on existing programs such as the Low Carbon Fuel Standard, Advanced Clean Cars Program, Renewable Portfolio Standard (RPS), Sustainable Communities Strategy (SCS), and the Short-Lived Climate Pollutant Reduction Strategy, and the Cap-and-Trade Program. Additionally the 2017 Scoping Plan proposes new policies to address GHG emissions from natural and working lands. As discussed in Section 3.2.2.5 below, CARB continues to adjust the cap of the Cap-and-Trade Program to achieve emission levels consistent with 2020 statewide GHG emissions reduction targets established by AB 32.

3.2.2.5 Cap-and-Trade Program

The California Cap-and-Trade Program began in January 2013 and is authorized to continue until the end of 2030. The program is a market-based regulation that is designed to reduce GHG emissions associated major sources by setting a firm cap on overall GHG emissions from covered entities and gradually reducing that cap over time. The program defines major sources as facilities that generate more than 25,000 MT CO_2E per year, which includes many electricity generators, refineries, cement production facilities, oil and gas production facilities, glass manufacturing facilities, and food processing plants. Each entity covered by the program is allocated specific GHG emission allowances and is able to buy or sell additional offset credits to other major sources-covered entities. Thus, the program employs market mechanisms to cost-effectively reduce overall GHG emissions. Throughout the program's duration, CARB continues to adjust the overall GHG emissions cap to achieve emission levels consistent with 2020 statewide GHG emission reduction

targets established by AB 32 and the 2030 statewide GHG emission reduction targets established by SB 32.

3.2.2.6 Regional Emissions Targets—SB 375

SB 375, the 2008 Sustainable Communities and Climate Protection Act, was signed into law in September 2008 and requires CARB to set regional targets for reducing passenger vehicle GHG emissions in accordance with the Original Scoping Plan. The purpose of SB 375 is to align regional transportation planning efforts, regional GHG emissions reduction targets and fair-share housing allocations under state housing law. SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt an SCS or Alternative Planning Strategy to address GHG reduction targets from cars and light-duty trucks in the context of that MPO's Regional Transportation Plan (RTP).

The Southern California Association of Governments (SCAG) adopted the *2016–2040 Regional Transportation Plan/Sustainable Communities Strategy, A Plan for Mobility, Accessibility, Sustainability and a High Quality of Life* (2016 RTP/SCS) in April 2016. The main goal of the 2016 RTP/SCS is a long-range visioning plan that balances future mobility and housing needs with economic, environmental and public health goals. CARB's targets for the SCAG region call for an 8 percent reduction in GHG emissions per capita from automobiles and light-duty trucks compared to 2005 levels by 2020, and a 13 percent reduction by 2035. The overarching strategy of the 2016 RTP/SCS is create more compact communities in existing urban areas, providing neighborhoods with efficient and plentiful public transit, abundant and safe opportunities to walk, bike and pursue other forms of active transportation, and preserving more of the region's remaining natural lands.

Pursuant to Government Code Section 65080(b)(2)(K), a Sustainable Communities Strategy does not: (i) regulate the use of land; (ii) supersede the land use authority of cities and counties; or (iii) require that a City's or County's land use policies and regulations, including those in a general plan, be consistent with it. Nonetheless, SB 375 makes regional and local planning agencies responsible for developing those strategies as part of the federally required metropolitan transportation planning process and the state-mandated housing element process.

3.2.2.7 California Building Standards Code (Title 24)

The California Code of Regulation, Title 24, is referred to as the California Building Code (CBC). It consists of a compilation of several distinct standards and codes related to building construction including, plumbing, electrical, interior acoustics, energy efficiency, handicap accessibility and so on. Of particular relevance to GHG emissions reductions are the CBC's energy efficiency and green building standards as outlined below.

Part 6 – Energy Code

Title 24, Part 6, of the California Code of Regulations is the Energy Efficiency Standards or California Energy Code. This code, originally enacted in 1978, establishes energy-efficiency

standards for residential and non-residential buildings in order to reduce California's energy consumption. The Energy Code is updated periodically to incorporate and consider new energy-efficiency technologies and methodologies as they become available. New construction and major renovations must demonstrate their compliance with the current Energy Code through submission and approval of a Title 24 Compliance Report to the local building permit review authority and the California Energy Commission (CEC). By reducing California's energy consumption, emissions of statewide GHGs may also be reduced. The previous Energy Code, known as the 2013 Energy Code, became effective July 1, 2014.

The current version of the Energy Code, known as the 2016 Energy Code, became effective January 1, 2017. The 2016 Energy Code provides mandatory energy-efficiency measures as well as voluntary tiers for increased energy efficiency. The CEC's preliminary estimates indicate that the 2016 Energy Code would achieve a 28 percent reduction in home energy use and a 5 percent reduction in non-residential energy use when compared to the previous 2013 Energy Code (CEC 2015). The CEC has further indicated that the 2020 Energy Code will require new residential developments to achieve zero-net energy use.

Part 11 – California Green Building Standards Code

The California Green Building Standards Code, referred to as CalGreen, was added to Title 24 as Part 11 first in 2009 as a voluntary code, which then became mandatory effective January 1, 2011 (as part of the 2010 CBC). The 2016 CalGreen institutes mandatory minimum environmental performance standards for all ground-up new construction of non-residential and residential structures. It also includes voluntary tiers (I and II) with stricter environmental performance standards for these same categories of residential and non-residential buildings. Local jurisdictions must enforce the minimum mandatory Green Building Standards and may adopt additional amendments for stricter requirements.

The mandatory standards require:

- Outdoor water use requirements as outlined in Model Water Efficient Landscape Ordinance emergency standards
- 20 percent mandatory reduction in indoor water use relative to specified baseline levels;
- 65 percent construction/demolition waste diverted from landfills;
- Infrastructure requirements for electric vehicle charging stations;
- Mandatory inspections of energy systems to ensure optimal working efficiency; and
- Requirements for low-pollutant emitting exterior and interior finish materials such as paints, carpets, vinyl flooring, and particleboards.

Similar to the reporting procedure for demonstrating Energy Code compliance in new buildings and major renovations, compliance with the CalGreen water reduction requirements must be demonstrated through completion of water use reporting forms for

new low-rise residential and non-residential buildings. The water use compliance form must demonstrate a 20 percent reduction in indoor water use by either showing a 20 percent reduction in the overall baseline water use as identified in CalGreen or a reduced per-plumbing-fixture water use rate.

3.2.2.8 Other State Measures

Other related regulations adopted by California are summarized below.

- Advanced Clean Cars Program (i.e., Pavley I and Low Emission Vehicle III) – A set of vehicle standards that require light-duty cars and trucks to have reduced GHG emissions.
- Low Carbon Fuel Standard – A statewide goal requiring a 10 percent reduction in the carbon intensity of transportation fuels by 2020.
- RPS – Requires electrical providers achieve an energy mix of 33 percent renewable energy by 2020 and 50 percent renewable energy by 2030.
- AB 341, Solid Waste Diversion – The Commercial Recycling Requirements mandate that businesses (including public entities) that generate 4 cubic yards or more of commercial solid waste per week and multi-family residential with five units or more arrange for recycling services. Businesses can take one or any combination of measures in order to reuse, recycle, compost, or otherwise divert solid waste from disposal. Additionally, AB 341 mandates that 75 percent of all solid waste generated in the state be reduced, recycled, or composted by 2020 regardless of the source.

3.2.3 Local

3.2.3.1 Imperial County General Plan

The Imperial County General Plan Renewable Energy and Transmission Element was adopted in October 2015. As stated in the element, the benefits of renewable energy development include reduction in potential GHG by displacing fossil-fuel-generated electricity with renewable energy, which does not add to the greenhouse effect; contribution towards meeting the state's RPS mandate; and minimization of impacts to local communities, agriculture and sensitive resources (Imperial County 2015).

4.0 Significance Criteria

The California Natural Resources Agency maintains *State CEQA Guidelines* to assist lead agencies in developing significance thresholds for assessing potentially significant environmental impacts. According to California Environmental Quality Act (CEQA) Guidelines Appendix G Environmental Checklist, implementation of the proposed project would have significant environmental impacts on air quality if it would:

1) Obstruct or conflict with the implementation of the applicable air quality plan.

2) Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

3) 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 the release of emissions which exceed quantitative thresholds for ozone precursors).

4) Expose sensitive receptors to substantial pollutant concentration including air toxics such as diesel particulates.

5) Create objectionable odors affecting a substantial number of people.

Additionally, according to CEQA Guidelines Appendix G, implementation of the proposed project would have significant environmental impacts on GHG emissions if it would:

6) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

7) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emission of GHGs.

As stated in the CEQA Guidelines, these questions are "intended to encourage thoughtful assessment of impacts and do not necessarily represent thresholds of significance" (Title 14, Division 6, Chapter 3 Guidelines for Implementation of the CEQA, Appendix G, Environmental Checklist Form). The CEQA Guidelines encourage lead agencies to adopt regionally specific thresholds of significance. When adopting these thresholds, the amended Guidelines allow lead agencies to consider thresholds of significance adopted or recommended by other public agencies, or recommended by experts, provided that the thresholds are supported by substantial evidence.

4.1 Air Quality Significance Thresholds

The Imperial County APCD CEQA Air Quality Handbook establishes the following four separate evaluation categories (Imperial County APCD 2017b):

1) Comparison of calculated project emissions to Imperial County APCD emission thresholds.

2) Consistency with the most recent Clean Air Plan for Imperial County.

3) Comparison of predicted ambient pollutant concentrations resulting from the project to state and federal health standards, when applicable.

4) The evaluation of special conditions which apply to certain projects.

Any development with a potential to emit criteria pollutants below significance levels defined by the Imperial County APCD is called a "Tier I project," and is considered by the Imperial County APCD to have less than significant potential adverse impacts on local air quality. For Tier I projects, the project proponent should implement a set of feasible "standard" mitigation measures (enumerated by the Imperial County APCD) to reduce the air quality impact to an insignificant level. A "Tier II project" is one whose emissions exceed any of the thresholds. Its impact is significant and the project proponent should select and implement all feasible "discretionary" mitigation measures (also enumerated by the Imperial County APCD) in addition to the standard measures.

4.1.1 Operational Impacts

Table 5 provides general guidelines for determining the significance of impacts based on the total emissions that are expected from project operation established by the Imperial County APCD.

Table 5
Significance Thresholds for Operations

Pollutant	Tier I	Tier II
NO_X and ROG	Less than 137 lbs/day	137 lbs/day and Greater
PM_{10} and SO_X	Less than 150 lbs/day	150 lbs/day and Greater
CO and $PM_{2.5}$	Less than 550 lbs/day	550 lbs/day and Greater

ROG = reactive organic gas; NO_X = oxides of nitrogen; CO = carbon monoxide; PM_{10} = particulate matter with an aerodynamic diameter 10 microns or less; lbs/day = pounds per day
SOURCE: Imperial County APCD 2017b.

As stated above, Tier 1 projects are required to implement all feasible standard measures specified by the Imperial County APCD. Tier II projects are required to implement all feasible standard measures as well as all feasible discretionary measures specified by the Imperial County APCD.

4.1.2 Construction Impacts

The Imperial County APCD has also established thresholds of significance for project construction. Table 6 provides general guidelines for determining significance of impacts based on the total emissions that are expected from project construction.

Table 6
Significance Thresholds for Construction

Pollutant	Thresholds (pounds/day)
PM_{10}	150
ROG	75
NO_X	100
CO	550

ROG = reactive organic gas; NO_X = oxides of nitrogen; CO = carbon monoxide; PM_{10} = particulate matter with an aerodynamic diameter 10 microns or less.
SOURCE: Imperial County APCD 2017b.

Regardless of project size, all feasible standard measures specified by the Imperial County APCD for construction equipment and fugitive PM_{10} control for construction activities should be implemented at construction sites. Control measures for fugitive PM_{10} construction emissions in Imperial County are found in Imperial County APCD Regulation VIII and in the Imperial County APCD CEQA Air Quality Handbook and are discussed below.

4.1.3 Public Nuisance Law (Odors)

State of California Health and Safety Code Sections 41700 and 41705 and Imperial County APCD Rule 407 prohibit emissions from any source whatsoever in quantities of air contaminants or other material, that cause injury, detriment, nuisance, or annoyance to the public health or damage to property.

The Imperial County APCD CEQA Air Quality Handbook provides screening level distances for potential odor sources. If a project is proposed within one mile of a wastewater treatment plant, sanitary landfill, composting station, feedlot, asphalt plant, painting and coating operation, or rendering plant, a potential odor problem may result (Imperial County APCD 2017b).

4.2 Greenhouse Gas Significance Thresholds

As stated previously, the CEQA Guidelines allow Lead Agencies to establish significance thresholds for their respective jurisdictions. These significance thresholds may be adopted after considering thresholds of significance adopted or recommended by other public agencies or experts.

No GHG emission significance threshold has been adopted by the Imperial County APCD for land development projects. Thus, in the absence of a threshold of significance for GHG emissions that has been adopted in a public process following environmental review, this analysis considers guidance promulgated by other agencies.

The County is a member of SCAG, which is composed of several different counties including Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties. Air districts responsible for managing air quality of within the SCAG boundaries include the Antelope Valley Air Quality Management District (AQMD), the Mojave Desert APCD, South Coast AQMD, and the Ventura County APCD. This analysis conservatively uses South Coast AQMD screening level thresholds.

South Coast AQMD

The South Coast AQMD published its *Interim CEQA GHG Significance Thresholds for Stationary Sources, Rules, and Plans* in 2008 (South Coast AQMD 2008). The interim thresholds are a tiered approach; projects may be determined to be less than significant under each tier or require further analysis under subsequent tiers. The five tiers are:

- Tier 1 – The project is exempt from CEQA.
- Tier 2 – The project is consistent with an applicable regional GHG emissions reduction plan.
- Tier 3 – Project GHG emissions represent an incremental increase below, or mitigated to less than Significance Screening Levels, where screening levels are developed based on a 90 percent emissions capture rate
    - 3,000 MT CO_2E is the Residential/Commercial Screening Level
    - 10,000 MT CO_2E is the Permitted Industrial Screening Level
- Tier 4 – The project achieves performance standards, where performance standards may include
    - Option #1: Uniform Percent Emission Reduction Target Objective (e.g., 30 percent) from BAU by incorporating Project Design Features and/or Implementing Emissions Reduction Measures.
    - Option #2: Early Implementation of Applicable AB32 Scoping Plan Measures.
    - Option #3: Achieve sector-based standard (e.g. pounds per person, pounds per square foot, etc.)
- Tier 5 – Offsets along or in combination with the above target Significance Screening Level. Offsets must be provided for a 30-year project life, unless the project life is limited by permit, lease, or other legally binding condition

Consistent with the South Coast AQMD guidance, the recommended/preferred tiered approach for most land use development projects in South Coast AQMD jurisdiction is assessment against the applicable screening levels. As the project is not exempt from CEQA and is not part of an approved local plan, project emissions would initially be assessed against a 3,000 MT CO_2E screening level. This 3,000 MT CO_2E screening level is intended to exempt projects that are too small to have significant impacts from further analysis.

5.0 Air Quality and GHG Assessment

Implementation of the proposed project would result in air pollutant and GHG emissions associated with the construction and operation of the project. Both air pollutant and GHG emissions were calculated using California Emissions Estimator Model (CalEEMod) Version 2016.3.2 (CAPCOA 2017). The CalEEMod program is a tool used to estimate emissions resulting from land development projects in the State of California. CalEEMod was developed with the participation of several state air districts including the South Coast AQMD.

CalEEMod estimates parameters such as the type and amount of construction equipment required, trip generation, and utility consumption based on the size and type of each specific land use using data collected from surveys performed in South Coast AQMD. Where available, parameters were modified to reflect project-specific data.

Air pollutant and GHG emissions associated with build-out of the project site were estimated for the operations year in 2020. Additionally, GHG emissions were modeled in year 2030 to parallel the year of the state GHG reduction target established by SB 32.

5.1 Construction-related Emissions

Construction-related activities are temporary, short-term sources of air pollutant and GHG emissions. Sources of construction-related emissions include:

- Fugitive dust from grading activities;
- Exhaust emissions from construction equipment;
- Application of chemical coatings (paints, stains, sealants, etc.); and
- Exhaust and fugitive dust emission from on-road vehicles (trips by workers, delivery trucks, and material-hauling trucks).

The air quality impact analysis for the project assumes the entire project to be constructed in a single phase, which would be anticipated to last approximately 18 months. This assumption is a conservative worst case scenario; if construction activities were spaced out over a longer period, then estimated maximum daily emissions would be less.

Project development would be anticipated to be phased, with construction occurring at a flexible rate based on market conditions and changing utility procurement plans. The phase-in of In-Use Off-Road Diesel Engine Standards and the State Advanced Clean Cars Program would result in increasingly clean construction equipment and on-road vehicles over time. However, this analysis assumes that construction would begin in 2019 and would occur in a single phase; thus, this analysis does not take credit for reductions that would be increased through the phase-in of cleaner construction equipment and on-road vehicles.

Construction emissions are calculated for construction activity based on the construction equipment profile and other factors determined as needed to complete all phases of construction. Based on Guidance from the South Coast Air Quality Management District (SCAQMD), total construction GHG emissions resulting from a project should be amortized over a period of 30 years and added to operational GHG emissions to account for their contribution to GHG emissions over the lifetime of a project (SCAQMD 2009).

5.1.1 Fugitive dust from Grading

Fugitive dust would be associated with construction activities that involve ground disturbance. Calculation of fugitive dust emissions are based on the area of disturbed ground and the fugitive dust measures implemented.

The Imperial County APCD requires that, regardless of the size of a project, all feasible standard measures for fugitive PM_{10} must be implemented at construction sites. Standard measures from the Imperial County APCD handbook are listed below.

