Appendix L

Air Quality and Global Climate Change Technical Report

AIR QUALITY/GHG TECHNICAL REPORT
Athos Renewable Energy Project

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AIR QUALITY/GHG TECHNICAL REPORT: Athos Renewable Energy Project

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AIR QUALITY/GHG TECHNICAL REPORT: Athos Renewable Energy Project

1. Executive Summary

This technical report provides the results of an air quality and greenhouse gas (GHG) emissions assessment for the proposed Athos Renewable Energy Project site located near Desert Center, California. The assessment quantifies the emissions due to the project and discusses the extent of potential impacts to air quality and impacts due to GHG emissions. Mitigation measures are recommended to reduce potentially significant air quality impacts; the mitigation would require the project owner to control fugitive dust to control off-road equipment exhaust emissions.

2. Understanding of the Project

Our understanding of the Athos Renewable Energy Project (Proposed Project) is based on the Project Description provided by IP Athos, LLC (Applicant) dated April 13, 2018. The Athos Renewable Energy Project would construct and operate a 500 megawatt (MW) capacity photovoltaic (PV) solar electric power generating facility with up to 500 MW of integrated energy storage capacity. The Proposed Project site is located on approximately 3,400 acres across 7 groups of non-contiguous parcels in the Desert Center area of Riverside County. The Proposed Project would include a 220 kilovolt (kV) generation tie (gen-tie) transmission line outside of the solar facility, located on 7 miles of federal lands managed by the Bureau of Land Management (BLM), Palm Springs-South Coast Field Office. The remainder of the gen-tie lines would traverse approximately 4 miles of privately-owned land, primarily on the solar facility sites.

The site parcels are primarily disturbed, retired agricultural land located both north and south of State Route 177 (SR-177) and north of Interstate 10 (I-10), with the gen-tie crossing I-10 to connect into the existing Southern California Edison (SCE) Red Bluff 500/220 kV Substation. Other existing land uses in the area include several other solar projects and associated gen-ties. Some primarily vacant land surrounding the site includes isolated rural residences described below.

The Proposed Project would be located within the jurisdiction of the South Coast Air Quality Management District (SCAQMD) in the Mojave Desert Air Basin (MDAB). West of the site is the SCAQMD-managed portion of the Coachella Valley (Salton Sea Air Basin). East of the site is the boundary of the jurisdiction of the neighboring the Mojave Desert Air Quality Management District, which oversees the remainder of the Mojave Desert Air Basin, including the easternmost portion of Riverside County

Sensitive Receptor Land Uses. Land uses that are sensitive to air pollution are: residences, schools, daycare centers, playgrounds and medical facilities. There are scattered residences in the project area, namely near Highway 177/Rice Road, with at least one residence less than 100 feet from the project parcel boundary. The Lake Tamarisk community is about 1.5 miles west of the site and the nearest school is the Eagle Mountain School, over 7 miles northwest of the project site.

Construction Equipment Fleet and Schedule

Construction would require approximately 30 months to develop the Proposed Project and associated components over approximately 3,400 acres. The activities may be phased, and the precise timing is not known at this time. The on-site workforce is expected to reach a peak of approximately 530 individuals, generating up to 1,060 one-way on-road vehicle trips per day, with an average construction-related on-site workforce of 320 individuals. Heavy-duty trucks would make up to 40 daily deliveries of materials or up to 80 one-way truck trips per day. Materials deliveries during construction would need to travel through the Mojave Desert Air Basin and the Coachella Valley (Salton Sea Air Basin) up to 150 miles one way from their origins to the site.

The month-by-month timing of construction is difficult to predict and likely to vary as the design is refined, and timing of activities will depend somewhat on the ability of construction contractors to coordinate the work. Because the construction activities may be phased, construction activities are likely to overlap within the overall 30-month timeframe. Overall, construction equipment use would occur during daytime hours (generally five days per week, typically 8 hours per day).

The scope of construction would include the following types of activities, detailed in the Project Description:

- Pre-construction Activities, including surveys and establishing a laydown yard and staging areas.
- Construction Phase 1: Site Preparation, including vegetation management, access roads, and limited site grading.
- Construction Phase 2: Photovoltaic Panel System, including installing support structures and tracking systems.
- Construction Phase 3: Inverters, Transformers, Substations and Electrical Collector System, including underground cables, concrete foundations for transformers and inverters, and the gen-tie.
- Construction Site Stabilization and Restoration, including revegetation.
- Post-Construction Cleanup, including weed control and removal of the laydown and staging areas, as needed.

The Proposed Project would develop and employ a dust control plan to minimize fugitive dust emissions. The content of the dust control plan would be determined during the final design and would need to be approved by the SCAQMD, prior to construction. The Applicant anticipates using up to 500 acre-feet of water, from an onsite groundwater well, for dust suppression (including truck wheel washing) and other purposes during the 30-month construction timeframe.

Off-Road Construction Equipment. The construction fleet would include a wide range of off-road equipment. Equipment used for development of the project facilities would generally be diesel-fueled, and emissions from these sources would occur almost exclusively from on-site locations or within the alignment of project linear facilities. Although the actual composition of the fleet would vary depending on the design, and the fleet would vary over time as activities progress, the fleet could include loaders, graders, scrapers, dozers, backhoes, lifts, cranes, welders, and portable generators, with comparable equipment substituted as needed. Foundation installation would require hammers, pile drivers or augers (truck-mounted drill rigs), and on-site concrete batch plants. The off-road equipment is not subject to local air district permitting requirements for stationary sources, as these are classified and registered as mobile or portable sources. Temporary on-site diesel fuel storage tanks may be required, although diesel

fuel storage tanks smaller than 19,815 gallons would not trigger emissions control requirements under SCAQMD Rule 463 and would not require written air permits.

On-road Vehicles. The category of on-road sources includes all motor vehicles. Heavy-duty trucks would be used for delivery of the modules, module racking, steel supports, inverters and transformers, and for movement of raw materials such as concrete and road base, and trash haul-off. On-highway emissions would occur primarily off-site from the vehicle trips for hauling these materials. Light-duty and medium-duty vehicles would carry vendors, crews, and workers to and from the site.

Operation and Maintenance Activities

Upon commissioning, the Proposed Project would enter the operation phase and generate electricity. The primary operational activities at the site that would cause emissions from use of vehicles or equipment would be solar module washing, vegetation management, and security. Up to 10 permanent staff could be on the site at any one time for ongoing facility maintenance and repairs.

The site staff and on-call personnel would provide security. Other routine O&M activities include: panel repairs; panel washing; maintenance of transformers, inverters, energy storage system, and other electrical equipment as needed; road and fence repairs; and weed management. Heavy-duty off-road equipment would only occasionally be used during normal operation, as routine O&M activities would require use of trucks (pickup and flatbed), forklifts, and loaders, along with water trucks for solar panel washing. One standby or backup generator engine, may be required; this stationary source would be subject to local air district permitting requirements or from SCAQMD's list of pre-certified engines.

3. Regulatory Background

Criteria Air Pollutants. Air quality is determined by measuring ambient concentrations of certain criteria air pollutants. The criteria pollutants are ozone, respirable particulate matter (PM10), fine particulate matter (PM2.5), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead. Ozone is an example of a secondary pollutant that is not emitted directly from a source (e.g., an automobile tailpipe), but it is formed in the atmosphere by chemical and photochemical reactions. Reactive organic gases (ROG), including volatile organic compounds (VOC), are regulated as precursors to ozone formation.

The California Air Resources Board (ARB) and the U.S. Environmental Protection Agency (U.S. EPA) have independent authority to develop and establish health-protective ambient air quality standards, although the different legislative and scientific contexts cause some diversity between State and Federal standards currently in effect in California. The monitored levels of the pollutants are compared to the current National and California Ambient Air Quality Standards (NAAQS and CAAQS) to determine degree of existing air quality degradation. The standards currently in effect in California are shown in Table AQ-1.

Table AQ-1. National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards	National Standards
Ozone	1-hour	0.09 ppm	—
	8-hour	0.070 ppm	0.070 ppm
Respirable Particulate Matter (PM10)	24-hour	50 µg/m^3	150 µg/m^3
	Annual Mean	20 µg/m^3	—
Fine Particulate Matter (PM2.5)	24-hour	—	35 µg/m^3
	Annual Mean	12 µg/m^3	12.0 µg/m^3

Table AQ-1. National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards	National Standards
Carbon Monoxide (CO)	1-hour	20 ppm	35 ppm
	8-hour	9.0 ppm	9 ppm
Nitrogen Dioxide (NO_2)	1-hour	0.18 ppm	0.100 ppm
	Annual Mean	0.030 ppm	0.053 ppm
Sulfur Dioxide (SO_2)	1-hour	0.25 ppm	0.075 ppm
	24-hour	0.04 ppm	0.14 ppm
	Annual Mean	—	0.030 ppm

Notes: ppm=parts per million; µg/m3= micrograms per cubic meter; "—" =no standard
Source: ARB (http://www.arb.ca.gov/research/aaqs/aaqs2.pdf), May, 2016.

Ambient Air Quality Attainment Status and Air Quality Plans. The U.S. EPA, ARB, and the local air district classify an area as attainment, unclassified, or nonattainment with regard to certain pollutants, and these designations dictate the air quality management planning activities needed to make future air pollutant reductions. The classification depends on whether the monitored ambient air quality data show compliance, insufficient data available, or non-compliance with the ambient air quality standards, respectively. Table AQ-2 summarizes attainment status for criteria pollutants in comparison with both the state and federal standards, for the Mojave Desert Air Basin portion of Riverside County.

Table AQ-2. Attainment Status for Mojave Desert Air Basin Portion of Riverside County

Pollutant	California Designation	Federal Designation
Ozone	Nonattainment	Attainment
PM10	Nonattainment	Attainment
PM2.5	Attainment	Attainment
NO_2	Attainment	Attainment
CO	Attainment	Attainment
SO_2	Attainment	Attainment

Source: ARB, 2018; U.S.EPA, 2018.

Toxic Air Contaminants. Toxic air contaminants (TACs) are air pollutants that may lead to serious illness or increased mortality, even when present in relatively low concentrations. Potential human health effects of TACs include birth defects, neurological damage, cancer, and death. There are hundreds of different types of TACs with varying degrees of toxicity. Individual TACs vary greatly in the health risk they present; at a given level of exposure, one TAC may pose a hazard that is many times greater than another's. TACs do not have ambient air quality standards, but are regulated by the local air districts using a risk-based approach. The Proposed Project would not be considered a stationary source subject to risk assessment programs. Diesel particulate matter (DPM) is classified as a TAC, and statewide programs focus on managing this pollutant through motor vehicle fuels, engine, and tailpipe standards because many toxic compounds adhere to diesel exhaust particles. The local air districts support these programs by issuing permits and requiring controls for larger stationary sources of DPM, including diesel powered engines rated over 50 horsepower.

Federal Regulatory Setting

Federal Clean Air Act (CAA). The National Ambient Air Quality Standards (NAAQS) for criteria air pollutants were established in 1970 with a mandate for periodic updating. The CAA places responsibility on state and local air agencies to maintain these ambient air quality standards. In the project area, the SCAQMD has the responsibility to establish regulations, enforce air pollution control requirements, and develop the necessary air quality management to achieve the NAAQS. The U.S. EPA implements most aspects of the CAA, and reviews local and state air quality management plans and regulations to ensure attainment with the NAAQS. Because there are no federal nonattainment or maintenance designations in

the MDAB portion of Riverside County, federal agency actions in the MDAB portion of Riverside County are not subject to CAA general conformity review requirements.

Visibility and Federal Class I Areas. The federal CAA requires U.S. EPA to administer programs so that all areas of the country achieve the federal ambient air quality standards within various specified time frames. For attainment areas that already meet the federal ambient air quality standards, the federal Prevention of Significant Deterioration (PSD) permit program includes a three-tier classification defining the extent to which baseline air quality conditions can be degraded. Class I areas have the smallest allowable air quality deterioration limits. Class II areas allow greater deterioration of air quality but must maintain air quality conditions better than the federal air quality standards. Class III areas allow deterioration of air quality to the level of the federal ambient air quality standards.

The boundary of the Joshua Tree National Park (JTNP) Class I area is 0.9 miles (1.4 km) away, northeast of the edge of the northernmost project parcel (owner: VG Devco, 643 acres). Visibility is considered an important air quality value to be protected within JTNP. There are no other Class I areas within 62 miles (100 km) of the Project. Data from the Federal Land Manager Environmental Database (CIRA, 2016) indicate that visibility in the JTNP Class I area has been improving since 2001. For JTNP and other Class I areas in southern California, the Western Regional Air Partnership shows that the visual range has improved more than 20 percent in the most recent years (2010 2014) when compared to the baseline (2000 2004), and that this improvement is largely due to the local authorities having the ability to control anthropogenic emissions (WRAP, 2016).

State Regulatory Setting

California Clean Air Act. Implemented by the ARB, the California Clean Air Act establishes broad authority for California to regulate emissions from mobile sources and requires regions to develop and enforce strategies to attain California Ambient Air Quality Standards (CAAQS). In the project area, the SCAQMD is responsible for demonstrating how these standards are met.

U.S. EPA/ARB Off-Road Mobile Sources Emission Reduction Program. The California Clean Air Act mandates that ARB achieve the maximum degree of emission reductions from all off-road mobile sources to attain the state ambient air quality standards. Off-road mobile sources include construction equipment. The earliest (Tier 1) standards for large compression-ignition engines used in off-road mobile sources became effective in California in 1996. Since then, the Tier 3 standards for large compression-ignition engines used in off-road mobile sources went into effect in California for most engine classes in 2006, and Tier 4 or Tier 4 Interim (4i) standards apply to all off-road diesel engines model year 2012 or newer. These standards and standards applicable to fleets that are already in-use address emissions of NOx and toxic particulate matter from diesel combustion.

ARB In-Use Off-Road Diesel-Fueled Fleets Regulation. The regulations for in-use off-road diesel equipment are designed to reduce NOx and toxic diesel particulate matter (DPM) from existing fleets of equipment. Depending on the size of the fleet, the owner would need to ensure that the average emissions performance of the fleet meets certain state-wide standards. In lieu of improving the emissions performance of the fleet, electric systems can be installed to replace diesel equipment in the fleet average calculations. Presently, all equipment owners are subject to a five-minute idling restriction in the rule (13 California Code of Regulations, Chapter 10, Section 2449).

ARB Portable Equipment Registration Program (PERP). This program allows owners or operators of portable engines and associated equipment commonly used for construction or farming to register their units under a statewide portable program that allows them to operate their equipment throughout California without having to obtain individual permits from local air districts.

SCAQMD Rules and Regulations

The project site is under the jurisdiction of the SCAQMD in the Mojave Desert Air Basin; the MDAB includes portions of Kern, Los Angeles, San Bernardino, and Riverside Counties. The SCAQMD has a number of rules presented in Table AQ-3 relevant to controlling emissions from project-related activities.

Table AQ-3. SCAQMD Rules and Regulations

Applicable Rules	Description
Rules 201, 203, and 212 – Permit to Construct; Permit to Operate; and Standards for Approving Permits and Issuing Public Notice	Establishes the requirements to obtain a Permit to Construct and Permit to Operate for stationary sources of emissions. For exemption categories, see Rule 219: Equipment Not Requiring a Written Permit Pursuant to Regulation II.
Rule 401 – Visible Emissions	Limits visible emissions.
Rule 402 – Nuisance	Prohibits the discharge of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to the public or which endanger the comfort, response, health or safety of the public or which cause injury or damage to business or property.
Rule 403 – Fugitive Dust	Limits fugitive emissions from certain bulk storage, earthmoving, construction and demolition, and manmade conditions that may cause wind erosion.
Rule 404 – Particulate Matter Concentration	The rule limits particulate matter emissions as a function of the exhaust flow rate from the regulated device.
Rule 463 – Organic Liquids Storage	Sets standards for storage of organic liquids with a true vapor pressure of 0.5 pounds per square inch or greater and standards for above-ground tanks used for gasoline storage with a capacity over 250 gallons.
Rule 1110.2 – Emissions from Gaseous and Liquid-Fueled Internal Combustion Engines	The purpose of this rule is to reduce NOx, VOCs, and CO from engines.
Regulation XIII – New Source Review	Establishes the pre-construction review requirements, including Best Available Control Technology and emission offset requirements for new, modified or relocated facilities to ensure that these facilities do not interfere with progress in attainment of the national ambient air quality standards.

Riverside County General Plan

Riverside County adopted the Air Quality Element of the County General Plan in 2015. The air quality element includes policies supporting regional cooperation with other jurisdictions to improve air quality; requiring compliance with federal, state, and regional air quality regulations; encouraging programs to reduce vehicle miles traveled; encouraging energy conservation in urban land uses; and encouraging development patterns that improve the County's jobs/housing balance.