Standard Measures for Fugitive PM_{10} Control:

a) All disturbed areas, including Bulk Material storage which is not being actively utilized, shall be effectively stabilized and visible emissions shall be limited to no greater than 20% opacity for dust emissions by using water, chemical stabilizers, dust suppressants, tarps or other suitable material such as vegetative ground cover.

b) All on site and off site unpaved roads will be effectively stabilized and visible emissions shall be limited to no greater than 20% opacity for dust emissions by paving, chemical stabilizers, dust suppressants and/or watering.

c) All unpaved traffic areas one (1) acre or more with 75 or more average vehicle trips per day will be effectively stabilized and visible emission shall be limited to no greater than 20% opacity for dust emissions by paving, chemical stabilizers, dust suppressants and/or watering. The transport of Bulk Materials shall be completely covered unless six inches of freeboard space from the top of the container is maintained with no spillage and loss of Bulk Material. In addition, the cargo compartment of all Haul Trucks is to be cleaned and/or washed at delivery site after removal of Bulk Material.

d) The transport of Bulk Materials shall be completely covered unless six inches of freeboard space from the top of the container is maintained with no spillage and loss of Bulk Material. In addition, the cargo compartment of all Haul Trucks is to be cleaned and/or washed at delivery site after removal of Bulk Material.

e) All Track-Out or Carry-Out will be cleaned at the end of each workday or immediately when mud or dirt extends a cumulative distance of 50 linear feet or more onto a paved road within an Urban area.

f) Movement of Bulk Material handling or transfer shall be stabilized prior to handling or at points of transfer with application of sufficient water, chemical stabilizers or by sheltering or enclosing the operation and transfer line.

g) The construction of any new Unpaved Road is prohibited within any area with a population of 500 or more unless the road meets the definition of a Temporary Unpaved Road. Any temporary unpaved road shall be effectively stabilized and visible emissions shall be limited to no greater than 20% opacity for dust emission by paving, chemical stabilizers, dust suppressants and/or watering.

To account for standard measures for fugitive dust, the project was assumed to include a water truck. This amounts to a 61 percent reduction in fugitive dust emissions (South Coast AQMD 2007).

5.1.2 Equipment Exhaust

The equipment anticipated to be used in each phase of construction of the project was provided by the project applicant and is shown below in Table 7.

Table 7
Anticipated Construction Schedule and Equipment

Equipment Type	Quantity	Horsepower*	Load Factor*	Hours/ Day
Site Preparation				
Graders	1	187	0.41	8
Scrapers	1	367	0.48	8
Brush Chippers	1	50	0.50	2
Rubber Tired Dozers	1	247	0.40	8
Water Trucks	1	189	0.50	2
Facility Installation				
Excavator	2	158	0.38	8
Mast Pile Drivers	10	49	0.50	8
Rough Terrain Forklifts	10	100	0.40	8
Trenchers	1	78	0.50	8
Water Trucks	1	189	0.50	2

* Horsepower and load factor were generally based on CARB's off-road diesel equipment emission factors database, OFFROAD2011. Factors for mast pile drivers were based on equipment typical of renewable energy projects. Factors for brush chippers were estimated.

As discussed previously, overall project construction has been assumed in this analysis to occur over an 18-month period. Site preparation equipment such as graders, scrapers, brush chippers, dozers, and water trucks would be active for approximately 3 months. Facility installation equipment such as mast pile drivers and trenchers would be active for up to 3 months. Facility installation equipment such as excavators, water trucks, and rough terrain forklifts would be active for up to 8 months. Non-equipment tasks such as electrical work and equipment testing would comprise the remainder of the 18-month period.

CalEEMod calculates emissions of all pollutants from construction equipment using emission factors from CARB's off-road diesel equipment emission factors database, OFFROAD 2011 (CARB 2011). Consistent with CARB requirements, all equipment was assumed to meet CARB Tier 3 In-Use Off-Road Diesel Engine Standards.

The Imperial County APCD requires that, regardless of the size of a project, all feasible standard measures for construction equipment must be implemented at construction sites. Standard measures from the Imperial County APCD handbook are listed below.

Standard Measures for Construction Combustion Equipment

a) Use of alternative fueled or catalyst equipped diesel construction equipment, including all off-road and portable diesel powered equipment.

b) Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes as a maximum.

c) Limit, to the extent feasible, the hours of operation of heavy duty equipment and/or the amount of equipment in use.

d) Replace fossil fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set).

5.1.3 On-road Vehicle Emissions

Construction would generate mobile source emissions from worker trips, hauling trips, and vendor trips. As discussed in the Project Traffic Impact Analysis, the number of workers expected on-site during construction would vary and would likely average up to 250 workers per day and would thereby result in up to 436 worker commute trips per day (LOS Engineering 2017). Deliveries of equipment and supplies to the site would also vary over the construction period but have the potential to result in up to 40 daily trips. CalEEMod calculates emissions of all pollutants from on-road trucks and passenger vehicles using emission factors derived from CARB's motor vehicle emission inventory program EMFAC2014 (CARB 2014b). Vehicle emission factors were multiplied by the total estimated number of trips and the average trip length to calculate the total mobile emissions.

The project site would be accessed via SR-98, Drew Road (County Highway S-29), Kubler Road and Pulliam Road. All these roadways are paved. Therefore, project-generated vehicle traffic was assumed to travel on paved roads.

5.1.4 Water Use

Water use for fugitive dust control would have indirect GHG emissions associated with it. These emissions are a result of the energy used to supply, treat, and distribute water. Construction of the project would be anticipated to require approximately 1,200 acre-feet of water for fugitive dust control. Either potable water or reclaimed water may be used for fugitive dust control. This analysis conservatively assumes potable water is used and thus accounts for energy used for supply, treatment, and distribution of potable water. Water use emissions are estimated based on regional efficiency factors for water supply, treatment, and distribution.

5.2 Operation-related Emissions

Operation-related sources of air pollutant emissions include the direct emission of criteria pollutants. Common direct emission sources include mobile sources such as project-generated traffic, and area sources such as the use of landscaping equipment. In addition to

these direct emission sources, GHG emissions are also generated indirectly as a result of project electricity use, water use, and solid waste generation.

5.2.1 Mobile Sources

CalEEMod calculates mobile source emissions using emission factors derived from CARB's motor vehicle emission inventory program, EMFAC2014 (CARB 2014b). As discussed in the Project Traffic Impact Analysis, operation of the project would be anticipated to generate up to 20 trips per day from all maintenance and security personnel. Standard countywide trip lengths for each trip type were used to determine total project vehicle miles traveled (CAPCOA 2017). The vehicle emission factors and fleet mix used in CalEEMod are derived from EMFAC2014 and account for the effects of applicable regulations such as the Advanced Clean Cars Program.

5.2.2 Area Sources

An area source is any non-permitted stationary source of emission. Common area sources include fireplaces, natural gas used in space and water heating, consumer products, architectural coatings, dust from farming operations, landscaping equipment, and small combustion equipment such as boilers or backup generators. The proposed project does not include measurable amounts of fireplace use, natural gas use, consumer products, architectural coatings, or other area sources.

Consistent with the project's Fire Management Plan, routine weed abatement and landscape maintenance would occur as needed. The project site is bounded by roads, agricultural uses, and solar generation facilities. As the project is not adjacent to natural lands, landscaping maintenance for maintaining a fire-clearing zone would be minimal and would result in less than measureable emissions.

5.2.3 Electricity Demand/Generation

Energy use emissions typically include indirect GHG emissions associated with the generation of electricity from fossil fuels off-site in power plants. Project electricity demand for security lighting and O&M buildings would be extremely limited as compared to the electricity generated by project solar panels; the project would be a net generator of clean, renewable energy that would reduce GHG emissions associated with generation of electricity from fossil fuels at other power plants.

At this time it is not known whether electricity generated by the project would be sold to the IID, San Diego Gas & Electric, or a different utility provider. As the project site is within IID's service area, IID-specific energy intensity factors (i.e., the amount of CO_2, CH_4, and N_2O per kilowatt-hour) are used in the estimation of the GHG emission reductions from the project.

As discussed, the state mandate for renewable energy is 33 percent by 2020 and 50 percent by 2030; however, the energy-intensity factors included in CalEEMod only represent an 8.3

percent procurement of renewable energy (Senate Energy, Utilities and Communications Committee 2012). Project emission estimates were modeled accounting for reductions achieved by 33 percent renewable energy procurement in 2020 and 50 percent renewable energy procurement in 2030. IID energy intensity factors used in modeling are shown in Table 8.

Table 8
Imperial Irrigation District Energy Intensity Factors

Gas	2010 Factors (lbs/MWh)	2020 Factors (lbs/MWh)	2030 Factors (lbs/MWh)
Carbon Dioxide (CO_2)	1270.90	956.99	740.93
Methane (CH_4)	0.029	0.022	0.017
Nitrous Oxide (N_2O)	0.006	0.005	0.003

SOURCE: Senate Energy, Utilities and Communications Committee 2012.
lbs = pounds; MWh = megawatt hour

5.2.4 Water Use

The water use and wastewater generation of a project has indirect GHG emissions associated with it. These emissions are a result of the energy used to supply, distribute, and treat water and wastewater. In addition, wastewater treatment can also emit both CH_4 and N_2O.

During project operation, water would be used for domestic use, fire protection, and to wash the solar modules. Operation of the project would be anticipated to require approximately 60 acre-feet of water per year. The project would require less water than existing agricultural use. This analysis conservatively assesses the gross water use of the project. Water use emissions are estimated based on regional efficiency factors for water supply, treatment, and distribution.

5.2.5 Solid Waste Generation

The disposal of solid waste produces GHG emissions from anaerobic decomposition in landfills, incineration, and transportation of waste. Solar farms are not known to generate substantial quantities of biodegradable waste. As such, solid waste emissions would not represent a measurable increase in GHG emissions.

5.3 Facility Decommissioning

Consistent with decommissioning requirements, the project site would be restored to its existing condition upon project conclusion. Closure and decommissioning of the project site would be temporary and would include disassembly and removal of all detachable above-ground elements, removal of panel and racks and any other structural elements including those that penetrate the ground surface, re-grading of the project site to restore natural drainage patterns, and habitat restoration activities.

Decommissioning activities would include several sources of criteria pollutants and GHG emissions such as construction equipment, worker commute trips, and hauling trips. The equipment required for project decommissioning is not known at this time. Decommissioning activities would be anticipated to require fewer pieces of construction equipment than project construction, which would likely have lower emissions than equipment in use today. As such, GHG emissions associated with decommissioning are anticipated to be lower than the emissions associated with project construction. This analysis conservatively models GHG emissions associated with project decommissioning as equal to construction emissions.

5.4 Emission Estimates

5.4.1 Air Pollutant Emissions Estimate

Table 9 provides a summary of the criteria pollutant emissions generated by the project construction and operations. CalEEMod output files for project construction and operations are contained in Attachment 1. As noted above, the impact analysis for the project assumes a conservative worst case scenario where the entire project would be constructed in a single phase, which would be anticipated to last approximately 18 months.

Table 9
Maximum Daily Air Pollutant Emissions

Emission Source	Maximum Daily Emissions (pounds)					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Construction						
Total Construction	7	54	89	<1	13	6
Significance Threshold	*75*	*100*	*550*	-	*150*	-
Exceeds Threshold?	**No**	**No**	**No**	**-**	**No**	**-**
Operation						
Area Sources	<1	0	0	0	0	0
Energy Sources	0	0	0	0	0	0
Mobile Sources	<1	1	1	<1	<1	<1
Total Operations	<1	<1	1	<1	<1	<1
Significance Threshold	*137*	*137*	*550*	*150*	*150*	*550*
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

SOURCE: Attachment 1
NOTE: Totals may vary due to independent rounding.

5.4.2 Greenhouse Gas Emissions Estimate

Table 10 provides a summary of the GHG emissions generated by the project construction, operations, and decommissioning. CalEEMod output files for project operation are contained in Attachment 1.

Table 10 Annual GHG Emissions		
Emission Source	GHG Emissions (MT CO_2E)	
Construction		
Mobile and Equipment	1,391	
Water Use	1,890	
Total Construction	3,281	
Amortized Construction	109	
Operation	*Year 2020*	*Year 2030*
Vehicles	53	43
Energy Use	-74,195	-57,424
Area Sources	<1	<1
Water Use	94	73
Solid Waste Disposal	<1	<1
Gross Operation	121	95
Total Operation	**-74,048**	**-57,308**
Total Emissions	*Year 2020*	*Year 2030*
Gross Construction, Operation, and Decommissioning	**366**	**335**
Net Construction, Operation, and Decommissioning	**-73,829**	**-57,089**
SOURCE: Attachment 1 NOTE: Totals may vary due to independent rounding.		

5.5 Impact Analysis

As discussed in Section 4.1, the California Natural Resources Agency's State CEQA Guidelines includes questions that were developed to encourage thoughtful assessment of impacts. Project impact assessment consistent with these CEQA checklist questions is provided below.

5.5.1 Air Quality Impacts

1. *Would the project obstruct or conflict with the implementation of the applicable air quality plan?*

As discussed in Section 3.2.3, CARB is the lead agency for preparation of the California SIP, which outlines the State measures to achieve NAAQS. CARB delegates responsibility for preparation of SIP elements to local air districts and requires local air districts to prepare Air Quality Attainment Plans outlining measures required to achieve CAAQS.

The Imperial County APCD is the air district responsible for the project area. Applicable Imperial County APCD air quality plans include:

- *Imperial County 2009 State Implementation Plan for Particulate matter Less than 10 Microns in Aerodynamic Diameter*;
- *Imperial County 2013 State Implementation Plan for the 2006 24-Hour $PM_{2.5}$ Moderate Non-attainment Area*; and
- *Imperial County 2017 State Implementation Plan for the 2008 8-Hour Ozone Standard*.

The primary concern for assessing consistency with air quality plans is whether the project would induce growth that would result in a net increase in criteria pollutant emissions that exceeds the assumptions used to develop the plan. The basis for the air quality plans is SCAG's population growth and regional vehicle miles traveled projections, which are based in part on the land uses established by local general plans. As such, projects that propose development that is consistent with the local land use plans would be consistent with growth projections and air quality plans emissions estimates. In the event that a project would result in development that is less dense than anticipated by the growth projections, the project would be considered consistent with the air quality plans. In the event a project would result in development that results in greater than anticipated growth projections, the project would result in air pollutant emissions that may not have been accounted for in the air quality plans and thus may obstruct or conflict with the air quality plans.

The land use designation for the project site is agriculture which generally accommodates agricultural crop production with one associated single-family residence per 40-acre parcel. Based on trip generation rates from the Institute of Transportation Engineers (ITE) 9th Edition Handbook, a single-family residence would generate approximately 9.52 vehicle trips per day (ITE 2012); additional trips would be associated with agricultural uses. Thus, the existing land use designation would accommodate up to 20 single-family residences, which would generate approximately 190 vehicle trips per day in addition to vehicle trips associated with agricultural crop production.

Project operations would generate up to 20 trips per day from all maintenance and security personnel. As compared to the existing land use designation assumed in the SIP, the project would generate fewer trips and would thereby result in lesser air pollutant emissions.

Thus, the project emissions would be accounted for SCAG's growth projections and the Imperial County APCD's air quality plans. Therefore, the project would be consistent with the air quality plans. Impacts would be considered less than significant.

2. *Would the project result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation?*

Construction Emissions

As shown in Table 9, air pollutant emissions associated with project construction would be less than all applicable Imperial County APCD significance thresholds. Therefore, project construction would not contribute to violations of NAAQS or CAAQS; impacts would be less than significant.

Operations Emissions

As shown in Table 9, air pollutant emissions associated with project operation would be less than all applicable Imperial County APCD significance thresholds. Therefore, the project would not contribute to violations of NAAQS or CAAQS; impacts would be less than significant.

3. *Would the project 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 release emissions which exceed quantitative thresholds for ozone precursors)?*

As discussed in Sections 3.1.1.1 and 3.1.2.1, project site is in non-attainment areas for NAAQS and CAAQS for ozone and particulate matter. The majority of regional PM_{10} and $PM_{2.5}$ emissions originate from dust stirred up by wind or by vehicle traffic on unpaved roads (Imperial County APCD 2009). Other PM_{10} and $PM_{2.5}$ emissions originate from grinding operations, combustion sources such as motor vehicles, power plants, wood burning, forest fires, agricultural burning, and industrial processes. Ozone is not emitted directly, but is a result of atmospheric activity on precursors. NO_X and ROG are known as the chief "precursors" of ozone. These compounds react in the presence of sunlight to produce ozone. Approximately 88 percent of NO_X and 40 percent of ROG regional emissions originate from on- and off-road vehicles (Imperial County APCD 2010). Other major sources include solvent evaporation and miscellaneous processes such as pesticide application.

As discussed under Threshold 1, the project would be consistent with Imperial County APCD air quality plans. As discussed under Issue 2, all construction- and operation-related emissions would be less than applicable significance thresholds. Therefore the project would not result in a cumulatively considerable net increase in criteria pollutants for which the region is in non-attainment of federal or state standards. Impacts would be less than significant.

4. *Would the project expose sensitive receptors to substantial pollutant concentration including air toxics such as diesel particulates?*

The term "sensitive receptor" refers to a person in the population who is more susceptible to health effects due to exposure to an air contaminant than the population at large or to a land use that may reasonably be associated with such a person. Examples include schools, day care centers, hospitals, retirement homes, convalescence facilities and residences. The

project site is in a rural environment; there are no nearby schools, day care centers, hospitals, retirement homes, or convalescence facilities. Sensitive receptors in the vicinity of the project site include a single-family residence immediately west of the intersection of Drew Road and SR-98 (approximately 100 feet from project site) and another single-family residence northeast of the intersection of Kubler Road and Pulliam Road (approximately 400 feet from project site). A discussion of potential impacts to sensitive receptors from construction and operation of the project is provided below.

Construction-related Diesel Particulate Matter

Construction of the project would result in short-term diesel exhaust emissions from on-site heavy-duty equipment. Particulate exhaust emissions from diesel-fueled engines (diesel PM or DPM) were identified as a TAC by CARB in 1998. Project construction would result in the generation of DPM emissions from the use of off-road diesel construction equipment during site preparation and facility installation. Other lesser construction-related sources of DPM include material delivery trucks.

Construction of the project would occur over an approximate 18-month period. The dose to which the receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the extent of exposure that person has with the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the Maximally Exposed Individual; the risks estimated for a Maximally Exposed Individual are higher if a fixed exposure occurs over a longer period of time. According to the Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 30-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the project (OEHHA 2015). Thus, if the duration of proposed construction activities near any specific sensitive receptor was 18 months, the exposure would be five percent of the total exposure period used for health risk calculation.