4. Thresholds of Significance

To characterize the potential impact of criteria air pollutant emissions, SCAQMD recommends use of regional significance thresholds for construction and for project-related operation emissions that are subject to CEQA review. The emissions from the activities of construction and operation under the Proposed Project are compared to these SCAQMD regional significance thresholds to determine whether the Proposed Project would result in adverse air quality impacts. The SCAQMD regional significance emissions thresholds are summarized in Table AQ-4.

Table AQ-4. SCAQMD Regional Significance Thresholds (lb/day)

Pollutant	Construction	Operation (Mojave Desert Air Basin)
Nitrogen Oxides (NOx)	100	100
Volatile Organic Compounds (VOC)	75	75
Inhalable Particulate Matter (PM10)	150	150
Fine Particulate Matter (PM2.5)	55	55
Carbon Monoxide (CO)	550	550
Sulfur Oxides (SOx)	150	150

Note: For SCAQMD Coachella Valley (Salton Sea and Mojave Desert Air Basins), the mass daily thresholds for operation are the same as the construction thresholds.
Source: SCAQMD 2015.

For emissions exceeding the regional significance thresholds, the SCAQMD also provides air quality significance thresholds for ambient air quality impact assessments, which may be used to calculate the downwind concentrations caused by the on-site portions of project emissions. The SCAQMD ambient air quality significance thresholds are summarized in Table AQ-5.

Table AQ-5. SCAQMD Ambient Air Quality Significance Thresholds

Pollutant	Construction Only (averaging basis)	Operation Only (averaging basis)	Construction or Operation (averaging basis)
Inhalable Particulate Matter (PM10)	10.4 µg/m^3 (24-hr)	2.5 µg/m^3 (24-hr)	1.0 µg/m^3 (annual)
Fine Particulate Matter (PM2.5)	10.4 µg/m^3 (24-hr)	2.5 µg/m^3 (24-hr)	---
Nitrogen Dioxide (NO_2)	---	---	0.18 ppm (1-hr) 0.03 ppm (annual)
Carbon Monoxide (CO)	---	---	20 ppm (1-hr) 9.0 ppm (8-hr)
Sulfur Dioxide (SO_2)	---	---	0.075 ppm (1-hr) 0.04 ppm (24-hr)

Source: SCAQMD 2015.

For sites located near sensitive receptors, SCAQMD developed the Localized Significance Thresholds (LSTs) as a way to determine if a project could locally exceed the ambient air quality standards or cause a substantial contribution to existing exceedances at a given distance from an emitting site boundary to a nearby receptor. The LSTs vary depending on the meteorological conditions for each Source Receptor Area within the SCAQMD jurisdiction. LSTs for the Desert Center area (East Riverside County) are presented in Table AQ-6.

Table AQ-6. SCAQMD Localized Significance Emissions Thresholds

Pollutant	Site Area	Construction (lb/day)			Operation (lb/day)		
		25 meters	100 meters	500 meters	25 meters	100 meters	500 meters
Nitrogen Oxides (NOx)	5 acres	304	425	875	304	425	875
PM10	5 acres	14	67	248	4	16	60
PM2.5	5 acres	8	19	128	2	5	31

Table AQ-6. SCAQMD Localized Significance Emissions Thresholds

Pollutant	Site Area	Construction (lb/day)			Operation (lb/day)		
		25 meters	100 meters	500 meters	25 meters	100 meters	500 meters
Carbon Monoxide (CO)	5 acres	2,292	5,331	31,115	2,292	5,331	31,115

Note: East Riverside County is SCAQMD "Source Receptor Area" zone 31.
Source: SCAQMD 2009.

Toxic air contaminants (TACs), including carcinogens and non-carcinogens, are subject to the following thresholds (SCAQMD, 2015):

- Maximum Incremental Cancer Risk (MICR) greater than or equal to 10 in 1 million.
- Cancer Burden greater than 0.5 excess cancer cases, for areas where the MICR from a 30-year exposure duration is calculated to be greater than one in one million.
- Chronic & Acute Hazard Index greater than or equal to 1.0 (project increment).

The threshold of significance for GHG emissions from industrial facilities in the SCAQMD is 10,000 MTCO2e per year (SCAQMD, 2015). Project-related GHG emissions would be considered significant if total emissions (direct and indirect effects) would exceed this threshold. Construction-phase GHG emissions arising from short-term activities may be amortized over the longer-term life of the project, defined as 30 years, and added to the operational emissions for comparison with the threshold (SCAQMD, 2008).

Methodology

All construction- and operation-related emissions are quantified based on the best available forecast of activities. This analysis uses the California Emissions Estimator Model (CalEEMod; version 2016.3.2) software developed by the California Air Pollution Control Officers Association (CAPCOA). This is the most recent version of the CalEEMod software, and it relies upon mobile source emission factors from the Air Resources Board (ARB) OFFROAD inventory and EMFAC2014 models. Where project-specific design features are not yet defined, default and typical settings from CalEEMod are used. Default emission factors used in this analysis appear in the CalEEMod User's Guide Appendix D (October 2017).

5. Air Quality Impacts

Impact AQ-1

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

LESS THAN SIGNIFICANT. The SCAQMD is responsible for managing local air quality and administering the mandatory California and federal programs protecting air quality. Across the entire State of California, the ARB ensures implementation of California's air quality management plans, known collectively as the State Implementation Plan. Activities in the project area are not subject to any federal attainment planning requirements because the Mojave Desert Air Basin of Riverside County attains all federal air quality standards. State-level air quality planning strategies to attain CAAQS are implemented through rules, regulations, and programs adopted by SCAQMD and ARB to control ozone precursors, PM10, and PM2.5. Project-related activities would comply with the applicable rules, regulations, and programs.

A project could be inconsistent with the applicable air quality management plan or attainment plan if it causes population and/or employment growth or growth in vehicle-miles traveled in excess of the growth

forecasts included in the attainment plan. The Proposed Project would create up to 10 permanent full-time positions and positions for contractors for regularly providing ongoing maintenance, including panel washing and security. Although the construction workforce would involve up to 530 individuals, with an average construction-related on-site workforce of 320 individuals over the 30-month period, these positions would be temporary. Upon commencing routine operation, the temporary construction workforce would no longer be employed, and only the small number of permanent employees would remain in the area. Regional air quality plans anticipate a baseline level of construction activity and some permanent population growth, and air quality attainment planning anticipates growth that includes the construction of some new infrastructure, such as the Proposed Project. Therefore, the project would not conflict with or obstruct implementation of the applicable air quality plan. This impact would be less than significant, and no mitigation is required.

Impact AQ-2

b. Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

POTENTIALLY SIGNIFICANT. The Proposed Project would contribute air pollutant emissions to the region during construction activities and project operation. These emissions are discussed separately in more detail below.

Construction Impacts

DURING CONSTRUCTION, POTENTIALLY SIGNIFICANT. Emissions during the construction phase would include criteria air pollutants that could contribute to existing or projected violations of the ambient air quality standards. During construction, emissions would be generated at the site of the proposed solar facility and off-site along the roadways traveled by construction traffic. Construction emissions would be caused by exhaust from vehicles and equipment (this includes ozone precursors [volatile organic compounds (VOC) or reactive organic gases (ROG) and NOx], CO, and particulate matter [PM10 and PM2.5]) and fugitive dust/particulate matter from ground-disturbing activities and travel on unpaved surfaces.

The Proposed Project would require light grading, and much of the 3,400-acres would experience some form of ground disturbance. To minimize the amount of fugitive dust from unpaved surfaces and emissions from other ground-disturbing activities during the site preparation period, all construction activity would be required to comply with local air district rules regarding dust control (including SCAQMD Rule 403). Diesel and gasoline-powered construction equipment would be classified as portable or mobile sources (off-road equipment), and are subject to statewide registration and fleet requirements. On-road motor vehicles used during construction would occur primarily off-site, and these include the heavy-duty trucks to deliver equipment, concrete, water, and other materials, and vehicles carrying crews and medium-duty deliveries. Motor vehicle exhaust emissions would occur outside of the proposed work sites as the traffic would occur primarily over the region-serving transportation network.

Detailed construction fleet and schedule assumptions are shown in the attachments to this technical report. Because the construction activities may be phased, this analysis assumes that the month-by-month timing of construction would cause some overlap. This analysis groups construction into a sequence of four overlapping types of activities within the overall 30-month timeframe and three calendar years, as follows:

- Site Preparation: 5 months in Year 1.
- PV panel system installation: 20 months in Years 2 and 3.

- Electrical system installation (including collectors and gen-ties): 10 months in Year 3.
- Other activities that recur throughout construction and restoration: 30 months over Years 1 to 3.

Table AQ-7 summarizes the maximum daily construction emissions, with and without potential mitigation.

Table AQ-7. Proposed Project Maximum Daily Construction Emissions (lb/day)

Construction Sequence	VOC	NOx	CO	SO_2	PM10	PM2.5
Year 1	55.4	562.0	351.2	0.9	338.3	76.7
Year 2	61.4	498.0	445.7	1.4	474.5	76.7
Year 3	66.9	513.2	499.0	1.6	500.1	81.9
Maximum Daily Emissions, without Mitigation	**66.9**	**562.0**	**499.0**	**1.6**	**500.1**	**81.9**
Construction Sequence	**VOC**	**NOx**	**CO**	**SO_2**	**PM10**	**PM2.5**
Year 1	19.2	99.3	351.0	0.9	79.3	22.1
Year 2	32.4	131.9	527.8	1.4	105.9	23.6
Year 3	36.2	138.6	586.6	1.6	119.5	27.1
Maximum Daily Emissions, with Mitigation	**36.2**	**138.6**	**586.6**	**1.6**	**119.5**	**27.1**
SCAQMD Significance Thresholds (lb/day)	**75**	**100**	**550**	**150**	**150**	**55**

Source: Attachment 1, AQ/GHG Emissions Inventory; Attachment 2, CalEEMod Output.

Construction-phase maximum daily emissions would be above the SCAQMD regional thresholds of significance for NOx, PM10, and PM2.5 if no project-specific mitigation measures are implemented. Because construction emissions would be below the thresholds for CO and SO_2, the Proposed Project would not be likely to violate any air quality standard or contribute substantially to an existing or projected air quality violation for CO or SO_2, and this impact would be less than significant for these pollutants.

Mitigation would be necessary to reduce construction-related NOx, PM10, and PM2.5. After including mitigation, maximum daily construction emissions of PM10 and PM2.5 would not exceed the SCAQMD thresholds, and this impact would be less than significant for these pollutants. Mitigated construction emissions of NOx would be above the thresholds, and accordingly the emissions level for this ozone precursor pollutant could contribute substantially to existing violations of the California ambient air quality standard for ozone. Therefore, the project construction NOx emissions would cause a temporary significant impact.

Mitigation Measures

Mitigation Measure AQ-1 (Fugitive Dust Control Plan) would mitigate the particulate matter impact caused by dust emissions during construction by implementing a suite of effective dust control practices, such as using soil stabilizers or watering exposed areas (2 times/day or as needed) throughout construction. (See Mitigation Measures in Section 7.)

Mitigation Measure AQ-2 (Control On-Site Off-Road Equipment Emissions) would mitigate the NOx, PM10, and PM2.5 in diesel exhaust emissions by requiring use of the newest off-road equipment achieving the most-stringent Tier 4 engine emissions standards. (See Mitigation Measures in Section 7.)

Operation and Maintenance Impacts

DURING OPERATION, LESS THAN SIGNIFICANT. Operation, maintenance, inspections, and panel washing would cause minimal levels of air pollutant emissions; maintenance and operational activities necessary for the solar facility and gen-tie lines would be limited. The project would be required by general air district provisions to implement controls such as the use of water or chemical dust suppressants to minimize particulate matter emissions and to prevent visible particulate emissions to avoid nuisances.

As shown in Table AQ-8, emissions during O&M would not exceed the SCAQMD thresholds. With minimal direct emissions during operation, the impact of air pollutant emissions from project operations would be less than significant, and no mitigation is required.

Table AQ-8. Proposed Project Daily Emissions During O&M (lb/day)

Activity	VOC	NOx	CO	SO_2	PM10	PM2.5
Area Sources	10.8	0.1	15.2	0.0	0.1	0.1
On-road Motor Vehicle Trips	0.5	4.8	9.8	0.0	34.1	4.0
Off-road Equipment	1.2	11.1	10.9	0.0	0.8	0.7
Total Emissions During Operations	**12.6**	**16.1**	**36.0**	**0.1**	**34.9**	**4.7**
SCAQMD Significance Thresholds (lb/day)	**75**	**100**	**550**	**150**	**150**	**55**

Source: Attachment 1, AQ/GHG Emissions Inventory; Attachment 2, CalEEMod Output.

Impact AQ-3

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

POTENTIALLY SIGNIFICANT. This criterion assesses whether the Proposed Project would result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment. For the project site, emissions which exceed quantitative thresholds for ozone precursors or PM10 would represent a cumulatively considerable net increase by contributing to existing violations of the California ambient air quality standards for ozone or PM10, respectively.

Concurrent construction of other projects in close proximity to the proposed site could result in increased local air quality impacts for the limited duration of simultaneous construction activities. Construction-phase emissions from each specific project site would vary, but would occur within an air basin that is a state nonattainment area for ozone and PM10. The effects of the cumulative projects would combine with the short-term construction emissions from the Proposed Project and would contribute to violations of the state ambient air quality standards for ozone and PM10, resulting in a cumulative impact.

Construction-related emissions would cease with completion of the 30-month duration for the Proposed Project, and after that time they would not contribute to long-term nonattainment conditions. All cumulative projects, including the Proposed Project, would need to comply with the local air district rules and regulations, which would primarily reduce fugitive dust. Each project would also implement mandatory controls for any new stationary sources and would be subject to the control strategies of the applicable air quality management plans adopted by the SCAQMD and the neighboring Mojave Desert Air

Quality Management District, and additional mitigation may be applied to projects subject to the CEQA process through environmental permitting by lead agencies.

Depending on the timing of construction of other cumulative projects nearby, the air quality adverse effects of the Proposed Project could combine with the air quality adverse effects of the other projects to result in a cumulative adverse effect to air quality. The severity of the Proposed Project potential adverse effects to air quality, as well as the incremental contribution of the Proposed Project to the cumulative adverse effect, would be reduced through implementing Mitigation Measures AQ-1 and AQ-2 identified in the discussion of Impact AQ-2. Although construction-related criteria air pollutant emissions would be mitigated and would entirely cease with completion of the 30-month duration of work, the construction emissions of NOx would cause substantial adverse effects, and the incremental contribution of the Proposed Project to the adverse cumulative effect would remain substantial. Even with implementation of mitigation measures noted above, the contribution of the Proposed Project to the air quality adverse effects would remain cumulatively considerable.

Following construction, smaller quantities of operational emissions would result from limited vehicle use related to periodic maintenance and security activities, and these emissions would be minor and well below the applicable thresholds. Operation of the Proposed Project would not result in a cumulatively considerable net increase of any criteria pollutant. The impact due to the net increase of nonattainment criteria air pollutants, including ozone precursors and particulate matter, would be less than significant, and no additional mitigation is required.

Impact AQ-4

d. Would the project expose sensitive receptors to substantial pollutant concentrations?

LESS THAN SIGNIFICANT. This criterion assesses whether the Proposed Project would expose sensitive receptors to substantial pollutant concentrations. There are scattered residences in the project area, namely near Highway 177/Rice Road, with at least one residence less than 100 feet from the project parcel boundary.

Localized Significance Thresholds. The SCAQMD Localized Significance Thresholds (Table AQ-6) are suitable for determining near-field impacts as a result of emissions from a small site (up to 5 acres). In contrast, project-related emissions would occur from activities on approximately 3,400 acres across 7 groups of non-contiguous parcels. Although the LSTs are not directly applicable, overall project construction emissions of PM10 and PM2.5 (Table AQ-7) would exceed the LSTs within 500 meters (1,641 feet) of the sources, and these pollutants require a detailed review for potential localized impacts. The LSTs for NOx and CO would not be exceeded by the Proposed Project's mitigated levels of construction emissions. Accordingly, construction emissions would not be likely to cause substantial pollutant concentrations of NOx (including NO_2) or CO.

Potential localized impacts would be most influenced by the on-site portions of construction emissions. Sources of construction emissions would be dispersed around the non-contiguous parcels of the site, ensuring that no single location would be exposed to persistent and substantially increased pollutant concentrations. Emissions that occur off-site would be from motor vehicles both near and far from the project boundary, and the majority of off-site emissions would on regional roadways far from sensitive receptors. To determine the extent of the localized impact, this analysis includes a screening-level ambient air quality impact assessment to calculate the downwind concentrations caused by the on-site portions of project construction emissions and compare the results with the SCAQMD ambient air quality significance thresholds for construction-related PM10 and PM2.5.