Compared to typical construction projects, construction of solar generation facilities involves fewer pieces of heavy-duty diesel construction equipment which operate over larger areas; thus construction equipment is rarely proximate to any specific receptor for extended period of time. Due to the limited intensity of construction, DPM generated by project construction activities is not expected to create conditions where the incremental cancer risk exceeds the Imperial County APCD's ten in one million significance threshold. Therefore, project construction would not expose sensitive receptors to a substantial pollutant concentration. Localized air quality impacts from construction-related DPM emissions would be less than significant.

On-site Operation Sources

As discussed under Threshold 2, the construction and operation of the project would not result in substantial criteria pollutant emissions. Solar generation facilities are not known to result in substantial air toxic emissions. Localized air quality impacts from project operations would be less than significant.

Off-site Operation Sources – CO Hot Spots

Localized CO concentration is a direct function of motor vehicle activity at signalized intersections (e.g., idling time and traffic flow conditions), particularly during peak commute hours and meteorological conditions. Under specific meteorological conditions (e.g., stable conditions that result in poor dispersion), CO concentrations may reach unhealthy levels with respect to local sensitive land uses. CO hot spots due to traffic almost exclusively occur at signalized intersections that operate at a Level of Service (LOS) E or below. Projects may result in or contribute to a CO hot spot if they worsen traffic flow at signalized intersections operating at LOS E or F.

The project site is in a rural environment with no signalized traffic intersections within several miles of the project site. As discussed previously, the project would generate up to 20 trips per day.

The project is not in proximity to a signalized intersection and would not generate substantial traffic. Therefore, the project would not cause or contribute to a CO hot spot. Impacts would be less than significant.

5. Would the project create objectionable odors affecting a substantial number of people?

The potential for an odor impact is dependent on a number of variables including the nature of the odor source, distance between the receptor and odor source, and local meteorological conditions. Project construction would result in the emission of diesel fumes and other odors typically associated with construction activities. Odors are highest near the source and would quickly dissipate off the site. The nearest sensitive receptor is a single-family residence approximately 80 feet from the southern edge of the proposed grading area (50 feet from project site boundary). Any odors associated with construction activities would be transient and would cease upon completion. For these reasons, construction-related odor impacts would be less than significant.

Solar generation facilities are not known to emit odors during operation. Project operation would include inspection, maintenance, and washing activities. These processes are not known to emit odors. Therefore, operational odor impacts would also be less than significant.

5.5.2 GHG Emissions Impacts

6. Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

Project GHG emissions resulting from construction and operation of the project were calculated as described in Section 5.1 – Construction-related Emissions and Section 5.2 – Operation-related Emissions and are summarized in Table 10 (see Section 5.4.2). As shown, the combined gross construction, operations, and decommissioning emissions would be 366 MT CO_2E in 2020. Accounting for the GHG emissions offset by the renewable energy

generation of the solar generation facility, the project would result in a net reduction of 73,829 MT CO_2E in 2020.

The project's gross annual GHG emissions and the GHG emissions offset by the renewable energy generation of the solar generation facility would gradually decline as a result of federal, state, and local implementation measures, such as increased fuel efficiency standards associated with the Advanced Clean Cars Program and reduced fossil fuel electricity generation in accordance with the State's RPS mandate. The combined gross construction, operations, and decommissioning emissions would be 335 MT CO_2E in 2030. Accounting for the GHG emissions offset by the renewable energy generation of the solar generation facility, the project would result in a 57,089 MT CO_2E reduction in 2030.

As discussed previously, the South Coast AQMD's 3,000 MT CO_2E screening level is appropriate for exempting projects that are too small to have significant impacts from further analysis. As project emissions would be less than the 3,000 MT CO_2E screening level, GHG emissions impacts would be less than significant.

Under CEQA an impact is a "substantial, or potentially substantial, *adverse* change in the environment…". This analysis concludes that project GHG emissions would result in less than significant impacts under CEQA. The project would be anticipated to offset GHG emissions through renewable energy generation and thereby result in environmental benefits by lessening the impacts of global climate change.

7. *Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emission of GHGs.*

EO S-3-05 and B-30-15 establish the GHG emission reduction policy of the Executive Branch for the state. AB 32 codified the 2020 goal of EO S-3-05 and launched the Original Scoping Plan (CARB 2008) that outlined the reduction measures needed to reach these goals. SB 32 codified the 2030 goal of B-30-15 and directed CARB to prepare a subsequent update to the Scoping Plan.

Subsequent to the adoption of AB 32 and the development of the Original Scoping Plan, several state agencies, including CARB, CEC, California Public Utilities Commission, Department of Resources Recycling and Recovery, California Department of Transportation, California Department of Forestry and Fire, the Department of Water Resources, the Department of Food and Agriculture, and the Department of Goods and Services have developed regulatory and incentive programs to reduce GHG emissions statewide. Policies related to the California Department of Food and Agriculture and California Department of Forestry and Fire are primarily related to the agriculture business and forest and rangeland management.

The project would not have a direct or indirect effect on the strategies outlined in the State Scoping Plan or subsequent policies adopted by state agencies. In fact, the project would promote the state's GHG policies by creating additional renewable energy resources. Project GHG emissions would not exceed applicable screening levels and therefore would be

too small to have significant impact on achievement of statewide GHG emissions reduction targets. Impacts would be less than significant.

6.0 Conclusions and Recommendations

This report evaluates the significance of air quality and GHG emissions associated were assessed using criteria from the California Natural Resources Agency *State CEQA Guidelines,* the Imperial County APCD CEQA Air Quality Handbook, and GHG emission screening levels from the South Coast AQMD *Interim CEQA GHG Significance Thresholds for Stationary Sources, Rules, and Plans.*

A significant air quality impact would occur if the project would conflict with the Imperial County APCD's ozone and particulate matter air quality plans. Based on the project vehicle trip generation and associated air pollutant emission calculations, the project air pollutant emissions would be accounted for in regional growth projections and the air quality plan emission forecasts. As such, impacts would be considered less than significant.

A significant air quality impact would occur if construction or operation of the project would contribute to an air quality violation. As shown in Tables 9 and 10, construction- and operation-related emissions would be less than all applicable significance thresholds. Impacts associated with attainment of air quality standards would be less than significant.

A significant air quality impact would occur if the project would result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a non-attainment area. As discussed in Sections 3.1.1.1 and 3.1.2.1, the project site is in non-attainment areas for ozone and particulate matter, $PM_{2.5}$ and PM_{10}, standards. Project ozone precursor and particulate matter emissions would be less than applicable significance thresholds. Thus, the project would not result in a cumulatively considerable net increase of ozone precursors or particulate matter emissions. Impacts would be less than significant.

A significant air quality impact would occur if the project would expose sensitive receptors to substantial pollutant concentration including air toxics. Sensitive receptors in the vicinity of the project site include a single-family residence immediately west of the intersection of Drew Road and State Route 98 and another single-family residence northwest of the intersection of Kubler Road and Pulliam Road. The project would result in the generation of DPM during construction and mobile-source CO during operation. Due to the limited intensity of construction, DPM generated by project construction activities is not expected to create conditions where the incremental cancer risk exceeds the Imperial County APCD's ten in one million significance threshold; thus impacts from DPM exposure would be less than significant. Due to the limited traffic generated by the project, the project would not substantially contribute to elevated CO concentrations; impacts from mobile-source CO emissions would be less than significant. The various components of solar generation facilities, including storage and transmission facilities, are not known to result in substantial air toxic emissions. Localized air quality impacts from project operations would be less than significant.

Project construction would result in temporary odors associated with diesel exhaust. Odors generated from construction would be temporary and intermittent, and would largely dissipate at short distances from the source. The various components of solar generation facilities, including storage and transmission facilities, are not known to emit odors during operation. Thus, the project would not create objectionable odors affecting a substantial number of people. Impacts would be less than significant.

No GHG emission significance threshold has been adopted by the Imperial County APCD. Project GHG emissions were evaluated against the South Coast AQMD screening level of 3,000 MT CO_2E. The project's combined gross construction, operational, and decommissioning GHG emissions would be 366 MT CO_2E in 2020; accounting for the GHG emissions offset by the renewable energy generation of the solar generation facility, the project would result in a net total reduction of 73,829 MT CO_2E in 2020. The project's gross annual GHG emissions and the GHG emissions offset by the renewable energy generation of the solar generation facility would gradually decline as a result of federal, state, and local implementation measures. As emissions do not exceed the South Coast AQMD's screening threshold, the project would not result in a cumulatively considerable impact to GHG emissions and would not conflict with the State GHG reduction targets. Impacts would be less than significant.

The proposed project would have a less than significant impact on air quality and global climate change through GHG emissions. No mitigation is required.

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ATTACHMENT 1

CalEEMod Output Files

Summary Book

Air Quality

Air Quality Emissions Estimate		Pollutant (lbs/day)					
		ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Unmitigated Construction							
Summer	*2018*	7	54	89	0	13	6
	2019	7	53	85	0	13	6
	2020	4	11	34	0	4	1
Winter	*2018*	6	54	80	0	13	6
	2019	6	53	77	0	13	6
	2020	3	11	27	0	4	1
Maximum Daily Project Site Construction Emissions		**7**	**54**	**89**	**0**	**13**	**6**
Operation							
Summer	Area	0	0	0	0	0	0
	Energy	0	0	0	0	0	0
	Mobile	0	1	1	0	0	0
Winter	Area	0	0	0	0	0	0
	Energy	0	0	0	0	0	0
	Mobile	0	1	1	0	0	0
Maximum Daily Operation Emissions		**0**	**1**	**1**	**0**	**0**	**0**

Drew Solar 2020 - Imperial County, Summer

Drew Solar 2020

Imperial County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	1.00	1000sqft	844.20	1,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	12
Climate Zone	15			**Operational Year**	2020
Utility Company	Imperial Irrigation District				
CO2 Intensity (lb/MWhr)	956.99	**CH4 Intensity (lb/MWhr)**	0.022	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Energy intensity factors reduced to reflect 2020 renewable energy procurement mandate

Land Use - Modeled as 1 ksf industrial. Project site is 844.2 acres.

Construction Phase - Site Prep, Part A includes all facility installation equipment, Part B includes only excavators, water trucks, and forklifts, and Part C includes negligible equipment.

Off-road Equipment - Other construction equipment refers to mast pile drivers and water trucks

Off-road Equipment - Other construction equipment refers to mast pile drivers and water trucks

Off-road Equipment - Non-equipment related tasks.

Off-road Equipment - Other construction equipment refers to brush chippers and water trucks.

Trips and VMT - Conservatively assessed maximum trips assocaiated with project construction

On-road Fugitive Dust - Project site is along a major highway (SR-98). Trips are not anticipated to use unpaved routes.

Grading - Project site would be graded. All import/export would be balanced onsite.

Vehicle Trips - Project operation would generate up to 20 trips per day.

Road Dust - Project site is along a major highway (SR-98). Trips are not anticipated to use unpaved routes.

Energy Use - Project would have limited energy use.

Water And Wastewater - Project would use 60 acre-feet per year = 19,550,000 gallons. Project water use would not generate wastewater that requires offsite treatment.

Solid Waste - Project would generate limited waste.

Construction Off-road Equipment Mitigation - Fugitive dust control measures include site watering; Tier 3 equipment assumed for compliance with CARB regulations

Energy Mitigation - 100 MWh = 100,000 kWh; regional solar generation potential of 1,705.6 KWh/KW; 170,560,000 KWh/year

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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					
2018	11.8897	59.2116	90.5786	0.1224	23.2859	3.3630	24.8218	5.7858	3.0962	7.2012	0.0000	12,308.1384	12,308.1384	2.5873	0.0000	12,372.8197
2019	11.2445	55.7382	87.2139	0.1211	10.3334	3.1218	13.4552	2.6221	2.8740	5.4961	0.0000	12,071.6677	12,071.6677	2.5544	0.0000	12,135.5287
2020	4.2977	11.0493	33.9730	0.0573	3.8243	0.2547	4.0790	1.0244	0.2513	1.2757	0.0000	5,723.7926	5,723.7926	0.3902	0.0000	5,733.5470
Maximum	**11.8897**	**59.2116**	**90.5786**	**0.1224**	**23.2859**	**3.3630**	**24.8218**	**5.7858**	**3.0962**	**7.2012**	**0.0000**	**12,308.1384**	**12,308.1384**	**2.5873**	**0.0000**	**12,372.8197**

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					
2018	6.9559	53.8743	88.6449	0.1224	11.4143	2.9195	13.2529	2.8813	2.9151	5.5371	0.0000	12,308.1384	12,308.1384	2.5873	0.0000	12,372.8197
2019	6.5872	53.1332	85.3873	0.1211	10.3334	2.9097	13.2430	2.6221	2.9056	5.5277	0.0000	12,071.6676	12,071.6676	2.5544	0.0000	12,135.5286
2020	4.0302	10.5746	34.3238	0.0573	3.8243	0.2689	4.0932	1.0244	0.2656	1.2900	0.0000	5,723.7926	5,723.7926	0.3902	0.0000	5,733.5470
Maximum	**6.9559**	**53.8743**	**88.6449**	**0.1224**	**11.4143**	**2.9195**	**13.2529**	**2.8813**	**2.9151**	**5.5371**	**0.0000**	**12,308.1384**	**12,308.1384**	**2.5873**	**0.0000**	**12,372.8197**

	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	N20	CO2e
Percent Reduction	**35.94**	**6.68**	**1.61**	**0.00**	**31.71**	**9.52**	**27.78**	**30.79**	**2.18**	**11.58**	**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	0.0252	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
Mobile	0.0978	0.6449	1.4386	3.3200e-003	0.2027	2.9300e-003	0.2057	0.0544	2.7800e-003	0.0572		337.7500	337.7500	0.0223		338.3063
Total	**0.1230**	**0.6449**	**1.4387**	**3.3200e-003**	**0.2027**	**2.9300e-003**	**0.2057**	**0.0544**	**2.7800e-003**	**0.0572**		**337.7502**	**337.7502**	**0.0223**	**0.0000**	**338.3065**

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	0.0252	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
Mobile	0.0978	0.6449	1.4386	3.3200e-003	0.2027	2.9300e-003	0.2057	0.0544	2.7800e-003	0.0572		337.7500	337.7500	0.0223		338.3063
Total	**0.1230**	**0.6449**	**1.4387**	**3.3200e-003**	**0.2027**	**2.9300e-003**	**0.2057**	**0.0544**	**2.7800e-003**	**0.0572**		**337.7502**	**337.7502**	**0.0223**	**0.0000**	**338.3065**

	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	N20	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	Site Preparation	Site Preparation	7/2/2018	10/1/2018	5	66	
2	Facility Installation Part A	Building Construction	10/2/2018	1/1/2019	5	66	
3	Facility Installation Part B	Building Construction	1/2/2019	6/4/2019	5	110	
4	Facility Installation Part C	Building Construction	6/5/2019	1/1/2020	5	151	

Acres of Grading (Site Preparation Phase): 836.4

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Other Construction Equipment	1	2.00	50	0.50
Site Preparation	Other Construction Equipment	1	2.00	189	0.50
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Scrapers	1	8.00	367	0.48
Facility Installation Part A	Excavators	2	8.00	158	0.38
Facility Installation Part A	Other Construction Equipment	10	8.00	49	0.50
Facility Installation Part A	Other Construction Equipment	1	2.00	189	0.50
Facility Installation Part A	Rough Terrain Forklifts	10	8.00	100	0.40
Facility Installation Part A	Trenchers	1	2.00	78	0.50
Facility Installation Part B	Excavators	2	8.00	158	0.38
Facility Installation Part B	Other Construction Equipment	10	8.00	49	0.50
Facility Installation Part B	Other Construction Equipment	1	2.00	189	0.50
Facility Installation Part C	Generator Sets	1	8.00	84	0.74

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
Site Preparation	5	436.00	40.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Facility Installation Part A	24	436.00	40.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Facility Installation Part A	24	0.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Facility Installation Part A	24	0.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Facility Installation Part B	13	436.00	40.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Facility Installation Part C	1	436.00	40.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Site Preparation - 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					19.4615	0.0000	19.4615	4.7614	0.0000	4.7614			0.0000			0.0000
Off-Road	2.9615	34.4601	15.6887	0.0309		1.4511	1.4511		1.3350	1.3350		3,115.4177	3,115.4177	0.9699		3,139.6645
Total	**2.9615**	**34.4601**	**15.6887**	**0.0309**	**19.4615**	**1.4511**	**20.9126**	**4.7614**	**1.3350**	**6.0964**		**3,115.4177**	**3,115.4177**	**0.9699**		**3,139.6645**

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	0.2739	6.1332	1.8742	0.0164	0.4414	0.0615	0.5030	0.1271	0.0588	0.1859		1,713.6606	1,713.6606	0.0826		1,715.7246
Worker	4.3075	3.0199	34.4793	0.0369	3.3829	0.0234	3.4063	0.8973	0.0216	0.9189		3,633.0206	3,633.0206	0.3375		3,641.4581
Total	**4.5814**	**9.1530**	**36.3535**	**0.0533**	**3.8243**	**0.0849**	**3.9092**	**1.0244**	**0.0804**	**1.1048**		**5,346.6812**	**5,346.6812**	**0.4201**		**5,357.1826**

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					7.5900	0.0000	7.5900	1.8569	0.0000	1.8569			0.0000			0.0000
Off-Road	0.7574	14.6900	16.5323	0.0309		0.5669	0.5669		0.5669	0.5669	0.0000	3,115.4177	3,115.4177	0.9699		3,139.6645
Total	**0.7574**	**14.6900**	**16.5323**	**0.0309**	**7.5900**	**0.5669**	**8.1569**	**1.8569**	**0.5669**	**2.4238**	**0.0000**	**3,115.4177**	**3,115.4177**	**0.9699**		**3,139.6645**

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	0.2739	6.1332	1.8742	0.0164	0.4414	0.0615	0.5030	0.1271	0.0588	0.1859		1,713.6606	1,713.6606	0.0826		1,715.7246
Worker	4.3075	3.0199	34.4793	0.0369	3.3829	0.0234	3.4063	0.8973	0.0216	0.9189		3,633.0206	3,633.0206	0.3375		3,641.4581
Total	**4.5814**	**9.1530**	**36.3535**	**0.0533**	**3.8243**	**0.0849**	**3.9092**	**1.0244**	**0.0804**	**1.1048**		**5,346.6812**	**5,346.6812**	**0.4201**		**5,357.1826**