The screening evaluation for downwind concentrations due to construction-phase PM10 and PM2.5 uses the U.S. EPA-recommended guideline screening model, AERSCREEN, which is a screening version of the AERMOD (American Meteorological Society/EPA Regulatory Model). The model relies upon user-specified source parameters and surface characteristics to determine worst-case ambient impacts by generating a matrix of meteorological conditions, which are input to AERMOD (version: 16216r), obviating the need to gather site-specific meteorological data.

The emissions from the on-site fugitive dust and exhaust emissions of PM10 and PM2.5 from off-road equipment were configured in AERSCREEN as a volume source with a generic "unit" emission rate (1 g/s) that could be scaled for project-specific emissions. Other relevant input options are summarized as follows:

- Volume source representing activity within one typical project parcel: per 160 acres (quarter-section) portion of solar facility and gen-ties (3,400 acres).
- Modeled "unit" emission rate of 1 gram per second.
- Volume source release height: 12 feet (3.7 m); initial lateral dimension: 610 feet (186 m); initial vertical dimension: 6 feet (1.8 m).
- Receptors at default minimum distance per each volume source: 1,315 feet (401 m).
- Receptors at flagpole height, typically breathing height: 6 feet (1.8 m).

The model solves for maximum concentrations at the ambient boundary and other automated distances in terms of micrograms per cubic meter (µg/m^3). As a screening model, the AERSCREEN results were used to evaluate whether project on-site construction emissions would cause impacts at the ambient boundary of any of the non-contiguous project parcels or as a result of the non-contiguous parcels having an overlapping effect. The localized impacts experienced by any location would vary substantially depending on its proximity to one or more of the non-contiguous project parcels.

Localized pollutant concentrations would be considered substantial if they exceed the SCAQMD thresholds of 10.4 µg/m^3 on a 24-hr basis for PM10 or PM2.5 and 1.0 µg/m^3 on an annual basis for PM10 (Table AQ-5). Concentrations of diesel particulate matter (DPM) are evaluated separately, as a toxic air contaminant. The results of the screening-level ambient air quality impact assessment are summarized in Table AQ-9.

Table AQ-9. Proposed Project Ambient Air Quality Impacts, Ground Level Concentrations

	Average Daily Emissions		24-hour Average		Annual Average	
Construction Sources	**Total On-site Emissions (lb/day)**	**Typical 160 acre Parcel (lb/day)**	**Project Impact**	**SCAQMD Significance Threshold**	**Project Impact**	**SCAQMD Significance Threshold**
PM10: Typical Parcel	10.76	0.539	0.71 µg/m^3	**10.4 µg/m^3**	0.12 µg/m^3	**1.0 µg/m^3**
PM10: Total of Non-contiguous Parcels	10.76	---	5.91 µg/m^3	**10.4 µg/m^3**	0.99 µg/m^3	**1.0 µg/m^3**
PM2.5: Typical Parcel	4.26	0.213	0.28 µg/m^3	**10.4 µg/m^3**	0.05 µg/m^3	**None**
PM2.5: Total of Non-contiguous Parcels	4.26	---	2.34 µg/m^3	**10.4 µg/m^3**	0.39 µg/m^3	**None**

Table AQ-9. Proposed Project Ambient Air Quality Impacts, Ground Level Concentrations

	Average Daily Emissions		24-hour Average		Annual Average	
Construction Sources	Total On-site Emissions (lb/day)	Typical 160 acre Parcel (lb/day)	Project Impact	SCAQMD Significance Threshold	Project Impact	SCAQMD Significance Threshold
DPM: Typical Parcel	0.92	0.046	0.10 µg/m^3	**None**	0.01 µg/m^3	**None**
DPM: Total of Non-contiguous Parcels	0.92	---	0.51 µg/m^3	**None**	0.08 µg/m^3	**None**

Source: Attachment 3, AERSCREEN Input-Output.

Construction-phase ambient air quality impacts of PM10 and PM2.5 from on-site activities would not cause localized ground level concentrations at the ambient boundary in excess of the SCAQMD thresholds. As a result, construction-phase emissions of PM10 and PM2.5 would not expose sensitive receptors to substantial pollutant concentrations, and the localized impact to ambient air quality would be less than significant.

Toxic Air Contaminants. Construction activities would result in locally increased concentrations of construction-related emissions, including diesel particulate matter (DPM) and other toxic air contaminants, which would cause increased health risk and hazards near the site. The primary health risks to nearby sensitive receptors would be driven by the DPM emissions from on-site equipment and vehicles during construction. Noncancer effects of DPM are normally less of a concern than cancer risks. To determine the extent of this impact, on-site construction emissions were modeled through a screening evaluation, using the AERSCREEN, to evaluate whether concentrations of DPM would result in a significant health risk to sensitive receptors in the project area.

Sources of DPM would be in use over variable durations depending on specific activities occurring on one or more of the non-contiguous project parcels. Emission calculations show that on-site DPM emissions would occur at an average rate of 0.92 lb/day over the 30-month construction duration. These emissions would be emitted from dozens of individual pieces of equipment across the site and along the gen-tie alignments, and sensitive receptors would be well separated from most activities.

The potential cancer risk over a 30-year residential duration for sensitive receptors near the project boundaries was estimated as follows:

- Modeled results indicate that annual average DPM concentrations of up to 0.08 µg/m^3 could occur as a result of overlapping effects of non-contiguous parcels near the project boundaries.
- Inhalation of DPM at an annual average concentration of 0.08 µg/m^3 over a 30-month construction duration within a 30-year residential exposure duration (2.5 years/30 years), would be equivalent to 0.0067 µg/m^3 for the 30-year average concentration.
- Multiplying the inhalation Cancer Potency factor for DPM of 1.1 (mg/kg-day)$^{-1}$ (Source: OEHHA), the concentration, and the default combined exposure factor for residential receptors over 30 years (677.4; Source: SCAQMD) results in 5.0x 10^{-6} incremental cancer cases.

The DPM concentrations at the nearest sensitive receptors would not result in an excessive incremental cancer risk, because the potential incremental cancer risk associated with DPM at the worst-case residential receptor would be 5.0 in 1 million, which is within the SCAQMD threshold of significance of 10 in 1 million cancer cases for the Maximum Incremental Cancer Risk (MICR). As a result, the proposed

level of DPM emissions would not expose sensitive receptors to substantial pollutant concentrations, and the localized health risk impact would be less than significant.

Valley Fever. Soils in some areas of California host the microscopic fungus that causes Valley Fever, known as *Coccidioides immitis*, which lives in the top two to 12 inches of soil in many parts of the state. When soil is disturbed by activities such as digging, driving, or high winds, fungal spores can become airborne and potentially be inhaled. Workers in Riverside County are less at risk than those in the Central Valley, where the greatest incidence of reported human Valley Fever cases occur. Across the state, employers have a legal responsibility to report illnesses in connection with employment and to provide workers with protection from health risks including any due to Valley Fever (DIR, 2018). The primary ways to reduce the risk of Valley Fever are: avoiding exposure to dusty air or dust storms, preventing dirt or dust from becoming airborne, and if working at a dusty site, consider wearing an N95 mask or respirator (DPH, 2016). Project construction activities would be subject to stringent dust control requirements (including SCAQMD Rule 403), and these mandatory controls would avoid exposing construction workers and the off-site population to substantial concentrations of dust. Project operational and maintenance activities would minimally disturb on-site soils and would not create a risk of causing Valley Fever fungal spores to become airborne. As such, the impact of potential exposure to Valley Fever would be less than significant.

Visibility and Federal Class I Areas. Under the federal CAA, Class I areas are provided the greatest protections. The nearest boundary of the JTNP Class I area is located 0.9 miles (1.4 km) from the nearest project parcel, to the northeast of the project site. Ambient air quality impacts of the Proposed Project including increased concentrations of airborne dust, including PM10 and PM2.5, and NOx emissions could impact visibility. However, the sources of emissions during construction would occur near the ground level, where dust would have a limited ability to notably affect distant vistas, and emissions would be widely dispersed across the project site. The near-ground release and intermittent nature of construction sources ensures that the concentration near the JTNP would be much lower than the localized effects near the project site. Additionally, all cumulative projects are anticipated to avoid visible plumes and control dust as required by SCAQMD Rule 401 and Rule 403. Projects subject to the CEQA process would also implement additional mitigation measures where needed to control dust. Controlling construction emissions as required by local rules and regulations and through mitigation measures identified above ensures that users of the JTNP would not experience substantial concentrations of pollutants, and the impact to visibility would be less than significant.

O&M Emissions. During project operations and maintenance, emissions would occur in limited quantities from the use of equipment and vehicles for routine maintenance, repair, and inspection. No new stationary sources of emissions would be included with the Proposed Project, except one standby or backup generator engine, if required. Mandatory regulatory controls would minimize and avoid impacts from dust emissions and off-road equipment exhaust so that O&M emissions would not result in substantial concentrations of any air pollutants. As a result, O&M would not expose sensitive receptors to substantial concentrations of air pollutants. This impact would be less than significant, and no additional mitigation is required.

Impact AQ-5

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

LESS THAN SIGNIFICANT. The project would not include any notable source of odors except for very small quantities of coatings that may include organic compounds. Construction odors would be minimal because of the mandatory use of ultra-low sulfur diesel fuel, and odors would not negatively affect a substantial number of people. This impact would be less than significant, and no mitigation is required.

6. GHG Emissions Impacts

Regulatory Background for GHG Emissions

California Global Warming Solutions Act of 2006 [Assembly Bill 32 (AB 32)]. The California Global Warming Solutions Act of 2006 (AB 32) required that California's GHG emissions be reduced to 1990 levels by 2020. The reduction is being accomplished through an enforceable statewide cap on global warming emissions beginning in 2012. AB 32 directs the ARB to develop regulations and a mandatory reporting system to track and monitor global warming emissions levels (AB 32, Chapter 488, Statutes of 2006). The ARB Climate Change Scoping Plan, initially approved December 2008 and most recently updated by ARB in December 2017, provides the framework for achieving California's goals (ARB, 2017b).

In passing AB 32, the California Legislature found that:

> *Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problem."*

Other major Executive Orders, legislation, and regulations adopted for the purpose of reducing GHG emissions support the implementation of AB 32 and California's climate goals, as described below.

California Governor's Executive Order B-30-15 and Senate Bill 32 (SB 32). Executive Order B-30-15 (April 2015) establishes a California GHG reduction target of 40 percent below 1990 levels by 2030. One purpose of this interim target is to ensure California meets its target of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050. This executive order also specifically addresses the need for climate adaptation and directs state agencies to update the California Climate Adaptation Strategy to identify how climate change will affect California infrastructure and industry and what actions the state can take to reduce the risks posed by climate change. Senate Bill 32 (SB 32) of 2016 codifies this GHG emissions target to 40 percent below the 1990 level by 2030.

Clean Energy and Pollution Reduction Act of 2015 [Senate Bill 350 (SB 350)]. California's state policy objectives on long-term energy planning were updated with SB 350 legislation that was signed into law on October 7, 2015. With SB 350 California expanded the specific set of objectives to be achieved by 2030, with the following:

- To increase the Renewable Portfolio Standard (RPS) from 33 percent to 50 percent for the procurement of California's electricity from renewable sources; and
- To double the energy efficiency savings in electricity and natural gas end uses by retail customers.

Cap-and-Trade Program (17 CCR 95801 to 96022). The California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms Regulation (Cap-and-Trade Program) was initially approved by ARB in 2011. The Cap-and-Trade Program applies to covered entities that fall within certain source categories, including petroleum refiners and suppliers of transportation fuels, and is triggered when facility emissions exceed 25,000 metric tons of CO_2 equivalent (MTCO2e) in a year. The covered entities must hold compliance instruments sufficient to cover the actual GHG emissions, as evidenced through the MRR requirements. This means that transportation fuel suppliers bear the GHG compliance obligation in the

Cap-and-Trade Program for the GHG emissions from motor vehicle and off-road equipment fuels used by construction workforces and crews.

Impact GHG-1

a. Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

LESS THAN SIGNIFICANT. The Proposed Project would result in GHG emissions due to construction and operation, and operation of the project would produce electricity that would displace the need to produce electricity from traditional (fossil-fueled) resources. Separate discussions appear for the GHG emissions caused by construction activities, operations activities such as maintenance and inspection, the effects of land use conversion, and indirect GHG emissions reductions due to the renewable energy generated by the project.

Emissions From Development Activities: Construction and Operations. Construction, operations, and eventual decommissioning activities would cause GHG emissions as a result of fossil-fuel combustion in the engines of construction equipment and the vehicles carrying construction materials and workers to and from the site. Diesel fuel or gasoline is used in mobilizing the heavy-duty construction equipment, site development and preparation, facility construction, and roadway construction, and eventual decommissioning. Total GHG emissions over the duration of construction would amount to 36,721 MTCO2e, and 1,224 MTCO2e/year, when averaged over a 30-year life of the project, as recommended by SCAQMD guidelines. Direct on-site O&M activities would contribute an additional amount of 741 MTCO2e/year, as shown in Table GHG-1.

Table GHG-1. Proposed Project GHG Emissions

Activity	One-Time During Construction (MTCO2e)	Construction and Operations Combined (MTCO2e per year)	Proposed Project GHG Emissions (MTCO2e per year)
Off-Road Equipment (On-site)	16,656	---	---
Motor Vehicle Trips (Off-site)	20,065	---	---
Total, Duration of Construction	**36,721**	---	---
Construction Total, 30-year Amortized	---	1,224	1,224
Operations	---	741	741
Development Activities: Construction and Operations Combined			1,965
Related to Land Use Conversion			14,654
Avoided by Producing Electricity			- 450,000
Total GHG, Construction and Operations			**- 433,400**

Source: Attachment 2, CalEEMod Output; Attachment 4, Avoided GHG Emissions.

Emissions Related to Land Use Conversion. Installation of the Proposed Project would result in ground disturbance that would disturb soils and remove some vegetation that naturally provide carbon uptake. Converting a portion of the existing land would eliminate the natural sequestration of carbon because the existing soil and vegetation acts as a sink by removing CO_2 from the atmosphere. Ground disturbance and vegetation removal during construction accordingly adds to the GHG impact because a portion of the soils and vegetation onsite would no longer be present to sequester CO_2. The loss of carbon uptake depends on what fraction of natural vegetation on the site would be cleared for permanent installation of foundations, roads, or other onsite facilities, and on efforts to minimize soil erosion or protect existing

ground cover to minimize the loss of carbon uptake. The actual amount of this loss is uncertain because it would depend on the particular characteristics of the site, and the available data on rates of sequestration by vegetation and soils are approximations. The loss of natural carbon uptake would not be expected to exceed 4.31 MTCO2e per year per acre; absent a reliable factor for the project setting, this factor is a proxy based on removing the natural sequestration capability of grassland (CalEEMod User's Guide, 2017). At this rate, the permanent conversion of approximately 3,400 acres, due to vegetation removal, compacted soils for access roads, and impervious areas for equipment at the site, would result in 14,654 MTCO2e per year of sequestration capability being lost. This estimate is conservatively high because a portion of the site would retain natural conditions, and some carbon sequestration capabilities would be restored within the site through revegetation efforts.

Emissions Avoided by Producing Electricity. The production of renewable power would displace power produced by carbon-based fuels that would otherwise be used to meet electricity demand. The power displaced is incremental power provided by generators elsewhere on the grid, typically from natural gas power plants.

The Proposed Project would produce over 1.2 million megawatt-hours (MWh) annually based on a typical, lower-bound capacity factor of 28 percent for a PV system without tracking in eastern Riverside County.[1] With tracking, a higher capacity factor would be achieved, and production would range up to approximately 1.4 million MWh annually. Under the "Proposed Near-Term Method for Estimating Generation Fuel Displacement by Avoided Use of Grid Electricity" (CEC, 2015), the electricity produced by the Proposed Project would displace fuel-burning by California's flexible natural gas-fired resources. This would avoid GHG that would otherwise be emitted at a rate of roughly 450,000 MT of CO_2 in 2030.

The quantity of avoided GHG could vary somewhat from the quantity predicted here depending on whether a storage component would be included. By requiring a charging cycle the storage component before discharging, some round-trip loss of energy would occur, and this would reduce the overall MWh-produced. The output of the storage component would have the beneficial effect of shifting the types of generating units on the grid that could be displaced, but the relative scale of avoided GHG of the Proposed Project with storage would be comparable to the amount without storage. (See Attachment 4, Avoided GHG Emissions.)

The combined direct and indirect effects of the emissions quantified in Table GHG-1 indicates that a net GHG reduction would occur with the Proposed Project avoiding approximately 433,400 MTCO2e annually. This impact would be less than significant, and no mitigation is required.