3.3 Facility Installation Part A - 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	7.3083	50.0585	54.2251	0.0691		3.2781	3.2781		3.0158	3.0158		6,961.4572	6,961.4572	2.1672		7,015.6371
Total	**7.3083**	**50.0585**	**54.2251**	**0.0691**		**3.2781**	**3.2781**		**3.0158**	**3.0158**		**6,961.4572**	**6,961.4572**	**2.1672**		**7,015.6371**

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	0.2739	6.1332	1.8742	0.0164	1.0708	0.0615	1.1323	0.2815	0.0588	0.3404		1,713.6606	1,713.6606	0.0826		1,715.7246
Worker	4.3075	3.0199	34.4793	0.0369	9.2626	0.0234	9.2860	2.3405	0.0216	2.3621		3,633.0206	3,633.0206	0.3375		3,641.4581
Total	**4.5814**	**9.1530**	**36.3535**	**0.0533**	**10.3334**	**0.0849**	**10.4183**	**2.6221**	**0.0804**	**2.7025**		**5,346.6812**	**5,346.6812**	**0.4201**		**5,357.1826**

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	2.3745	44.7212	52.2914	0.0691		2.8346	2.8346		2.8346	2.8346	0.0000	6,961.4572	6,961.4572	2.1672		7,015.6371
Total	**2.3745**	**44.7212**	**52.2914**	**0.0691**		**2.8346**	**2.8346**		**2.8346**	**2.8346**	**0.0000**	**6,961.4572**	**6,961.4572**	**2.1672**		**7,015.6371**

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	0.2739	6.1332	1.8742	0.0164	1.0708	0.0615	1.1323	0.2815	0.0588	0.3404		1,713.6606	1,713.6606	0.0826		1,715.7246
Worker	4.3075	3.0199	34.4793	0.0369	9.2626	0.0234	9.2860	2.3405	0.0216	2.3621		3,633.0206	3,633.0206	0.3375		3,641.4581
Total	**4.5814**	**9.1530**	**36.3535**	**0.0533**	**10.3334**	**0.0849**	**10.4183**	**2.6221**	**0.0804**	**2.7025**		**5,346.6812**	**5,346.6812**	**0.4201**		**5,357.1826**

3.3 Facility Installation Part A - 2019

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	7.0317	47.3263	54.1180	0.0691		3.0468	3.0468		2.8030	2.8030		6,847.5965	6,847.5965	2.1665		6,901.7592
Total	**7.0317**	**47.3263**	**54.1180**	**0.0691**		**3.0468**	**3.0468**		**2.8030**	**2.8030**		**6,847.5965**	**6,847.5965**	**2.1665**		**6,901.7592**

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	0.2422	5.6735	1.6198	0.0163	1.0708	0.0524	1.1231	0.2815	0.0501	0.3316		1,702.4164	1,702.4164	0.0786		1,704.3820
Worker	3.9706	2.7384	31.4761	0.0357	9.2626	0.0227	9.2853	2.3405	0.0209	2.3614		3,521.6547	3,521.6547	0.3093		3,529.3875
Total	**4.2128**	**8.4119**	**33.0959**	**0.0520**	**10.3334**	**0.0750**	**10.4084**	**2.6221**	**0.0710**	**2.6930**		**5,224.0711**	**5,224.0711**	**0.3879**		**5,233.7695**

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	2.3745	44.7212	52.2914	0.0691		2.8346	2.8346		2.8346	2.8346	0.0000	6,847.5965	6,847.5965	2.1665		6,901.7592

Total	**2.3745**	**44.7212**	**52.2914**	**0.0691**		**2.8346**	**2.8346**		**2.8346**	**2.8346**	**0.0000**	**6,847.5965**	**6,847.5965**	**2.1665**		**6,901.7592**

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	0.2422	5.6735	1.6198	0.0163	1.0708	0.0524	1.1231	0.2815	0.0501	0.3316		1,702.4164	1,702.4164	0.0786		1,704.3820
Worker	3.9706	2.7384	31.4761	0.0357	9.2626	0.0227	9.2853	2.3405	0.0209	2.3614		3,521.6547	3,521.6547	0.3093		3,529.3875
Total	**4.2128**	**8.4119**	**33.0959**	**0.0520**	**10.3334**	**0.0750**	**10.4084**	**2.6221**	**0.0710**	**2.6930**		**5,224.0711**	**5,224.0711**	**0.3879**		**5,233.7695**

3.4 Facility Installation Part B - 2019

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	5.4988	27.8479	30.4704	0.0338		2.1485	2.1485		1.9767	1.9767		3,354.4781	3,354.4781	1.0613		3,381.0112
Total	**5.4988**	**27.8479**	**30.4704**	**0.0338**		**2.1485**	**2.1485**		**1.9767**	**1.9767**		**3,354.4781**	**3,354.4781**	**1.0613**		**3,381.0112**

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	0.2422	5.6735	1.6198	0.0163	0.4414	0.0524	0.4938	0.1271	0.0501	0.1772		1,702.4164	1,702.4164	0.0786		1,704.3820
Worker	3.9706	2.7384	31.4761	0.0357	3.3829	0.0227	3.4056	0.8973	0.0209	0.9182		3,521.6547	3,521.6547	0.3093		3,529.3875
Total	**4.2128**	**8.4119**	**33.0959**	**0.0520**	**3.8243**	**0.0750**	**3.8994**	**1.0244**	**0.0710**	**1.0954**		**5,224.0711**	**5,224.0711**	**0.3879**		**5,233.7695**

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	1.5073	24.9199	25.5524	0.0338		1.4471	1.4471		1.4471	1.4471	0.0000	3,354.4781	3,354.4781	1.0613		3,381.0112
Total	**1.5073**	**24.9199**	**25.5524**	**0.0338**		**1.4471**	**1.4471**		**1.4471**	**1.4471**	**0.0000**	**3,354.4781**	**3,354.4781**	**1.0613**		**3,381.0112**

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	0.2422	5.6735	1.6198	0.0163	0.4414	0.0524	0.4938	0.1271	0.0501	0.1772		1,702.4164	1,702.4164	0.0786		1,704.3820
Worker	3.9706	2.7384	31.4761	0.0357	3.3829	0.0227	3.4056	0.8973	0.0209	0.9182		3,521.6547	3,521.6547	0.3093		3,529.3875
Total	**4.2128**	**8.4119**	**33.0959**	**0.0520**	**3.8243**	**0.0750**	**3.8994**	**1.0244**	**0.0710**	**1.0954**		**5,224.0711**	**5,224.0711**	**0.3879**		**5,233.7695**

3.5 Facility Installation Part C - 2019

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	0.4440	3.7779	3.7231	6.5800e-003		0.2258	0.2258		0.2258	0.2258		623.0346	623.0346	0.0395		624.0213
Total	**0.4440**	**3.7779**	**3.7231**	**6.5800e-003**		**0.2258**	**0.2258**		**0.2258**	**0.2258**		**623.0346**	**623.0346**	**0.0395**		**624.0213**

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	0.2422	5.6735	1.6198	0.0163	0.4414	0.0524	0.4938	0.1271	0.0501	0.1772		1,702.4164	1,702.4164	0.0786		1,704.3820
Worker	3.9706	2.7384	31.4761	0.0357	3.3829	0.0227	3.4056	0.8973	0.0209	0.9182		3,521.6547	3,521.6547	0.3093		3,529.3875
Total	**4.2128**	**8.4119**	**33.0959**	**0.0520**	**3.8243**	**0.0750**	**3.8994**	**1.0244**	**0.0710**	**1.0954**		**5,224.0711**	**5,224.0711**	**0.3879**		**5,233.7695**

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	0.1316	3.0039	4.0564	6.5800e-003		0.2105	0.2105		0.2105	0.2105	0.0000	623.0346	623.0346	0.0395		624.0213
Total	**0.1316**	**3.0039**	**4.0564**	**6.5800e-003**		**0.2105**	**0.2105**		**0.2105**	**0.2105**	**0.0000**	**623.0346**	**623.0346**	**0.0395**		**624.0213**

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	0.2422	5.6735	1.6198	0.0163	0.4414	0.0524	0.4938	0.1271	0.0501	0.1772		1,702.4164	1,702.4164	0.0786		1,704.3820
Worker	3.9706	2.7384	31.4761	0.0357	3.3829	0.0227	3.4056	0.8973	0.0209	0.9182		3,521.6547	3,521.6547	0.3093		3,529.3875
Total	**4.2128**	**8.4119**	**33.0959**	**0.0520**	**3.8243**	**0.0750**	**3.8994**	**1.0244**	**0.0710**	**1.0954**		**5,224.0711**	**5,224.0711**	**0.3879**		**5,233.7695**

3.5 Facility Installation Part C - 2020

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	0.3991	3.4786	3.7055	6.5800e-003		0.1962	0.1962		0.1962	0.1962		623.0346	623.0346	0.0351		623.9116
Total	**0.3991**	**3.4786**	**3.7055**	**6.5800e-003**		**0.1962**	**0.1962**		**0.1962**	**0.1962**		**623.0346**	**623.0346**	**0.0351**		**623.9116**

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	0.2082	5.0717	1.4192	0.0162	0.4414	0.0365	0.4780	0.1271	0.0349	0.1620		1,689.8906	1,689.8906	0.0732		1,691.7207
Worker	3.6904	2.4990	28.8483	0.0345	3.3829	0.0219	3.4048	0.8973	0.0202	0.9175		3,410.8674	3,410.8674	0.2819		3,417.9147
Total	**3.8986**	**7.5707**	**30.2675**	**0.0507**	**3.8243**	**0.0584**	**3.8827**	**1.0244**	**0.0551**	**1.0795**		**5,100.7580**	**5,100.7580**	**0.3551**		**5,109.6354**

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	0.1316	3.0039	4.0564	6.5800e-003		0.2105	0.2105		0.2105	0.2105	0.0000	623.0346	623.0346	0.0351		623.9116

Total	**0.1316**	**3.0039**	**4.0564**	**6.5800e-003**		**0.2105**	**0.2105**		**0.2105**	**0.2105**	**0.0000**	**623.0346**	**623.0346**	**0.0351**		**623.9116**

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	0.2082	5.0717	1.4192	0.0162	0.4414	0.0365	0.4780	0.1271	0.0349	0.1620		1,689.8906	1,689.8906	0.0732		1,691.7207
Worker	3.6904	2.4990	28.8483	0.0345	3.3829	0.0219	3.4048	0.8973	0.0202	0.9175		3,410.8674	3,410.8674	0.2819		3,417.9147
Total	**3.8986**	**7.5707**	**30.2675**	**0.0507**	**3.8243**	**0.0584**	**3.8827**	**1.0244**	**0.0551**	**1.0795**		**5,100.7580**	**5,100.7580**	**0.3551**		**5,109.6354**

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	0.0978	0.6449	1.4386	3.3200e-003	0.2027	2.9300e-003	0.2057	0.0544	2.7800e-003	0.0572		337.7500	337.7500	0.0223		338.3063
Unmitigated	0.0978	0.6449	1.4386	3.3200e-003	0.2027	2.9300e-003	0.2057	0.0544	2.7800e-003	0.0572		337.7500	337.7500	0.0223		338.3063

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	20.00	20.00	20.00	94,268	94,268
Total	20.00	20.00	20.00	94,268	94,268

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-...	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.40	9.50	11.90	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.503420	0.033264	0.160883	0.129541	0.018929	0.005318	0.019165	0.118376	0.003239	0.001168	0.005214	0.000745	0.000738

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Kilowatt Hours of Renewable Electricity Generated

	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					
NaturalGas 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

NaturalGas 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

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					
General Light Industry	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**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					
General Light Industry	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**	**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	0.0252	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	0.0252	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	3.8100e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0214					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	**0.0252**	**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	3.8100e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0214					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	**0.0252**	**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 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Drew Solar 2020 - Imperial County, Winter

Drew Solar 2020

Imperial County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	1.00	1000sqft	844.20	1,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	12
Climate Zone	15			**Operational Year**	2020
Utility Company	Imperial Irrigation District				
CO2 Intensity (lb/MWhr)	956.99	**CH4 Intensity (lb/MWhr)**	0.022	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Energy intensity factors reduced to reflect 2020 renewable energy procurement mandate

Land Use - Modeled as 1 ksf industrial. Project site is 844.2 acres.

Construction Phase - Site Prep, Part A includes all facility installation equipment, Part B includes only excavators, water trucks, and forklifts, and Part C includes negligible equipment.

Off-road Equipment - Other construction equipment refers to mast pile drivers and water trucks

Off-road Equipment - Other construction equipment refers to mast pile drivers and water trucks

Off-road Equipment - Non-equipment related tasks.

Off-road Equipment - Other construction equipment refers to brush chippers and water trucks.

Trips and VMT - Conservatively assessed maximum trips assocaiated with project construction

On-road Fugitive Dust - Project site is along a major highway (SR-98). Trips are not anticipated to use unpaved routes.

Grading - Project site would be graded. All import/export would be balanced onsite.

Vehicle Trips - Project operation would generate up to 20 trips per day.

Road Dust - Project site is along a major highway (SR-98). Trips are not anticipated to use unpaved routes.

Energy Use - Project would have limited energy use.

Water And Wastewater - Project would use 60 acre-feet per year = 19,550,000 gallons. Project water use would not generate wastewater that requires offsite treatment.

Solid Waste - Project would generate limited waste.

Construction Off-road Equipment Mitigation - Fugitive dust control measures include site watering; Tier 3 equipment assumed for compliance with CARB regulations

Energy Mitigation - 100 MWh = 100,000 kWh; regional solar generation potential of 1,705.6 KWh/KW; 170,560,000 KWh/year

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	40
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	24.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	13,950.00	66.00
tblConstructionPhase	NumDays	13,950.00	110.00

tblConstructionPhase	NumDays	13,950.00	151.00
tblConstructionPhase	NumDays	540.00	66.00
tblEnergyUse	LightingElect	2.93	0.00
tblEnergyUse	NT24E	5.02	0.00
tblEnergyUse	NT24NG	17.13	0.00
tblEnergyUse	T24E	2.20	0.00
tblEnergyUse	T24NG	15.36	0.00
tblGrading	AcresOfGrading	99.00	844.20
tblLandUse	LotAcreage	0.02	844.20
tblOffRoadEquipment	HorsePower	172.00	50.00
tblOffRoadEquipment	HorsePower	172.00	189.00
tblOffRoadEquipment	HorsePower	172.00	49.00
tblOffRoadEquipment	HorsePower	172.00	189.00
tblOffRoadEquipment	HorsePower	172.00	49.00
tblOffRoadEquipment	HorsePower	172.00	189.00
tblOffRoadEquipment	LoadFactor	0.42	0.50
tblOffRoadEquipment	LoadFactor	0.42	0.50
tblOffRoadEquipment	LoadFactor	0.42	0.50
tblOffRoadEquipment	LoadFactor	0.42	0.50
tblOffRoadEquipment	LoadFactor	0.42	0.50
tblOffRoadEquipment	LoadFactor	0.42	0.50
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00

tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	1270.9	956.99
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	RoadPercentPave	50	100
tblSolidWaste	SolidWasteGenerationRate	1.24	0.00
tblTripsAndVMT	VendorTripNumber	0.00	40.00
tblTripsAndVMT	VendorTripNumber	0.00	40.00
tblTripsAndVMT	VendorTripNumber	0.00	40.00
tblTripsAndVMT	VendorTripNumber	0.00	40.00
tblTripsAndVMT	WorkerTripNumber	13.00	436.00
tblTripsAndVMT	WorkerTripNumber	0.00	436.00
tblTripsAndVMT	WorkerTripNumber	0.00	436.00
tblTripsAndVMT	WorkerTripNumber	0.00	436.00
tblVehicleTrips	ST_TR	1.32	20.00
tblVehicleTrips	SU_TR	0.68	20.00
tblVehicleTrips	WD_TR	6.97	20.00
tblWater	IndoorWaterUseRate	231,250.00	0.00
tblWater	OutdoorWaterUseRate	0.00	19,550,000.00

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					
2018	11.1707	59.6166	81.5408	0.1159	23.2859	3.3635	24.8224	5.7858	3.0968	7.2017	0.0000	11,670.0604	11,670.0604	2.5249	0.0000	11,733.1826
2019	10.5870	56.0832	78.9250	0.1148	10.3334	3.1223	13.4557	2.6221	2.8745	5.4966	0.0000	11,451.0297	11,451.0297	2.4976	0.0000	11,513.4701
2020	3.6947	11.3254	26.3534	0.0512	3.8243	0.2551	4.0794	1.0244	0.2517	1.2761	0.0000	5,120.9047	5,120.9047	0.3390	0.0000	5,129.3807
Maximum	**11.1707**	**59.6166**	**81.5408**	**0.1159**	**23.2859**	**3.3635**	**24.8224**	**5.7858**	**3.0968**	**7.2017**	**0.0000**	**11,670.0604**	**11,670.0604**	**2.5249**	**0.0000**	**11,733.1826**

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					
2018	6.2369	54.2793	79.6072	0.1159	11.4143	2.9201	13.2535	2.8813	2.9156	5.5376	0.0000	11,670.0604	11,670.0604	2.5249	0.0000	11,733.1826
2019	5.9297	53.4782	77.0983	0.1148	10.3334	2.9102	13.2435	2.6221	2.9061	5.5282	0.0000	11,451.0297	11,451.0297	2.4976	0.0000	11,513.4701
2020	3.4272	10.8507	26.7042	0.0512	3.8243	0.2693	4.0936	1.0244	0.2660	1.2904	0.0000	5,120.9047	5,120.9047	0.3390	0.0000	5,129.3807
Maximum	**6.2369**	**54.2793**	**79.6072**	**0.1159**	**11.4143**	**2.9201**	**13.2535**	**2.8813**	**2.9156**	**5.5376**	**0.0000**	**11,670.0604**	**11,670.0604**	**2.5249**	**0.0000**	**11,733.1826**