Impact GHG-2

b. Would the project conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

LESS THAN SIGNIFICANT. The Proposed Project would produce electricity in a manner that improves California's ability to supply renewable energy to end-use customers and to achieve statewide renewable energy goals. Electricity from the project would be used to serve the needs of customers and would facilitate compliance with the Renewables Portfolio Standard (RPS), as set forth by SB 350. The GHG emissions avoided by producing electricity would be consistent with and would not conflict with the California's GHG emissions reduction targets, as set forth by the California Global Warming Solutions Act

[1] The capacity factor may be 34 percent or higher if single-axis tracking is used according to data within the CPUC-sponsored RESOLVE spreadsheet model (September 2017 release).

(AB 32), SB 32, and the Climate Change Scoping Plan. Overall, the electricity produced by the project would contribute to the continued reduction of GHG emissions in California's power supply.

Other project activities related to construction and operation would either be exempt from or would be required to comply with California Air Resources Board (CARB) rules and regulations to reduce GHG emissions and would cause no other potential conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. As the total GHG emissions generated during construction and operation of the Proposed Project would be considerably less than the GHG emissions avoided, the solar power plant would lead to a net reduction in GHG emissions across the State's electricity system, which would contribute to meeting the State's GHG reduction goals under AB 32 and subsequent targets for 2030 and beyond. The Proposed Project would not conflict with any applicable GHG management plan, policy, or regulation.

This impact would be less than significant, and no mitigation is required.

7. Mitigation

Aspen recommends the following measures to mitigate air quality impacts, including several general emissions control measures.

MM AQ-1 **Fugitive Dust Control Plan.** The project owner would prepare and implement a Fugitive Dust Control Plan to address fugitive dust emissions during project construction, operation, maintenance, and decommissioning. The plan would include measures to minimize fugitive dust emissions from development of laydown and staging areas, site grading, vegetation management, and installing all project facilities through post-construction cleanup. The project owner would take every reasonable precaution to prevent all airborne fugitive dust plumes from leaving the project site and to prevent visible particulate matter from being deposited upon public roadways. The plan would be subject to review and approval by the SCAQMD (Rule 403).

The following measures would be included within the plan:

- During construction, all unpaved roads, disturbed areas (e.g., areas of scraping, excavation, backfilling, grading, and compacting), and loose materials generated during construction activities shall be stabilized with a non-toxic soil stabilizer or soil weighting agent or watered two times daily or as frequently as necessary to minimize fugitive dust generation. Non-water-based soil stabilizers shall be as efficient as or more efficient for fugitive dust control than ARB-approved soil stabilizers and shall not increase any other environmental impacts, including loss of vegetation.
- The main access roads through the site shall be either paved or stabilized using soil binders, or equivalent methods, to provide a stabilized surface that is similar for the purposes of dust control to paving, that may or may not include a crushed rock (gravel or similar material with fines removed) top layer, prior to initiating construction. Delivery, laydown, and staging areas for construction or O&M supplies shall be paved or treated prior to taking initial deliveries.
- Grading and earthwork activities, including vegetation removal, cut and fill movement, and soil compacting, shall be phased across the site to minimize the amount of exposed or disturbed area on any single day.

- No vehicle shall exceed 15 miles per hour on unpaved areas within the construction site, with the exception that vehicles may travel up to 25 miles per hour on stabilized unpaved roads as long as such speeds do not create visible dust emissions.
- Visible speed limit signs shall be posted at the construction site entrances.
- All construction equipment vehicle tires shall be inspected and washed as necessary to be cleaned free of dirt prior to entering paved roadways.
- All unpaved exits from the construction site shall be graveled or treated to prevent track-out onto public roadways.
- All paved roads within the construction site shall be swept daily or as needed (less during periods of precipitation) on days when construction activity occurs to prevent the accumulation of dirt and debris.
- At least the first 500 feet of any paved public roadway exiting the construction site or exiting other unpaved roads to access the construction site or staging areas shall be swept as needed when dirt or runoff resulting from the construction activities is visible on the paved public roadway.

MM AQ-2 **Control On-Site Off-Road Equipment Emissions.** The project owner, when entering into construction contracts or when procuring off-road equipment or vehicles for on-site construction or O&M activities, shall ensure that only new model year equipment or vehicles are obtained. The following measures would be included with contract or procurement specifications:

- All construction diesel engines not registered under California Air Resources Board's Statewide Portable Equipment Registration Program, with a rating of 50 hp or higher shall meet the Tier 4 California Emission Standards for Off-Road Compression-Ignition Engines, as specified in California Code of Regulations, Title 13, section 2423(b)(1), unless a good faith effort demonstrates that such engine is not available for a particular item of equipment. In the event that a Tier 4 engine is not available for any off-road equipment larger than 100 hp, a Tier 3 engine shall be used or that equipment shall be equipped with retrofit controls to reduce exhaust emissions of nitrogen oxides (NOx) and diesel particulate matter (DPM) to no more than Tier 3 levels unless certified by the engine manufacturers that the use of such devices is not practical for specific engine types.
- All diesel-fueled engines used in the construction of the facility shall have clearly visible tags showing that the engine meets the standards of this measure.
- All equipment and trucks used in the construction or O&M of the facility shall be properly maintained and the engines tuned to the engine manufacturer's specifications.
- All diesel heavy construction equipment shall not idle for more than five minutes. Vehicles that need to idle as part of their normal operation (such as concrete trucks) are exempted from this requirement.

8. References

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SCAQMD (South Coast Air Quality Management District). 2015. SCAQMD Air Quality Significance Thresholds.

SCAQMD. 2008. Board Meeting Report. Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans. December.

WRAP (Western Regional Air Partnership). 2016. Public Hearing Testimony, Proposed Amendments to the Regional Haze Rule. June 1, 2016.

Attachments

- **Attachment 1**, AQ/GHG Emissions Inventory
- **Attachment 2**, CalEEMod Output
- **Attachment 3**, AERSCREEN Input-Output
- **Attachment 4,** Avoided GHG Emissions

Attachment 1

AQ/GHG Emissions Inventory

AQ-GHG Construction Emissions Estimation

Activity and Input Notes | (Basis: ~4/13/2018, IP Athos, LL

Air Quality Setting

Jurisdiction: SCAQMD

Air Basin: Mojave Desert

Federal Mandatory Class I Area: JTNP = 1.4 km to NE from edge of Parcel (8) VG Devco (643 acres)

Rough Sequence of Phases	Duration of Phase	Start Seq. (mo)	End Seq. (mo)	Duration (days)
1 Site Prep	5 months	0	5	110
2 PV Panel System	20 months	5	25	440
3 Electrical (collectors onsite plus gen-ties)	10 months	15	25	220
4 Throughout Construction and Restoration	30 months	0	30	660

CalEEMod Input Assumptions

Construction Phase - Overall 30 mo or 660 days of construction

Off-road Equipment - 31 equipment count in Seq 1 Site Prep

Off-road Equipment - 70 equipment count w hydraulic ram or pile driver as Bore / Drill Rigs in Seq 2 PV Panels

Off-road Equipment - 21 equipment count during Seq 3 Electrical

Off-road Equipment - 56 equipment count during Seq 4 Throughout Const

Trips and VMT - 1,260 peak worker commutes and onsite crew, water trucks as vendor class

On-road Fugitive Dust - Water trucks 10% unpaved; HHDT 1% unpaved

Grading - disturbance 3228 ac site plus 104 ac gen-tie ROW

Architectural Coating - minimal or no coatings needed

Vehicle Trips - TR 0.0004 per 1000sqft per day: fewer than 100 daily operational trips

Road Dust - approx 1% unpaved VMT during ops

Consumer Products - consumer products not applicable

Area Coating - no coatings necessary

Energy Use - energy use not applicable

Water And Wastewater - interior water consumption factors not applicable

Solid Waste - light industrial solid waste factors not applicable

Land Use Change - land use conversion calculated separately

Construction Off-road Equipment Mitigation - Tier 4 offroad fleet; water 2x daily is 55% effective PM10 control per Rule 403; suppressant is 84% effective per Table XI-D; 15 mph

Operations off-road equipment - fleet of 6 equipment ct for occasional routine op-maint activity

Trenching: Underground cables, panel strings, collectors		
	3	ft wide
	6	ft depth
	2000	ft linear per 2 MW block
	250	(2-MW blocks)
	9,000,000	ft^3
	1,000,000	cy material handling
Foundations: 220 kV OH gen-tie, transmission		
	35	ft depth
	10	ft^2 area
	120	(220 kV structs)
	42,000	ft^3
	4,667	cy material handling