	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	N20	CO2e
Percent Reduction	**38.73**	**6.63**	**1.83**	**0.00**	**31.71**	**9.51**	**27.78**	**30.79**	**2.17**	**11.58**	**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	0.0252	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
Mobile	0.0763	0.6643	1.0807	2.9800e-003	0.2027	2.9700e-003	0.2057	0.0544	2.8200e-003	0.0572		303.8616	303.8616	0.0204		304.3714
Total	**0.1015**	**0.6643**	**1.0808**	**2.9800e-003**	**0.2027**	**2.9700e-003**	**0.2057**	**0.0544**	**2.8200e-003**	**0.0572**		**303.8618**	**303.8618**	**0.0204**	**0.0000**	**304.3717**

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	0.0252	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
Mobile	0.0763	0.6643	1.0807	2.9800e-003	0.2027	2.9700e-003	0.2057	0.0544	2.8200e-003	0.0572		303.8616	303.8616	0.0204		304.3714
Total	**0.1015**	**0.6643**	**1.0808**	**2.9800e-003**	**0.2027**	**2.9700e-003**	**0.2057**	**0.0544**	**2.8200e-003**	**0.0572**		**303.8618**	**303.8618**	**0.0204**	**0.0000**	**304.3717**

	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	N20	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	Site Preparation	Site Preparation	7/2/2018	10/1/2018	5	66	
2	Facility Installation Part A	Building Construction	10/2/2018	1/1/2019	5	66	
3	Facility Installation Part B	Building Construction	1/2/2019	6/4/2019	5	110	
4	Facility Installation Part C	Building Construction	6/5/2019	1/1/2020	5	151	

Acres of Grading (Site Preparation Phase): 836.4

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Other Construction Equipment	1	2.00	50	0.50
Site Preparation	Other Construction Equipment	1	2.00	189	0.50
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Scrapers	1	8.00	367	0.48
Facility Installation Part A	Excavators	2	8.00	158	0.38
Facility Installation Part A	Other Construction Equipment	10	8.00	49	0.50
Facility Installation Part A	Other Construction Equipment	1	2.00	189	0.50
Facility Installation Part A	Rough Terrain Forklifts	10	8.00	100	0.40
Facility Installation Part A	Trenchers	1	2.00	78	0.50
Facility Installation Part B	Excavators	2	8.00	158	0.38
Facility Installation Part B	Other Construction Equipment	10	8.00	49	0.50
Facility Installation Part B	Other Construction Equipment	1	2.00	189	0.50
Facility Installation Part C	Generator Sets	1	8.00	84	0.74

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
Site Preparation	5	436.00	40.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Facility Installation Part A	24	436.00	40.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Facility Installation Part A	24	0.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Facility Installation Part A	24	0.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Facility Installation Part B	13	436.00	40.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Facility Installation Part C	1	436.00	40.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Site Preparation - 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					19.4615	0.0000	19.4615	4.7614	0.0000	4.7614			0.0000			0.0000
Off-Road	2.9615	34.4601	15.6887	0.0309		1.4511	1.4511		1.3350	1.3350		3,115.4177	3,115.4177	0.9699		3,139.6645
Total	**2.9615**	**34.4601**	**15.6887**	**0.0309**	**19.4615**	**1.4511**	**20.9126**	**4.7614**	**1.3350**	**6.0964**		**3,115.4177**	**3,115.4177**	**0.9699**		**3,139.6645**

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	0.2804	6.3724	2.0490	0.0159	0.4414	0.0621	0.5035	0.1271	0.0594	0.1864		1,664.6784	1,664.6784	0.0907		1,666.9464
Worker	3.5820	3.1858	25.2668	0.0308	3.3829	0.0234	3.4063	0.8973	0.0216	0.9189		3,043.9248	3,043.9248	0.2670		3,050.5990
Total	**3.8624**	**9.5581**	**27.3158**	**0.0468**	**3.8243**	**0.0855**	**3.9098**	**1.0244**	**0.0810**	**1.1053**		**4,708.6032**	**4,708.6032**	**0.3577**		**4,717.5455**

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					7.5900	0.0000	7.5900	1.8569	0.0000	1.8569			0.0000			0.0000
Off-Road	0.7574	14.6900	16.5323	0.0309		0.5669	0.5669		0.5669	0.5669	0.0000	3,115.4177	3,115.4177	0.9699		3,139.6645
Total	**0.7574**	**14.6900**	**16.5323**	**0.0309**	**7.5900**	**0.5669**	**8.1569**	**1.8569**	**0.5669**	**2.4238**	**0.0000**	**3,115.4177**	**3,115.4177**	**0.9699**		**3,139.6645**

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	0.2804	6.3724	2.0490	0.0159	0.4414	0.0621	0.5035	0.1271	0.0594	0.1864		1,664.6784	1,664.6784	0.0907		1,666.9464
Worker	3.5820	3.1858	25.2668	0.0308	3.3829	0.0234	3.4063	0.8973	0.0216	0.9189		3,043.9248	3,043.9248	0.2670		3,050.5990
Total	**3.8624**	**9.5581**	**27.3158**	**0.0468**	**3.8243**	**0.0855**	**3.9098**	**1.0244**	**0.0810**	**1.1053**		**4,708.6032**	**4,708.6032**	**0.3577**		**4,717.5455**

3.3 Facility Installation Part A - 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	7.3083	50.0585	54.2251	0.0691		3.2781	3.2781		3.0158	3.0158		6,961.4572	6,961.4572	2.1672		7,015.6371
Total	**7.3083**	**50.0585**	**54.2251**	**0.0691**		**3.2781**	**3.2781**		**3.0158**	**3.0158**		**6,961.4572**	**6,961.4572**	**2.1672**		**7,015.6371**

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	0.2804	6.3724	2.0490	0.0159	1.0708	0.0621	1.1328	0.2815	0.0594	0.3409		1,664.6784	1,664.6784	0.0907		1,666.9464
Worker	3.5820	3.1858	25.2668	0.0308	9.2626	0.0234	9.2860	2.3405	0.0216	2.3621		3,043.9248	3,043.9248	0.2670		3,050.5990
Total	**3.8624**	**9.5581**	**27.3158**	**0.0468**	**10.3334**	**0.0855**	**10.4188**	**2.6221**	**0.0810**	**2.7030**		**4,708.6032**	**4,708.6032**	**0.3577**		**4,717.5455**

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	2.3745	44.7212	52.2914	0.0691		2.8346	2.8346		2.8346	2.8346	0.0000	6,961.4572	6,961.4572	2.1672		7,015.6371
Total	**2.3745**	**44.7212**	**52.2914**	**0.0691**		**2.8346**	**2.8346**		**2.8346**	**2.8346**	**0.0000**	**6,961.4572**	**6,961.4572**	**2.1672**		**7,015.6371**

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	0.2804	6.3724	2.0490	0.0159	1.0708	0.0621	1.1328	0.2815	0.0594	0.3409		1,664.6784	1,664.6784	0.0907		1,666.9464
Worker	3.5820	3.1858	25.2668	0.0308	9.2626	0.0234	9.2860	2.3405	0.0216	2.3621		3,043.9248	3,043.9248	0.2670		3,050.5990
Total	**3.8624**	**9.5581**	**27.3158**	**0.0468**	**10.3334**	**0.0855**	**10.4188**	**2.6221**	**0.0810**	**2.7030**		**4,708.6032**	**4,708.6032**	**0.3577**		**4,717.5455**

3.3 Facility Installation Part A - 2019

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	7.0317	47.3263	54.1180	0.0691		3.0468	3.0468		2.8030	2.8030		6,847.5965	6,847.5965	2.1665		6,901.7592
Total	**7.0317**	**47.3263**	**54.1180**	**0.0691**		**3.0468**	**3.0468**		**2.8030**	**2.8030**		**6,847.5965**	**6,847.5965**	**2.1665**		**6,901.7592**

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	0.2487	5.8737	1.7985	0.0158	1.0708	0.0529	1.1236	0.2815	0.0506	0.3321		1,653.6254	1,653.6254	0.0868		1,655.7954
Worker	3.3065	2.8833	23.0085	0.0298	9.2626	0.0227	9.2853	2.3405	0.0209	2.3614		2,949.8078	2,949.8078	0.2443		2,955.9155
Total	**3.5552**	**8.7570**	**24.8070**	**0.0457**	**10.3334**	**0.0755**	**10.4089**	**2.6221**	**0.0715**	**2.6935**		**4,603.4332**	**4,603.4332**	**0.3311**		**4,611.7109**

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	2.3745	44.7212	52.2914	0.0691		2.8346	2.8346		2.8346	2.8346	0.0000	6,847.5965	6,847.5965	2.1665		6,901.7592

Total	**2.3745**	**44.7212**	**52.2914**	**0.0691**		**2.8346**	**2.8346**		**2.8346**	**2.8346**	**0.0000**	**6,847.5965**	**6,847.5965**	**2.1665**		**6,901.7592**

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	0.2487	5.8737	1.7985	0.0158	1.0708	0.0529	1.1236	0.2815	0.0506	0.3321		1,653.6254	1,653.6254	0.0868		1,655.7954
Worker	3.3065	2.8833	23.0085	0.0298	9.2626	0.0227	9.2853	2.3405	0.0209	2.3614		2,949.8078	2,949.8078	0.2443		2,955.9155
Total	**3.5552**	**8.7570**	**24.8070**	**0.0457**	**10.3334**	**0.0755**	**10.4089**	**2.6221**	**0.0715**	**2.6935**		**4,603.4332**	**4,603.4332**	**0.3311**		**4,611.7109**

3.4 Facility Installation Part B - 2019

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	5.4988	27.8479	30.4704	0.0338		2.1485	2.1485		1.9767	1.9767		3,354.4781	3,354.4781	1.0613		3,381.0112
Total	**5.4988**	**27.8479**	**30.4704**	**0.0338**		**2.1485**	**2.1485**		**1.9767**	**1.9767**		**3,354.4781**	**3,354.4781**	**1.0613**		**3,381.0112**

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	0.2487	5.8737	1.7985	0.0158	0.4414	0.0529	0.4943	0.1271	0.0506	0.1776		1,653.6254	1,653.6254	0.0868		1,655.7954
Worker	3.3065	2.8833	23.0085	0.0298	3.3829	0.0227	3.4056	0.8973	0.0209	0.9182		2,949.8078	2,949.8078	0.2443		2,955.9155
Total	**3.5552**	**8.7570**	**24.8070**	**0.0457**	**3.8243**	**0.0755**	**3.8999**	**1.0244**	**0.0715**	**1.0959**		**4,603.4332**	**4,603.4332**	**0.3311**		**4,611.7109**

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	1.5073	24.9199	25.5524	0.0338		1.4471	1.4471		1.4471	1.4471	0.0000	3,354.4781	3,354.4781	1.0613		3,381.0112
Total	**1.5073**	**24.9199**	**25.5524**	**0.0338**		**1.4471**	**1.4471**		**1.4471**	**1.4471**	**0.0000**	**3,354.4781**	**3,354.4781**	**1.0613**		**3,381.0112**

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	0.2487	5.8737	1.7985	0.0158	0.4414	0.0529	0.4943	0.1271	0.0506	0.1776		1,653.6254	1,653.6254	0.0868		1,655.7954
Worker	3.3065	2.8833	23.0085	0.0298	3.3829	0.0227	3.4056	0.8973	0.0209	0.9182		2,949.8078	2,949.8078	0.2443		2,955.9155
Total	**3.5552**	**8.7570**	**24.8070**	**0.0457**	**3.8243**	**0.0755**	**3.8999**	**1.0244**	**0.0715**	**1.0959**		**4,603.4332**	**4,603.4332**	**0.3311**		**4,611.7109**

3.5 Facility Installation Part C - 2019

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	0.4440	3.7779	3.7231	6.5800e-003		0.2258	0.2258		0.2258	0.2258		623.0346	623.0346	0.0395		624.0213
Total	**0.4440**	**3.7779**	**3.7231**	**6.5800e-003**		**0.2258**	**0.2258**		**0.2258**	**0.2258**		**623.0346**	**623.0346**	**0.0395**		**624.0213**

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	0.2487	5.8737	1.7985	0.0158	0.4414	0.0529	0.4943	0.1271	0.0506	0.1776		1,653.6254	1,653.6254	0.0868		1,655.7954
Worker	3.3065	2.8833	23.0085	0.0298	3.3829	0.0227	3.4056	0.8973	0.0209	0.9182		2,949.8078	2,949.8078	0.2443		2,955.9155
Total	**3.5552**	**8.7570**	**24.8070**	**0.0457**	**3.8243**	**0.0755**	**3.8999**	**1.0244**	**0.0715**	**1.0959**		**4,603.4332**	**4,603.4332**	**0.3311**		**4,611.7109**

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	0.1316	3.0039	4.0564	6.5800e-003		0.2105	0.2105		0.2105	0.2105	0.0000	623.0346	623.0346	0.0395		624.0213
Total	**0.1316**	**3.0039**	**4.0564**	**6.5800e-003**		**0.2105**	**0.2105**		**0.2105**	**0.2105**	**0.0000**	**623.0346**	**623.0346**	**0.0395**		**624.0213**

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	0.2487	5.8737	1.7985	0.0158	0.4414	0.0529	0.4943	0.1271	0.0506	0.1776		1,653.6254	1,653.6254	0.0868		1,655.7954
Worker	3.3065	2.8833	23.0085	0.0298	3.3829	0.0227	3.4056	0.8973	0.0209	0.9182		2,949.8078	2,949.8078	0.2443		2,955.9155
Total	**3.5552**	**8.7570**	**24.8070**	**0.0457**	**3.8243**	**0.0755**	**3.8999**	**1.0244**	**0.0715**	**1.0959**		**4,603.4332**	**4,603.4332**	**0.3311**		**4,611.7109**

3.5 Facility Installation Part C - 2020

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	0.3991	3.4786	3.7055	6.5800e-003		0.1962	0.1962		0.1962	0.1962		623.0346	623.0346	0.0351		623.9116
Total	**0.3991**	**3.4786**	**3.7055**	**6.5800e-003**		**0.1962**	**0.1962**		**0.1962**	**0.1962**		**623.0346**	**623.0346**	**0.0351**		**623.9116**

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	0.2144	5.2190	1.5884	0.0157	0.4414	0.0369	0.4784	0.1271	0.0353	0.1624		1,641.2506	1,641.2506	0.0811		1,643.2788
Worker	3.0812	2.6278	21.0594	0.0289	3.3829	0.0219	3.4048	0.8973	0.0202	0.9175		2,856.6195	2,856.6195	0.2228		2,862.1902
Total	**3.2956**	**7.8468**	**22.6478**	**0.0446**	**3.8243**	**0.0588**	**3.8831**	**1.0244**	**0.0555**	**1.0799**		**4,497.8702**	**4,497.8702**	**0.3040**		**4,505.4690**

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	0.1316	3.0039	4.0564	6.5800e-003		0.2105	0.2105		0.2105	0.2105	0.0000	623.0346	623.0346	0.0351		623.9116

Total	**0.1316**	**3.0039**	**4.0564**	**6.5800e-003**		**0.2105**	**0.2105**		**0.2105**	**0.2105**	**0.0000**	**623.0346**	**623.0346**	**0.0351**		**623.9116**

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	0.2144	5.2190	1.5884	0.0157	0.4414	0.0369	0.4784	0.1271	0.0353	0.1624		1,641.2506	1,641.2506	0.0811		1,643.2788
Worker	3.0812	2.6278	21.0594	0.0289	3.3829	0.0219	3.4048	0.8973	0.0202	0.9175		2,856.6195	2,856.6195	0.2228		2,862.1902
Total	**3.2956**	**7.8468**	**22.6478**	**0.0446**	**3.8243**	**0.0588**	**3.8831**	**1.0244**	**0.0555**	**1.0799**		**4,497.8702**	**4,497.8702**	**0.3040**		**4,505.4690**

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	0.0763	0.6643	1.0807	2.9800e-003	0.2027	2.9700e-003	0.2057	0.0544	2.8200e-003	0.0572		303.8616	303.8616	0.0204		304.3714
Unmitigated	0.0763	0.6643	1.0807	2.9800e-003	0.2027	2.9700e-003	0.2057	0.0544	2.8200e-003	0.0572		303.8616	303.8616	0.0204		304.3714

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	20.00	20.00	20.00	94,268	94,268
Total	20.00	20.00	20.00	94,268	94,268

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-...	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.40	9.50	11.90	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.503420	0.033264	0.160883	0.129541	0.018929	0.005318	0.019165	0.118376	0.003239	0.001168	0.005214	0.000745	0.000738

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Kilowatt Hours of Renewable Electricity Generated

	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					
NaturalGas 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

NaturalGas 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

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					
General Light Industry	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**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					
General Light Industry	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**	**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	0.0252	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	0.0252	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	3.8100e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0214					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	**0.0252**	**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	3.8100e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0214					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	**0.0252**	**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 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Summary Book

Greenhouse Gases

GHG Emissions Estimate (MTCO2e)

Construction

Moible and Equipment	1,391
Water Use	1,890
Subtotal	3,281
30-Year Amortized	109

Construction

30-Year Amortized	109

Operation

	2020	2030
Mobile	53	43
Energy	-74,195	-57,424
Area	0	0
Water	94	73
Waste	0	0

Gross Operational Emissions	147	116
Renewable Energy Offset	-74,195	-57,424
Total Net Operational	-74,048	-57,308

Drew Solar 2020 - Imperial County, Annual

Drew Solar 2020

Imperial County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	1.00	1000sqft	844.20	1,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	12
Climate Zone	15			**Operational Year**	2020
Utility Company	Imperial Irrigation District				
CO2 Intensity (lb/MWhr)	956.99	**CH4 Intensity (lb/MWhr)**	0.022	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Energy intensity factors reduced to reflect 2020 renewable energy procurement mandate

Land Use - Modeled as 1 ksf industrial. Project site is 844.2 acres.

Construction Phase - Site Prep, Part A includes all facility installation equipment, Part B includes only excavators, water trucks, and forklifts, and Part C includes negligible equipment.

Off-road Equipment - Other construction equipment refers to mast pile drivers and water trucks

Off-road Equipment - Other construction equipment refers to mast pile drivers and water trucks

Off-road Equipment - Non-equipment related tasks.

Off-road Equipment - Other construction equipment refers to brush chippers and water trucks.

Trips and VMT - Conservatively assessed maximum trips assocaiated with project construction

On-road Fugitive Dust - Project site is along a major highway (SR-98). Trips are not anticipated to use unpaved routes.

Grading - Project site would be graded. All import/export would be balanced onsite.

Vehicle Trips - Project operation would generate up to 20 trips per day.

Road Dust - Project site is along a major highway (SR-98). Trips are not anticipated to use unpaved routes.

Energy Use - Project would have limited energy use.

Water And Wastewater - Project would use 60 acre-feet per year = 19,550,000 gallons. Project water use would not generate wastewater that requires offsite treatment.

Solid Waste - Project would generate limited waste.

Construction Off-road Equipment Mitigation - Fugitive dust control measures include site watering; Tier 3 equipment assumed for compliance with CARB regulations

Energy Mitigation - 100 MWh = 100,000 kWh; regional solar generation potential of 1,705.6 KWh/KW; 170,560,000 KWh/year

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	40
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	24.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	13,950.00	66.00
tblConstructionPhase	NumDays	13,950.00	110.00

tblConstructionPhase	NumDays	13,950.00	151.00
tblConstructionPhase	NumDays	540.00	66.00
tblEnergyUse	LightingElect	2.93	0.00
tblEnergyUse	NT24E	5.02	0.00
tblEnergyUse	NT24NG	17.13	0.00
tblEnergyUse	T24E	2.20	0.00
tblEnergyUse	T24NG	15.36	0.00
tblGrading	AcresOfGrading	99.00	844.20
tblLandUse	LotAcreage	0.02	844.20
tblOffRoadEquipment	HorsePower	172.00	50.00
tblOffRoadEquipment	HorsePower	172.00	189.00
tblOffRoadEquipment	HorsePower	172.00	49.00
tblOffRoadEquipment	HorsePower	172.00	189.00
tblOffRoadEquipment	HorsePower	172.00	49.00
tblOffRoadEquipment	HorsePower	172.00	189.00
tblOffRoadEquipment	LoadFactor	0.42	0.50
tblOffRoadEquipment	LoadFactor	0.42	0.50
tblOffRoadEquipment	LoadFactor	0.42	0.50
tblOffRoadEquipment	LoadFactor	0.42	0.50
tblOffRoadEquipment	LoadFactor	0.42	0.50
tblOffRoadEquipment	LoadFactor	0.42	0.50
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00

tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.022
tblProjectCharacteristics	CO2IntensityFactor	1270.9	956.99
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	RoadPercentPave	50	100
tblSolidWaste	SolidWasteGenerationRate	1.24	0.00
tblTripsAndVMT	VendorTripNumber	0.00	40.00
tblTripsAndVMT	VendorTripNumber	0.00	40.00
tblTripsAndVMT	VendorTripNumber	0.00	40.00
tblTripsAndVMT	VendorTripNumber	0.00	40.00
tblTripsAndVMT	WorkerTripNumber	13.00	436.00
tblTripsAndVMT	WorkerTripNumber	0.00	436.00
tblTripsAndVMT	WorkerTripNumber	0.00	436.00
tblTripsAndVMT	WorkerTripNumber	0.00	436.00
tblVehicleTrips	ST_TR	1.32	20.00
tblVehicleTrips	SU_TR	0.68	20.00
tblVehicleTrips	WD_TR	6.97	20.00
tblWater	IndoorWaterUseRate	231,250.00	0.00
tblWater	OutdoorWaterUseRate	0.00	19,550,000.00

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					
2018	0.5924	3.3886	4.2292	6.5100e-003	1.1008	0.1600	1.2608	0.2753	0.1474	0.4226	0.0000	594.3846	594.3846	0.1153	0.0000	597.2664
2019	0.8107	2.9794	5.5146	8.6900e-003	0.4988	0.1465	0.6453	0.1336	0.1364	0.2700	0.0000	789.0401	789.0401	0.0978	0.0000	791.4849
2020	1.8700e-003	5.6600e-003	0.0142	3.0000e-005	1.9000e-003	1.3000e-004	2.0300e-003	5.1000e-004	1.3000e-004	6.3000e-004	0.0000	2.4390	2.4390	1.6000e-004	0.0000	2.4430
Maximum	**0.8107**	**3.3886**	**5.5146**	**8.6900e-003**	**1.1008**	**0.1600**	**1.2608**	**0.2753**	**0.1474**	**0.4226**	**0.0000**	**789.0401**	**789.0401**	**0.1153**	**0.0000**	**791.4849**

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					
2018	0.3593	2.5627	4.1942	6.5100e-003	0.7090	0.1164	0.8254	0.1794	0.1161	0.2956	0.0000	594.3843	594.3843	0.1153	0.0000	597.2661
2019	0.5654	2.7590	5.2682	8.6900e-003	0.4988	0.1066	0.6054	0.1336	0.1061	0.2397	0.0000	789.0398	789.0398	0.0978	0.0000	791.4847
2020	1.7400e-003	5.4200e-003	0.0144	3.0000e-005	1.9000e-003	1.3000e-004	2.0300e-003	5.1000e-004	1.3000e-004	6.4000e-004	0.0000	2.4390	2.4390	1.6000e-004	0.0000	2.4430
Maximum	**0.5654**	**2.7590**	**5.2682**	**8.6900e-003**	**0.7090**	**0.1164**	**0.8254**	**0.1794**	**0.1161**	**0.2956**	**0.0000**	**789.0398**	**789.0398**	**0.1153**	**0.0000**	**791.4847**

	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	N20	CO2e
Percent Reduction	**34.06**	**16.42**	**2.88**	**0.00**	**24.46**	**27.21**	**24.90**	**23.41**	**21.67**	**22.70**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	7-2-2018	10-1-2018	1.6807	0.9587
2	10-2-2018	1-1-2019	2.3244	1.9880
3	1-2-2019	4-1-2019	1.4677	1.2453
4	4-2-2019	7-1-2019	1.2132	1.0446
5	7-2-2019	10-1-2019	0.5534	0.5177
6	10-2-2019	1-1-2020	0.5427	0.5071
		Highest	2.3244	1.9880

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	4.6000e-003	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	0.0151	0.1213	0.2149	5.7000e-004	0.0366	5.4000e-004	0.0372	9.8300e-003	5.1000e-004	0.0103	0.0000	52.5658	52.5658	3.4300e-003	0.0000	52.6516
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	94.2831	94.2831	2.1700e-003	4.9000e-004	94.4841
Total	**0.0197**	**0.1213**	**0.2150**	**5.7000e-004**	**0.0366**	**5.4000e-004**	**0.0372**	**9.8300e-003**	**5.1000e-004**	**0.0103**	**0.0000**	**146.8490**	**146.8490**	**5.6000e-003**	**4.9000e-004**	**147.1358**

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	4.6000e-003	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	-74,037.2500	-74,037.2583	-1.7020	-0.3868	-74,195.0800
Mobile	0.0151	0.1213	0.2149	5.7000e-004	0.0366	5.4000e-004	0.0372	9.8300e-003	5.1000e-004	0.0103	0.0000	52.5658	52.5658	3.4300e-003	0.0000	52.6516
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	94.2831	94.2831	2.1700e-003	4.9000e-004	94.4841
Total	**0.0197**	**0.1213**	**0.2150**	**5.7000e-004**	**0.0366**	**5.4000e-004**	**0.0372**	**9.8300e-003**	**5.1000e-004**	**0.0103**	**0.0000**	**-73,890.4093**	**-73,890.4093**	**-1.6964**	**-0.3863**	**-74,047.9465**

	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	N20	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**	**50,417.28**	**50,417.28**	**30,393.21**	**78,942.86**	**50,426.27**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/2/2018	10/1/2018	5	66	
2	Facility Installation Part A	Building Construction	10/2/2018	1/1/2019	5	66	
3	Facility Installation Part B	Building Construction	1/2/2019	6/4/2019	5	110	
4	Facility Installation Part C	Building Construction	6/5/2019	1/1/2020	5	151	

Acres of Grading (Site Preparation Phase): 836.4

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor

Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Other Construction Equipment	1	2.00	50	0.50
Site Preparation	Other Construction Equipment	1	2.00	189	0.50
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Scrapers	1	8.00	367	0.48
Facility Installation Part A	Excavators	2	8.00	158	0.38
Facility Installation Part A	Other Construction Equipment	10	8.00	49	0.50
Facility Installation Part A	Other Construction Equipment	1	2.00	189	0.50
Facility Installation Part A	Rough Terrain Forklifts	10	8.00	100	0.40
Facility Installation Part A	Trenchers	1	2.00	78	0.50
Facility Installation Part B	Excavators	2	8.00	158	0.38
Facility Installation Part B	Other Construction Equipment	10	8.00	49	0.50
Facility Installation Part B	Other Construction Equipment	1	2.00	189	0.50
Facility Installation Part C	Generator Sets	1	8.00	84	0.74

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
Site Preparation	5	436.00	40.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Facility Installation Part A	24	436.00	40.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Facility Installation Part A	24	0.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Facility Installation Part A	24	0.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Facility Installation Part B	13	436.00	40.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Facility Installation Part C	1	436.00	40.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Site Preparation - 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					0.6422	0.0000	0.6422	0.1571	0.0000	0.1571	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0977	1.1372	0.5177	1.0200e-003		0.0479	0.0479		0.0441	0.0441	0.0000	93.2666	93.2666	0.0290	0.0000	93.9924
Total	**0.0977**	**1.1372**	**0.5177**	**1.0200e-003**	**0.6422**	**0.0479**	**0.6901**	**0.1571**	**0.0441**	**0.2012**	**0.0000**	**93.2666**	**93.2666**	**0.0290**	**0.0000**	**93.9924**

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	8.9900e-003	0.2112	0.0638	5.3000e-004	0.0145	2.0400e-003	0.0165	4.1700e-003	1.9500e-003	6.1200e-003	0.0000	50.6862	50.6862	2.5700e-003	0.0000	50.7504
Worker	0.1206	0.1034	0.9183	1.1000e-003	0.1108	7.7000e-004	0.1116	0.0294	7.1000e-004	0.0301	0.0000	98.3781	98.3781	8.6900e-003	0.0000	98.5952
Total	**0.1296**	**0.3146**	**0.9820**	**1.6300e-003**	**0.1253**	**2.8100e-003**	**0.1281**	**0.0336**	**2.6600e-003**	**0.0363**	**0.0000**	**149.0642**	**149.0642**	**0.0113**	**0.0000**	**149.3456**

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					0.2505	0.0000	0.2505	0.0613	0.0000	0.0613	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0250	0.4848	0.5456	1.0200e-003		0.0187	0.0187		0.0187	0.0187	0.0000	93.2665	93.2665	0.0290	0.0000	93.9923
Total	**0.0250**	**0.4848**	**0.5456**	**1.0200e-003**	**0.2505**	**0.0187**	**0.2692**	**0.0613**	**0.0187**	**0.0800**	**0.0000**	**93.2665**	**93.2665**	**0.0290**	**0.0000**	**93.9923**

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	8.9900e-003	0.2112	0.0638	5.3000e-004	0.0145	2.0400e-003	0.0165	4.1700e-003	1.9500e-003	6.1200e-003	0.0000	50.6862	50.6862	2.5700e-003	0.0000	50.7504
Worker	0.1206	0.1034	0.9183	1.1000e-003	0.1108	7.7000e-004	0.1116	0.0294	7.1000e-004	0.0301	0.0000	98.3781	98.3781	8.6900e-003	0.0000	98.5952
Total	**0.1296**	**0.3146**	**0.9820**	**1.6300e-003**	**0.1253**	**2.8100e-003**	**0.1281**	**0.0336**	**2.6600e-003**	**0.0363**	**0.0000**	**149.0642**	**149.0642**	**0.0113**	**0.0000**	**149.3456**

3.3 Facility Installation Part A - 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	0.2375	1.6269	1.7623	2.2500e-003		0.1065	0.1065		0.0980	0.0980	0.0000	205.2482	205.2482	0.0639	0.0000	206.8456
Total	**0.2375**	**1.6269**	**1.7623**	**2.2500e-003**		**0.1065**	**0.1065**		**0.0980**	**0.0980**	**0.0000**	**205.2482**	**205.2482**	**0.0639**	**0.0000**	**206.8456**

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	8.8600e-003	0.2080	0.0628	5.3000e-004	0.0346	2.0100e-003	0.0366	9.0900e-003	1.9200e-003	0.0110	0.0000	49.9182	49.9182	2.5300e-003	0.0000	49.9814
Worker	0.1188	0.1019	0.9043	1.0800e-003	0.2987	7.6000e-004	0.2994	0.0755	7.0000e-004	0.0762	0.0000	96.8875	96.8875	8.5500e-003	0.0000	97.1014
Total	**0.1276**	**0.3099**	**0.9672**	**1.6100e-003**	**0.3332**	**2.7700e-003**	**0.3360**	**0.0846**	**2.6200e-003**	**0.0872**	**0.0000**	**146.8057**	**146.8057**	**0.0111**	**0.0000**	**147.0828**

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	0.0772	1.4534	1.6995	2.2500e-003		0.0921	0.0921		0.0921	0.0921	0.0000	205.2479	205.2479	0.0639	0.0000	206.8453
Total	**0.0772**	**1.4534**	**1.6995**	**2.2500e-003**		**0.0921**	**0.0921**		**0.0921**	**0.0921**	**0.0000**	**205.2479**	**205.2479**	**0.0639**	**0.0000**	**206.8453**

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	8.8600e-003	0.2080	0.0628	5.3000e-004	0.0346	2.0100e-003	0.0366	9.0900e-003	1.9200e-003	0.0110	0.0000	49.9182	49.9182	2.5300e-003	0.0000	49.9814
Worker	0.1188	0.1019	0.9043	1.0800e-003	0.2987	7.6000e-004	0.2994	0.0755	7.0000e-004	0.0762	0.0000	96.8875	96.8875	8.5500e-003	0.0000	97.1014
Total	**0.1276**	**0.3099**	**0.9672**	**1.6100e-003**	**0.3332**	**2.7700e-003**	**0.3360**	**0.0846**	**2.6200e-003**	**0.0872**	**0.0000**	**146.8057**	**146.8057**	**0.0111**	**0.0000**	**147.0828**

3.3 Facility Installation Part A - 2019

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	3.5200e-003	0.0237	0.0271	3.0000e-005		1.5200e-003	1.5200e-003		1.4000e-003	1.4000e-003	0.0000	3.1060	3.1060	9.8000e-004	0.0000	3.1306
Total	**3.5200e-003**	**0.0237**	**0.0271**	**3.0000e-005**		**1.5200e-003**	**1.5200e-003**		**1.4000e-003**	**1.4000e-003**	**0.0000**	**3.1060**	**3.1060**	**9.8000e-004**	**0.0000**	**3.1306**

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	1.2000e-004	2.9500e-003	8.4000e-004	1.0000e-005	5.3000e-004	3.0000e-005	5.6000e-004	1.4000e-004	3.0000e-005	1.6000e-004	0.0000	0.7629	0.7629	4.0000e-005	0.0000	0.7638
Worker	1.6900e-003	1.4200e-003	0.0127	2.0000e-005	4.6000e-003	1.0000e-005	4.6100e-003	1.1600e-003	1.0000e-005	1.1700e-003	0.0000	1.4446	1.4446	1.2000e-004	0.0000	1.4477
Total	**1.8100e-003**	**4.3700e-003**	**0.0135**	**3.0000e-005**	**5.1300e-003**	**4.0000e-005**	**5.1700e-003**	**1.3000e-003**	**4.0000e-005**	**1.3300e-003**	**0.0000**	**2.2076**	**2.2076**	**1.6000e-004**	**0.0000**	**2.2115**

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	1.1900e-003	0.0224	0.0262	3.0000e-005		1.4200e-003	1.4200e-003		1.4200e-003	1.4200e-003	0.0000	3.1060	3.1060	9.8000e-004	0.0000	3.1306
Total	**1.1900e-003**	**0.0224**	**0.0262**	**3.0000e-005**		**1.4200e-003**	**1.4200e-003**		**1.4200e-003**	**1.4200e-003**	**0.0000**	**3.1060**	**3.1060**	**9.8000e-004**	**0.0000**	**3.1306**

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	1.2000e-004	2.9500e-003	8.4000e-004	1.0000e-005	5.3000e-004	3.0000e-005	5.6000e-004	1.4000e-004	3.0000e-005	1.6000e-004	0.0000	0.7629	0.7629	4.0000e-005	0.0000	0.7638
Worker	1.6900e-003	1.4200e-003	0.0127	2.0000e-005	4.6000e-003	1.0000e-005	4.6100e-003	1.1600e-003	1.0000e-005	1.1700e-003	0.0000	1.4446	1.4446	1.2000e-004	0.0000	1.4477
Total	**1.8100e-003**	**4.3700e-003**	**0.0135**	**3.0000e-005**	**5.1300e-003**	**4.0000e-005**	**5.1700e-003**	**1.3000e-003**	**4.0000e-005**	**1.3300e-003**	**0.0000**	**2.2076**	**2.2076**	**1.6000e-004**	**0.0000**	**2.2115**

3.4 Facility Installation Part B - 2019

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	0.3024	1.5316	1.6759	1.8600e-003		0.1182	0.1182		0.1087	0.1087	0.0000	167.3722	167.3722	0.0530	0.0000	168.6961
Total	**0.3024**	**1.5316**	**1.6759**	**1.8600e-003**		**0.1182**	**0.1182**		**0.1087**	**0.1087**	**0.0000**	**167.3722**	**167.3722**	**0.0530**	**0.0000**	**168.6961**

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	0.0133	0.3247	0.0928	8.9000e-004	0.0241	2.8900e-003	0.0270	6.9500e-003	2.7700e-003	9.7200e-003	0.0000	83.9199	83.9199	4.0900e-003	0.0000	84.0221
Worker	0.1854	0.1561	1.3960	1.7700e-003	0.1847	1.2500e-003	0.1860	0.0490	1.1500e-003	0.0502	0.0000	158.9109	158.9109	0.0133	0.0000	159.2425
Total	**0.1987**	**0.4808**	**1.4888**	**2.6600e-003**	**0.2089**	**4.1400e-003**	**0.2130**	**0.0560**	**3.9200e-003**	**0.0599**	**0.0000**	**242.8308**	**242.8308**	**0.0174**	**0.0000**	**243.2646**