22 days/mo

ONROAD - LD, MDT, HHDT

Item	Truck Deliveries	Vehicle Type	Est. Delivery/Day (# roundtrips)	Duration (months)	Sequence	one way LD_mix Worker Trip (#/day)	one way HDT_Mix Vendor Trip (#/day)	one way HHDT Hauling Total Trips (# oneway)
Modules	8,400	53' Flatbed	12	20	2			16,800
Foundation posts	1,600	48' Flatbed	4	20	2			3,200
Racking	1,850	48' Flatbed	4	20	2			3,700
Cable	260	53' Flatbed	1	10	3			520
Inverters	380	48' Flatbed	1	10	3			760
Transformers	12	53' Flatbed	1	10	3			24
Concrete	600	Concrete Mixer	5	20	2			1,200
Road base	1,650	Dump truck	10	5	1			3,300
Trash (haul off)	200	40-YD roll-off	2	30	4			400
Fencing	90	48' Flatbed	2	5	1			180
Offroad eq transport	480	48' Flatbed	8	5	1			960
Electrical equipment	200	48' Flatbed	2	10	3			400
Water	40,734	4,000 gallon trucks	62	30	4		124	
		Worker commutes, Crew pickups	530	30	4	1,060		

Water requirements, dust control			by Sequence	Worker Trip (#/day)	Vendor Trip (#/day)	Hauling Trip (# overall)
500	ac-ft water			1,060	124	31,444
			1			4,440
21,780,000	ft^3 water		2			24,900
	40,734	- equiv per 4,000 gal trucks	3	0	0	1,704
			4	1,060	124	400

Worker Trip (mi/trip)	Vendor Trip (mi/trip)	Hauling Trip (mi/trip)
75	7	150

OFFROAD - Construciton Equipment

Items	Appx Equip Ct. Units	Typ Daily Use (hrs/day)	Purpose	CalEEMod Equip Type	Duration (months)	Sequence
Front end loader	10	8	Material movement	rubber tired loader	30	4
Forklifts	26	8	Material staging	forklift	30	4
Tractor	20	8	Material staging	tractor / loader / backhoe	30	4
Scrapers	12	8	Grading	scraper	5	1
Bulldozers	7	8	Grading	rubber tired dozer	5	1
Graders	12	8	Grading	grader	5	1
Hydraulic rock hammer	30	8	Foundation installation	bore / drill rig	20	2
Concrete batch plant	4	6	Foundation installation	other const equip	20	2
Cranes or lifts	8	6	Module, Inverter placement	crane	20	2
Generators	4	8	Misc modules, structures	generator sets	20	2
Welders	4	8	Misc modules, structures	welders	20	2
Backhoes	20	8	Excavation	tractor / loader / backhoe	20	2
Pile driver			*Post installation*	*(alternate to hydraulic hammer)*		
Cranes or lifts	2	6	Gen-tie, yard work	crane	10	3
Generators	2	8	Misc electrical	generator sets	10	3
Welders	2	8	Misc electrical	welders	10	3
Trencher	4	8	Underground work (AC/DC/Fiber op	trencher	10	3
Compactor	8	6	Compaction	roller	10	3
Cable plow	3	8	Underground cable installation	excavator	10	3

by Sequence	Offroad Equipment (count)
1	31
2	70
3	21
4	56

AQ-GHG Construction Emissions Estimation

Copy of CalEEMod: Daily Output. Date: 5/7/2018 11:25 AM

Construction: Maximum lb/day (by Year)

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

Year	lb/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2018		55.4	562.0	351.2	0.9	315.4	22.9	338.3	55.6	21.1	76.7
2019		61.4	498.0	445.7	1.4	454.9	19.6	474.5	58.5	18.1	76.7
2020		66.9	513.2	499.0	1.6	479.7	20.4	500.1	63.0	18.9	81.9
Maximum		66.9	562.0	499.0	1.6	479.7	22.9	500.1	63.0	21.1	81.9

Mitigated Construction

Year	lb/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2018		19.2	99.3	351.0	0.9	78.0	1.3	79.3	20.9	1.3	22.1
2019		32.4	131.9	527.8	1.4	104.2	1.7	105.9	21.9	1.7	23.6
2020		36.2	138.6	586.6	1.6	117.7	1.8	119.5	25.3	1.8	27.1
Maximum		36.2	138.6	586.6	1.6	117.7	1.8	119.5	25.3	1.8	27.1

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Percent Reduction	52.2	76.5	-13.1	0.0	76.0	92.3	76.8	61.5	91.8	69.0

Operation: lb/day (by Category)

2.2 Overall Operational

Unmitigated Operational

Category	lb/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Area		10.8	0.1	15.2	0.0		0.1	0.1		0.1	0.1
Energy		0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Mobile		0.5	4.8	9.8	0.0	34.0	0.0	34.1	3.9	0.0	4.0
Offroad		1.2	11.1	10.9	0.0		0.8	0.8		0.7	0.7
Total		12.6	16.1	36.0	0.1	34.0	0.9	34.9	3.9	0.8	4.7

AQ-GHG Construction Emissions Estimation

Copy of CalEEMod: Annual Output. Date: 5/7/2018 11:29 AM

Construction: Total over Duration (Mitigated)

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total			CO2e
	tons, total													**MT, total**
Fugitive Dust	On-site	0.00	0.00	0.00	0.00	3.26	0.00	3.26	1.10	0.00	1.10			0
Off-Road	On-site	2.29	10.83	102.84	0.19	0.00	0.30	0.30	0.00	0.30	0.30			16,656
Hauling	Off-site	0.41	16.54	2.32	0.08	8.91	0.08	8.98	1.42	0.07	1.50			7,153
Vendor	Off-site	0.16	4.74	1.15	0.01	4.02	0.03	4.05	0.45	0.02	0.47			1,146
Worker	Off-site	5.55	5.52	48.02	0.13	13.66	0.08	13.74	3.63	0.08	3.70			11,765
Total	**Total**	**8.41**	**37.63**	**154.33**	**0.40**	**29.84**	**0.49**	**30.33**	**6.60**	**0.48**	**7.08**			**36,721**
	sumcheck	8.41	37.63	154.33	0.40	29.84	0.49	30.33	6.60	0.48	7.08	CO2e (MT/30-yr)		1,224

Duration (days)		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
660	**lb/day, avg**										
	On-site	6.95	32.83	311.63	0.56	9.87	0.92	10.78	3.35	0.92	4.26
	Off-site	18.54	81.20	156.04	0.66	80.57	0.57	81.14	16.65	0.53	17.19
	Total	**25.49**	**114.03**	**467.67**	**1.22**	**90.43**	**1.48**	**91.92**	**20.00**	**1.45**	**21.45**

Construction Detail: Annual (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
3.2 Site Preparation - 2018																
Mitigated Construction On-Site																
Category	tons/yr										MT/yr					
Fugitive Dust						1.28	0.00	1.28	0.52	0.00	0.52	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road		0.19	0.82	7.13	0.02		0.03	0.03		0.03	0.03	0.00	1,405.77	1,405.77	0.44	0.00	1,416.71
Total		0.19	0.82	7.13	0.02	1.28	0.03	1.31	0.52	0.03	0.54	0.00	1,405.77	1,405.77	0.44	0.00	1,416.71
Mitigated Construction Off-Site																
Category	tons/yr										MT/yr					
Hauling		0.06	2.65	0.35	0.01	0.72	0.01	0.74	0.12	0.01	0.13	0.00	1,025.72	1,025.72	0.01	0.00	1,026.09
Vendor		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
Worker		0.29	0.30	2.56	0.01	0.62	0.00	0.62	0.16	0.00	0.17	0.00	553.27	553.27	0.02	0.00	553.79
Total		0.35	2.94	2.90	0.02	1.34	0.02	1.36	0.29	0.02	0.30	0.00	1,578.99	1,578.99	0.04	0.00	1,579.88

3.3 Throughout Constr - 2018

Mitigated Construction On-Site

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

Category	tons/yr										MT/yr					
Fugitive Dust					0.56	0.00	0.56	0.14	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road		0.18	0.79	8.83	0.01		0.02	0.02		0.02	0.02	0.00	1,347.51	1,347.51	0.42	0.00	1,358.00
Total		0.18	0.79	8.83	0.01	0.56	0.02	0.58	0.14	0.02	0.17	0.00	1,347.51	1,347.51	0.42	0.00	1,358.00

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		0.00	0.05	0.01	0.00	0.06	0.00	0.06	0.01	0.00	0.01	0.00	19.88	