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	0.0829	1.3706	1.4054	1.8600e-003		0.0796	0.0796		0.0796	0.0796	0.0000	167.3720	167.3720	0.0530	0.0000	168.6959
Total	**0.0829**	**1.3706**	**1.4054**	**1.8600e-003**		**0.0796**	**0.0796**		**0.0796**	**0.0796**	**0.0000**	**167.3720**	**167.3720**	**0.0530**	**0.0000**	**168.6959**

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	0.0133	0.3247	0.0928	8.9000e-004	0.0241	2.8900e-003	0.0270	6.9500e-003	2.7700e-003	9.7200e-003	0.0000	83.9199	83.9199	4.0900e-003	0.0000	84.0221
Worker	0.1854	0.1561	1.3960	1.7700e-003	0.1847	1.2500e-003	0.1860	0.0490	1.1500e-003	0.0502	0.0000	158.9109	158.9109	0.0133	0.0000	159.2425
Total	**0.1987**	**0.4808**	**1.4888**	**2.6600e-003**	**0.2089**	**4.1400e-003**	**0.2130**	**0.0560**	**3.9200e-003**	**0.0599**	**0.0000**	**242.8308**	**242.8308**	**0.0174**	**0.0000**	**243.2646**

3.5 Facility Installation Part C - 2019

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	0.0333	0.2833	0.2792	4.9000e-004		0.0169	0.0169		0.0169	0.0169	0.0000	42.3906	42.3906	2.6900e-003	0.0000	42.4577

Total	**0.0333**	**0.2833**	**0.2792**	**4.9000e-004**		**0.0169**	**0.0169**		**0.0169**	**0.0169**	**0.0000**	**42.3906**	**42.3906**	**2.6900e-003**	**0.0000**	**42.4577**

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	0.0181	0.4427	0.1265	1.2100e-003	0.0329	3.9400e-003	0.0369	9.4800e-003	3.7700e-003	0.0133	0.0000	114.4362	114.4362	5.5800e-003	0.0000	114.5756
Worker	0.2528	0.2129	1.9037	2.4200e-003	0.2519	1.7000e-003	0.2536	0.0669	1.5700e-003	0.0684	0.0000	216.6967	216.6967	0.0181	0.0000	217.1489
Total	**0.2709**	**0.6556**	**2.0301**	**3.6300e-003**	**0.2848**	**5.6400e-003**	**0.2905**	**0.0763**	**5.3400e-003**	**0.0817**	**0.0000**	**331.1329**	**331.1329**	**0.0237**	**0.0000**	**331.7245**

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	9.8700e-003	0.2253	0.3042	4.9000e-004		0.0158	0.0158		0.0158	0.0158	0.0000	42.3905	42.3905	2.6900e-003	0.0000	42.4576
Total	**9.8700e-003**	**0.2253**	**0.3042**	**4.9000e-004**		**0.0158**	**0.0158**		**0.0158**	**0.0158**	**0.0000**	**42.3905**	**42.3905**	**2.6900e-003**	**0.0000**	**42.4576**

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	0.0181	0.4427	0.1265	1.2100e-003	0.0329	3.9400e-003	0.0369	9.4800e-003	3.7700e-003	0.0133	0.0000	114.4362	114.4362	5.5800e-003	0.0000	114.5756
Worker	0.2528	0.2129	1.9037	2.4200e-003	0.2519	1.7000e-003	0.2536	0.0669	1.5700e-003	0.0684	0.0000	216.6967	216.6967	0.0181	0.0000	217.1489
Total	**0.2709**	**0.6556**	**2.0301**	**3.6300e-003**	**0.2848**	**5.6400e-003**	**0.2905**	**0.0763**	**5.3400e-003**	**0.0817**	**0.0000**	**331.1329**	**331.1329**	**0.0237**	**0.0000**	**331.7245**

3.5 Facility Installation Part C - 2020

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	2.0000e-004	1.7400e-003	1.8500e-003	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	0.2826	0.2826	2.0000e-005	0.0000	0.2830
Total	**2.0000e-004**	**1.7400e-003**	**1.8500e-003**	**0.0000**		**1.0000e-004**	**1.0000e-004**		**1.0000e-004**	**1.0000e-004**	**0.0000**	**0.2826**	**0.2826**	**2.0000e-005**	**0.0000**	**0.2830**

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	1.0000e-004	2.6300e-003	7.4000e-004	1.0000e-005	2.2000e-004	2.0000e-005	2.4000e-004	6.0000e-005	2.0000e-005	8.0000e-005	0.0000	0.7573	0.7573	3.0000e-005	0.0000	0.7581
Worker	1.5700e-003	1.2900e-003	0.0116	2.0000e-005	1.6800e-003	1.0000e-005	1.6900e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.3991	1.3991	1.1000e-004	0.0000	1.4018
Total	**1.6700e-003**	**3.9200e-003**	**0.0124**	**3.0000e-005**	**1.9000e-003**	**3.0000e-005**	**1.9300e-003**	**5.1000e-004**	**3.0000e-005**	**5.4000e-004**	**0.0000**	**2.1564**	**2.1564**	**1.4000e-004**	**0.0000**	**2.1600**

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	7.0000e-005	1.5000e-003	2.0300e-003	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	0.2826	0.2826	2.0000e-005	0.0000	0.2830
Total	**7.0000e-005**	**1.5000e-003**	**2.0300e-003**	**0.0000**		**1.1000e-004**	**1.1000e-004**		**1.1000e-004**	**1.1000e-004**	**0.0000**	**0.2826**	**0.2826**	**2.0000e-005**	**0.0000**	**0.2830**

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	1.0000e-004	2.6300e-003	7.4000e-004	1.0000e-005	2.2000e-004	2.0000e-005	2.4000e-004	6.0000e-005	2.0000e-005	8.0000e-005	0.0000	0.7573	0.7573	3.0000e-005	0.0000	0.7581
Worker	1.5700e-003	1.2900e-003	0.0116	2.0000e-005	1.6800e-003	1.0000e-005	1.6900e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.3991	1.3991	1.1000e-004	0.0000	1.4018
Total	**1.6700e-003**	**3.9200e-003**	**0.0124**	**3.0000e-005**	**1.9000e-003**	**3.0000e-005**	**1.9300e-003**	**5.1000e-004**	**3.0000e-005**	**5.4000e-004**	**0.0000**	**2.1564**	**2.1564**	**1.4000e-004**	**0.0000**	**2.1600**

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	0.0151	0.1213	0.2149	5.7000e-004	0.0366	5.4000e-004	0.0372	9.8300e-003	5.1000e-004	0.0103	0.0000	52.5658	52.5658	3.4300e-003	0.0000	52.6516
Unmitigated	0.0151	0.1213	0.2149	5.7000e-004	0.0366	5.4000e-004	0.0372	9.8300e-003	5.1000e-004	0.0103	0.0000	52.5658	52.5658	3.4300e-003	0.0000	52.6516

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	20.00	20.00	20.00	94,268	94,268
Total	20.00	20.00	20.00	94,268	94,268

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-...	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.40	9.50	11.90	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.503420	0.033264	0.160883	0.129541	0.018929	0.005318	0.019165	0.118376	0.003239	0.001168	0.005214	0.000745	0.000738

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Kilowatt Hours of Renewable Electricity Generated

	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					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	-74,037.2533	-74,037.2583	-1.7020	-0.3868	-74,195.0833
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas 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
NaturalGas 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

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	tons/yr										MT/yr					
General Light Industry	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
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**	**0.0000**

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					
General Light Industry	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
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**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e

Land Use	kWh/yr	MT/yr			
General Light Industry	-1.7056e+0	-74,037.258	-1.7020	-0.3868	-74,195.08
Total		**-74,037.2583**	**-1.7020**	**-0.3868**	**-74,195.0823**

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	4.6000e-003	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
Unmitigated	4.6000e-003	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

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	7.0000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Consumer Products	3.9100e-003					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	**4.6100e-003**	**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	7.0000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.9100e-003					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	**4.6100e-003**	**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	94.2831	2.1700e-003	4.9000e-004	94.4841
Unmitigated	94.2831	2.1700e-003	4.9000e-004	94.4841

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 19.55	94.2831	2.1700e-003	4.9000e-004	94.4841
Total		**94.2831**	**2.1700e-003**	**4.9000e-004**	**94.4841**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 19.55	94.2831	2.1700e-003	4.9000e-004	94.4841
Total		**94.2831**	**2.1700e-003**	**4.9000e-004**	**94.4841**

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			
General Light Industry	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			

General Light Industry	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 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Drew Solar 2030 - Imperial County, Annual

Drew Solar 2030

Imperial County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	1.00	1000sqft	844.20	1,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.4	**Precipitation Freq (Days)**	12
Climate Zone	15			**Operational Year**	2030
Utility Company	Imperial Irrigation District				
CO2 Intensity (lb/MWhr)	740.93	**CH4 Intensity (lb/MWhr)**	0.017	**N2O Intensity (lb/MWhr)**	0.003

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Energy intensity factors reduced to reflect 2030 renewable energy procurement mandate

Land Use - Modeled as 1 ksf industrial. Project site is 844.2 acres.

Construction Phase - Site Prep, Part A includes all facility installation equipment, Part B includes only excavators, water trucks, and forklifts, and Part C includes negligible equipment.

Off-road Equipment - Other construction equipment refers to mast pile drivers and water trucks

Off-road Equipment - Other construction equipment refers to mast pile drivers and water trucks

Off-road Equipment - Non-equipment related tasks.

Off-road Equipment - Other construction equipment refers to brush chippers and water trucks.

Trips and VMT - Conservatively assessed maximum trips assocaiated with project construction

On-road Fugitive Dust - Project site is along a major highway (SR-98). Trips are not anticipated to use unpaved routes.

Grading - Project site would be graded. All import/export would be balanced onsite.

Vehicle Trips - Project operation would generate up to 20 trips per day.

Road Dust - Project site is along a major highway (SR-98). Trips are not anticipated to use unpaved routes.

Energy Use - Project would have limited energy use.

Water And Wastewater - Project would use 60 acre-feet per year = 19,550,000 gallons. Project water use would not generate wastewater that requires offsite treatment.

Solid Waste - Project would generate limited waste.

Construction Off-road Equipment Mitigation - Fugitive dust control measures include site watering and limiting vehicle speeds on unpaved roads to 15 mph.

Energy Mitigation - 100 MWh = 100,000 kWh; regional solar generation potential of 1,705.6 KWh/KW; 170,560,000 KWh/year

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	40
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	24.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	13,950.00	66.00
tblConstructionPhase	NumDays	13,950.00	110.00

tblConstructionPhase	NumDays	13,950.00	151.00
tblConstructionPhase	NumDays	540.00	66.00
tblEnergyUse	LightingElect	2.93	0.00
tblEnergyUse	NT24E	5.02	0.00
tblEnergyUse	NT24NG	17.13	0.00
tblEnergyUse	T24E	2.20	0.00
tblEnergyUse	T24NG	15.36	0.00
tblGrading	AcresOfGrading	99.00	844.20
tblLandUse	LotAcreage	0.02	844.20
tblOffRoadEquipment	HorsePower	172.00	50.00
tblOffRoadEquipment	HorsePower	172.00	189.00
tblOffRoadEquipment	HorsePower	172.00	49.00
tblOffRoadEquipment	HorsePower	172.00	189.00
tblOffRoadEquipment	HorsePower	172.00	49.00
tblOffRoadEquipment	HorsePower	172.00	189.00
tblOffRoadEquipment	LoadFactor	0.42	0.50
tblOffRoadEquipment	LoadFactor	0.42	0.50
tblOffRoadEquipment	LoadFactor	0.42	0.50
tblOffRoadEquipment	LoadFactor	0.42	0.50
tblOffRoadEquipment	LoadFactor	0.42	0.50
tblOffRoadEquipment	LoadFactor	0.42	0.50
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	HaulingPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00

tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	VendorPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblOnRoadDust	WorkerPercentPave	50.00	100.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.017
tblProjectCharacteristics	CO2IntensityFactor	1270.9	740.93
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.003
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	RoadPercentPave	50	100
tblSolidWaste	SolidWasteGenerationRate	1.24	0.00
tblTripsAndVMT	VendorTripNumber	0.00	40.00
tblTripsAndVMT	VendorTripNumber	0.00	40.00
tblTripsAndVMT	VendorTripNumber	0.00	40.00
tblTripsAndVMT	VendorTripNumber	0.00	40.00
tblTripsAndVMT	WorkerTripNumber	13.00	436.00
tblTripsAndVMT	WorkerTripNumber	0.00	436.00
tblTripsAndVMT	WorkerTripNumber	0.00	436.00
tblTripsAndVMT	WorkerTripNumber	0.00	436.00
tblVehicleTrips	ST_TR	1.32	20.00
tblVehicleTrips	SU_TR	0.68	20.00
tblVehicleTrips	WD_TR	6.97	20.00
tblWater	IndoorWaterUseRate	231,250.00	0.00
tblWater	OutdoorWaterUseRate	0.00	19,550,000.00

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					
2018	0.5924	3.3886	4.2292	6.5100e-003	1.1008	0.1600	1.2608	0.2753	0.1474	0.4226	0.0000	594.3846	594.3846	0.1153	0.0000	597.2664
2019	0.8107	2.9794	5.5146	8.6900e-003	0.4988	0.1465	0.6453	0.1336	0.1364	0.2700	0.0000	789.0401	789.0401	0.0978	0.0000	791.4849
2020	1.8700e-003	5.6600e-003	0.0142	3.0000e-005	1.9000e-003	1.3000e-004	2.0300e-003	5.1000e-004	1.3000e-004	6.3000e-004	0.0000	2.4390	2.4390	1.6000e-004	0.0000	2.4430
Maximum	**0.8107**	**3.3886**	**5.5146**	**8.6900e-003**	**1.1008**	**0.1600**	**1.2608**	**0.2753**	**0.1474**	**0.4226**	**0.0000**	**789.0401**	**789.0401**	**0.1153**	**0.0000**	**791.4849**

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					
2018	0.3593	2.5627	4.1942	6.5100e-003	0.7090	0.1164	0.8254	0.1794	0.1161	0.2956	0.0000	594.3843	594.3843	0.1153	0.0000	597.2661
2019	0.5654	2.7590	5.2682	8.6900e-003	0.4988	0.1066	0.6054	0.1336	0.1061	0.2397	0.0000	789.0398	789.0398	0.0978	0.0000	791.4847
2020	1.7400e-003	5.4200e-003	0.0144	3.0000e-005	1.9000e-003	1.3000e-004	2.0300e-003	5.1000e-004	1.3000e-004	6.4000e-004	0.0000	2.4390	2.4390	1.6000e-004	0.0000	2.4430
Maximum	**0.5654**	**2.7590**	**5.2682**	**8.6900e-003**	**0.7090**	**0.1164**	**0.8254**	**0.1794**	**0.1161**	**0.2956**	**0.0000**	**789.0398**	**789.0398**	**0.1153**	**0.0000**	**791.4847**

	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	N20	CO2e
Percent Reduction	**34.06**	**16.42**	**2.88**	**0.00**	**24.46**	**27.21**	**24.90**	**23.41**	**21.67**	**22.70**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	7-2-2018	10-1-2018	1.6807	0.9587
2	10-2-2018	1-1-2019	2.3244	1.9880
3	1-2-2019	4-1-2019	1.4677	1.2453
4	4-2-2019	7-1-2019	1.2132	1.0446
5	7-2-2019	10-1-2019	0.5534	0.5177
6	10-2-2019	1-1-2020	0.5427	0.5071
		Highest	2.3244	1.9880

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	4.6000e-003	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	0.0101	0.0669	0.1474	4.6000e-004	0.0366	2.0000e-004	0.0368	9.8200e-003	1.8000e-004	0.0100	0.0000	42.6961	42.6961	2.4100e-003	0.0000	42.7564
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	72.9968	72.9968	1.6700e-003	3.0000e-004	73.1267
Total	**0.0147**	**0.0669**	**0.1474**	**4.6000e-004**	**0.0366**	**2.0000e-004**	**0.0368**	**9.8200e-003**	**1.8000e-004**	**0.0100**	**0.0000**	**115.6929**	**115.6929**	**4.0800e-003**	**3.0000e-004**	**115.8831**

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	4.6000e-003	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	-57,321.8300	-57,321.8380	-1.3152	-0.2321	-57,423.8831
Mobile	0.0101	0.0669	0.1474	4.6000e-004	0.0366	2.0000e-004	0.0368	9.8200e-003	1.8000e-004	0.0100	0.0000	42.6961	42.6961	2.4100e-003	0.0000	42.7564
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	72.9968	72.9968	1.6700e-003	3.0000e-004	73.1267
Total	**0.0147**	**0.0669**	**0.1474**	**4.6000e-004**	**0.0366**	**2.0000e-004**	**0.0368**	**9.8200e-003**	**1.8000e-004**	**0.0100**	**0.0000**	**-57,206.1451**	**-57,206.1451**	**-1.3111**	**-0.2318**	**-57,307.9989**

	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	N20	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**	**49,546.55**	**49,546.55**	**32,235.29**	**77,363.33**	**49,553.27**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/2/2018	10/1/2018	5	66	
2	Facility Installation Part A	Building Construction	10/2/2018	1/1/2019	5	66	
3	Facility Installation Part B	Building Construction	1/2/2019	6/4/2019	5	110	
4	Facility Installation Part C	Building Construction	6/5/2019	1/1/2020	5	151	

Acres of Grading (Site Preparation Phase): 836.4

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor

Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Other Construction Equipment	1	2.00	50	0.50
Site Preparation	Other Construction Equipment	1	2.00	189	0.50
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Scrapers	1	8.00	367	0.48
Facility Installation Part A	Excavators	2	8.00	158	0.38
Facility Installation Part A	Other Construction Equipment	10	8.00	49	0.50
Facility Installation Part A	Other Construction Equipment	1	2.00	189	0.50
Facility Installation Part A	Rough Terrain Forklifts	10	8.00	100	0.40
Facility Installation Part A	Trenchers	1	2.00	78	0.50
Facility Installation Part B	Excavators	2	8.00	158	0.38
Facility Installation Part B	Other Construction Equipment	10	8.00	49	0.50
Facility Installation Part B	Other Construction Equipment	1	2.00	189	0.50
Facility Installation Part C	Generator Sets	1	8.00	84	0.74

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
Site Preparation	5	436.00	40.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Facility Installation Part A	24	436.00	40.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Facility Installation Part A	24	0.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Facility Installation Part A	24	0.00	0.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Facility Installation Part B	13	436.00	40.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT
Facility Installation Part C	1	436.00	40.00	0.00	10.20	11.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 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					0.6422	0.0000	0.6422	0.1571	0.0000	0.1571	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0977	1.1372	0.5177	1.0200e-003		0.0479	0.0479		0.0441	0.0441	0.0000	93.2666	93.2666	0.0290	0.0000	93.9924
Total	**0.0977**	**1.1372**	**0.5177**	**1.0200e-003**	**0.6422**	**0.0479**	**0.6901**	**0.1571**	**0.0441**	**0.2012**	**0.0000**	**93.2666**	**93.2666**	**0.0290**	**0.0000**	**93.9924**

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	8.9900e-003	0.2112	0.0638	5.3000e-004	0.0145	2.0400e-003	0.0165	4.1700e-003	1.9500e-003	6.1200e-003	0.0000	50.6862	50.6862	2.5700e-003	0.0000	50.7504
Worker	0.1206	0.1034	0.9183	1.1000e-003	0.1108	7.7000e-004	0.1116	0.0294	7.1000e-004	0.0301	0.0000	98.3781	98.3781	8.6900e-003	0.0000	98.5952
Total	**0.1296**	**0.3146**	**0.9820**	**1.6300e-003**	**0.1253**	**2.8100e-003**	**0.1281**	**0.0336**	**2.6600e-003**	**0.0363**	**0.0000**	**149.0642**	**149.0642**	**0.0113**	**0.0000**	**149.3456**

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					0.2505	0.0000	0.2505	0.0613	0.0000	0.0613	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0250	0.4848	0.5456	1.0200e-003		0.0187	0.0187		0.0187	0.0187	0.0000	93.2665	93.2665	0.0290	0.0000	93.9923
Total	**0.0250**	**0.4848**	**0.5456**	**1.0200e-003**	**0.2505**	**0.0187**	**0.2692**	**0.0613**	**0.0187**	**0.0800**	**0.0000**	**93.2665**	**93.2665**	**0.0290**	**0.0000**	**93.9923**

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	8.9900e-003	0.2112	0.0638	5.3000e-004	0.0145	2.0400e-003	0.0165	4.1700e-003	1.9500e-003	6.1200e-003	0.0000	50.6862	50.6862	2.5700e-003	0.0000	50.7504
Worker	0.1206	0.1034	0.9183	1.1000e-003	0.1108	7.7000e-004	0.1116	0.0294	7.1000e-004	0.0301	0.0000	98.3781	98.3781	8.6900e-003	0.0000	98.5952
Total	**0.1296**	**0.3146**	**0.9820**	**1.6300e-003**	**0.1253**	**2.8100e-003**	**0.1281**	**0.0336**	**2.6600e-003**	**0.0363**	**0.0000**	**149.0642**	**149.0642**	**0.0113**	**0.0000**	**149.3456**

3.3 Facility Installation Part A - 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	0.2375	1.6269	1.7623	2.2500e-003		0.1065	0.1065		0.0980	0.0980	0.0000	205.2482	205.2482	0.0639	0.0000	206.8456
Total	**0.2375**	**1.6269**	**1.7623**	**2.2500e-003**		**0.1065**	**0.1065**		**0.0980**	**0.0980**	**0.0000**	**205.2482**	**205.2482**	**0.0639**	**0.0000**	**206.8456**

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	8.8600e-003	0.2080	0.0628	5.3000e-004	0.0346	2.0100e-003	0.0366	9.0900e-003	1.9200e-003	0.0110	0.0000	49.9182	49.9182	2.5300e-003	0.0000	49.9814
Worker	0.1188	0.1019	0.9043	1.0800e-003	0.2987	7.6000e-004	0.2994	0.0755	7.0000e-004	0.0762	0.0000	96.8875	96.8875	8.5500e-003	0.0000	97.1014
Total	**0.1276**	**0.3099**	**0.9672**	**1.6100e-003**	**0.3332**	**2.7700e-003**	**0.3360**	**0.0846**	**2.6200e-003**	**0.0872**	**0.0000**	**146.8057**	**146.8057**	**0.0111**	**0.0000**	**147.0828**

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	0.0772	1.4534	1.6995	2.2500e-003		0.0921	0.0921		0.0921	0.0921	0.0000	205.2479	205.2479	0.0639	0.0000	206.8453
Total	**0.0772**	**1.4534**	**1.6995**	**2.2500e-003**		**0.0921**	**0.0921**		**0.0921**	**0.0921**	**0.0000**	**205.2479**	**205.2479**	**0.0639**	**0.0000**	**206.8453**

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	8.8600e-003	0.2080	0.0628	5.3000e-004	0.0346	2.0100e-003	0.0366	9.0900e-003	1.9200e-003	0.0110	0.0000	49.9182	49.9182	2.5300e-003	0.0000	49.9814
Worker	0.1188	0.1019	0.9043	1.0800e-003	0.2987	7.6000e-004	0.2994	0.0755	7.0000e-004	0.0762	0.0000	96.8875	96.8875	8.5500e-003	0.0000	97.1014
Total	**0.1276**	**0.3099**	**0.9672**	**1.6100e-003**	**0.3332**	**2.7700e-003**	**0.3360**	**0.0846**	**2.6200e-003**	**0.0872**	**0.0000**	**146.8057**	**146.8057**	**0.0111**	**0.0000**	**147.0828**

3.3 Facility Installation Part A - 2019

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	3.5200e-003	0.0237	0.0271	3.0000e-005		1.5200e-003	1.5200e-003		1.4000e-003	1.4000e-003	0.0000	3.1060	3.1060	9.8000e-004	0.0000	3.1306
Total	**3.5200e-003**	**0.0237**	**0.0271**	**3.0000e-005**		**1.5200e-003**	**1.5200e-003**		**1.4000e-003**	**1.4000e-003**	**0.0000**	**3.1060**	**3.1060**	**9.8000e-004**	**0.0000**	**3.1306**

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	1.2000e-004	2.9500e-003	8.4000e-004	1.0000e-005	5.3000e-004	3.0000e-005	5.6000e-004	1.4000e-004	3.0000e-005	1.6000e-004	0.0000	0.7629	0.7629	4.0000e-005	0.0000	0.7638
Worker	1.6900e-003	1.4200e-003	0.0127	2.0000e-005	4.6000e-003	1.0000e-005	4.6100e-003	1.1600e-003	1.0000e-005	1.1700e-003	0.0000	1.4446	1.4446	1.2000e-004	0.0000	1.4477
Total	**1.8100e-003**	**4.3700e-003**	**0.0135**	**3.0000e-005**	**5.1300e-003**	**4.0000e-005**	**5.1700e-003**	**1.3000e-003**	**4.0000e-005**	**1.3300e-003**	**0.0000**	**2.2076**	**2.2076**	**1.6000e-004**	**0.0000**	**2.2115**

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	1.1900e-003	0.0224	0.0262	3.0000e-005		1.4200e-003	1.4200e-003		1.4200e-003	1.4200e-003	0.0000	3.1060	3.1060	9.8000e-004	0.0000	3.1306
Total	**1.1900e-003**	**0.0224**	**0.0262**	**3.0000e-005**		**1.4200e-003**	**1.4200e-003**		**1.4200e-003**	**1.4200e-003**	**0.0000**	**3.1060**	**3.1060**	**9.8000e-004**	**0.0000**	**3.1306**

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	1.2000e-004	2.9500e-003	8.4000e-004	1.0000e-005	5.3000e-004	3.0000e-005	5.6000e-004	1.4000e-004	3.0000e-005	1.6000e-004	0.0000	0.7629	0.7629	4.0000e-005	0.0000	0.7638
Worker	1.6900e-003	1.4200e-003	0.0127	2.0000e-005	4.6000e-003	1.0000e-005	4.6100e-003	1.1600e-003	1.0000e-005	1.1700e-003	0.0000	1.4446	1.4446	1.2000e-004	0.0000	1.4477
Total	**1.8100e-003**	**4.3700e-003**	**0.0135**	**3.0000e-005**	**5.1300e-003**	**4.0000e-005**	**5.1700e-003**	**1.3000e-003**	**4.0000e-005**	**1.3300e-003**	**0.0000**	**2.2076**	**2.2076**	**1.6000e-004**	**0.0000**	**2.2115**

3.4 Facility Installation Part B - 2019

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	0.3024	1.5316	1.6759	1.8600e-003		0.1182	0.1182		0.1087	0.1087	0.0000	167.3722	167.3722	0.0530	0.0000	168.6961
Total	**0.3024**	**1.5316**	**1.6759**	**1.8600e-003**		**0.1182**	**0.1182**		**0.1087**	**0.1087**	**0.0000**	**167.3722**	**167.3722**	**0.0530**	**0.0000**	**168.6961**

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	0.0133	0.3247	0.0928	8.9000e-004	0.0241	2.8900e-003	0.0270	6.9500e-003	2.7700e-003	9.7200e-003	0.0000	83.9199	83.9199	4.0900e-003	0.0000	84.0221
Worker	0.1854	0.1561	1.3960	1.7700e-003	0.1847	1.2500e-003	0.1860	0.0490	1.1500e-003	0.0502	0.0000	158.9109	158.9109	0.0133	0.0000	159.2425
Total	**0.1987**	**0.4808**	**1.4888**	**2.6600e-003**	**0.2089**	**4.1400e-003**	**0.2130**	**0.0560**	**3.9200e-003**	**0.0599**	**0.0000**	**242.8308**	**242.8308**	**0.0174**	**0.0000**	**243.2646**

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	0.0829	1.3706	1.4054	1.8600e-003		0.0796	0.0796		0.0796	0.0796	0.0000	167.3720	167.3720	0.0530	0.0000	168.6959
Total	**0.0829**	**1.3706**	**1.4054**	**1.8600e-003**		**0.0796**	**0.0796**		**0.0796**	**0.0796**	**0.0000**	**167.3720**	**167.3720**	**0.0530**	**0.0000**	**168.6959**

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	0.0133	0.3247	0.0928	8.9000e-004	0.0241	2.8900e-003	0.0270	6.9500e-003	2.7700e-003	9.7200e-003	0.0000	83.9199	83.9199	4.0900e-003	0.0000	84.0221
Worker	0.1854	0.1561	1.3960	1.7700e-003	0.1847	1.2500e-003	0.1860	0.0490	1.1500e-003	0.0502	0.0000	158.9109	158.9109	0.0133	0.0000	159.2425
Total	**0.1987**	**0.4808**	**1.4888**	**2.6600e-003**	**0.2089**	**4.1400e-003**	**0.2130**	**0.0560**	**3.9200e-003**	**0.0599**	**0.0000**	**242.8308**	**242.8308**	**0.0174**	**0.0000**	**243.2646**

3.5 Facility Installation Part C - 2019

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	0.0333	0.2833	0.2792	4.9000e-004		0.0169	0.0169		0.0169	0.0169	0.0000	42.3906	42.3906	2.6900e-003	0.0000	42.4577

Total	**0.0333**	**0.2833**	**0.2792**	**4.9000e-004**		**0.0169**	**0.0169**		**0.0169**	**0.0169**	**0.0000**	**42.3906**	**42.3906**	**2.6900e-003**	**0.0000**	**42.4577**

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	0.0181	0.4427	0.1265	1.2100e-003	0.0329	3.9400e-003	0.0369	9.4800e-003	3.7700e-003	0.0133	0.0000	114.4362	114.4362	5.5800e-003	0.0000	114.5756
Worker	0.2528	0.2129	1.9037	2.4200e-003	0.2519	1.7000e-003	0.2536	0.0669	1.5700e-003	0.0684	0.0000	216.6967	216.6967	0.0181	0.0000	217.1489
Total	**0.2709**	**0.6556**	**2.0301**	**3.6300e-003**	**0.2848**	**5.6400e-003**	**0.2905**	**0.0763**	**5.3400e-003**	**0.0817**	**0.0000**	**331.1329**	**331.1329**	**0.0237**	**0.0000**	**331.7245**

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	9.8700e-003	0.2253	0.3042	4.9000e-004		0.0158	0.0158		0.0158	0.0158	0.0000	42.3905	42.3905	2.6900e-003	0.0000	42.4576
Total	**9.8700e-003**	**0.2253**	**0.3042**	**4.9000e-004**		**0.0158**	**0.0158**		**0.0158**	**0.0158**	**0.0000**	**42.3905**	**42.3905**	**2.6900e-003**	**0.0000**	**42.4576**

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	0.0181	0.4427	0.1265	1.2100e-003	0.0329	3.9400e-003	0.0369	9.4800e-003	3.7700e-003	0.0133	0.0000	114.4362	114.4362	5.5800e-003	0.0000	114.5756
Worker	0.2528	0.2129	1.9037	2.4200e-003	0.2519	1.7000e-003	0.2536	0.0669	1.5700e-003	0.0684	0.0000	216.6967	216.6967	0.0181	0.0000	217.1489
Total	**0.2709**	**0.6556**	**2.0301**	**3.6300e-003**	**0.2848**	**5.6400e-003**	**0.2905**	**0.0763**	**5.3400e-003**	**0.0817**	**0.0000**	**331.1329**	**331.1329**	**0.0237**	**0.0000**	**331.7245**

3.5 Facility Installation Part C - 2020

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	2.0000e-004	1.7400e-003	1.8500e-003	0.0000		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	0.2826	0.2826	2.0000e-005	0.0000	0.2830
Total	**2.0000e-004**	**1.7400e-003**	**1.8500e-003**	**0.0000**		**1.0000e-004**	**1.0000e-004**		**1.0000e-004**	**1.0000e-004**	**0.0000**	**0.2826**	**0.2826**	**2.0000e-005**	**0.0000**	**0.2830**

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	1.0000e-004	2.6300e-003	7.4000e-004	1.0000e-005	2.2000e-004	2.0000e-005	2.4000e-004	6.0000e-005	2.0000e-005	8.0000e-005	0.0000	0.7573	0.7573	3.0000e-005	0.0000	0.7581
Worker	1.5700e-003	1.2900e-003	0.0116	2.0000e-005	1.6800e-003	1.0000e-005	1.6900e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.3991	1.3991	1.1000e-004	0.0000	1.4018
Total	**1.6700e-003**	**3.9200e-003**	**0.0124**	**3.0000e-005**	**1.9000e-003**	**3.0000e-005**	**1.9300e-003**	**5.1000e-004**	**3.0000e-005**	**5.4000e-004**	**0.0000**	**2.1564**	**2.1564**	**1.4000e-004**	**0.0000**	**2.1600**

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	7.0000e-005	1.5000e-003	2.0300e-003	0.0000		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	0.2826	0.2826	2.0000e-005	0.0000	0.2830
Total	**7.0000e-005**	**1.5000e-003**	**2.0300e-003**	**0.0000**		**1.1000e-004**	**1.1000e-004**		**1.1000e-004**	**1.1000e-004**	**0.0000**	**0.2826**	**0.2826**	**2.0000e-005**	**0.0000**	**0.2830**

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	1.0000e-004	2.6300e-003	7.4000e-004	1.0000e-005	2.2000e-004	2.0000e-005	2.4000e-004	6.0000e-005	2.0000e-005	8.0000e-005	0.0000	0.7573	0.7573	3.0000e-005	0.0000	0.7581
Worker	1.5700e-003	1.2900e-003	0.0116	2.0000e-005	1.6800e-003	1.0000e-005	1.6900e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.3991	1.3991	1.1000e-004	0.0000	1.4018
Total	**1.6700e-003**	**3.9200e-003**	**0.0124**	**3.0000e-005**	**1.9000e-003**	**3.0000e-005**	**1.9300e-003**	**5.1000e-004**	**3.0000e-005**	**5.4000e-004**	**0.0000**	**2.1564**	**2.1564**	**1.4000e-004**	**0.0000**	**2.1600**

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	0.0101	0.0669	0.1474	4.6000e-004	0.0366	2.0000e-004	0.0368	9.8200e-003	1.8000e-004	0.0100	0.0000	42.6961	42.6961	2.4100e-003	0.0000	42.7564
Unmitigated	0.0101	0.0669	0.1474	4.6000e-004	0.0366	2.0000e-004	0.0368	9.8200e-003	1.8000e-004	0.0100	0.0000	42.6961	42.6961	2.4100e-003	0.0000	42.7564

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	20.00	20.00	20.00	94,268	94,268
Total	20.00	20.00	20.00	94,268	94,268

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-...	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.40	9.50	11.90	59.00	28.00	13.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.543244	0.029362	0.162875	0.099785	0.010956	0.004222	0.017706	0.120154	0.003861	0.001334	0.005275	0.000706	0.000522

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Kilowatt Hours of Renewable Electricity Generated

	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					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	-57,321.8330	-57,321.8380	-1.3152	-0.2321	-57,423.8821
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas 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
NaturalGas 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

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	tons/yr										MT/yr					
General Light Industry	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
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**	**0.0000**

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					
General Light Industry	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
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**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e

Land Use	kWh/yr	MT/yr			
General Light Industry	-1.7056e+0	-57,321.838	-1.3152	-0.2321	-57,423.88
Total		**-57,321.838 0**	**-1.3152**	**-0.2321**	**-57,423.88 21**

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	4.6000e-003	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
Unmitigated	4.6000e-003	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

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	7.0000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Consumer Products	3.9100e-003					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	**4.6100e-003**	**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	7.0000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.9100e-003					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	**4.6100e-003**	**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	72.9968	1.6700e-003	3.0000e-004	73.1267
Unmitigated	72.9968	1.6700e-003	3.0000e-004	73.1267

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 19.55	72.9968	1.6700e-003	3.0000e-004	73.1267
Total		**72.9968**	**1.6700e-003**	**3.0000e-004**	**73.1267**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 19.55	72.9968	1.6700e-003	3.0000e-004	73.1267
Total		**72.9968**	**1.6700e-003**	**3.0000e-004**	**73.1267**

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			
General Light Industry	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			

General Light Industry	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 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation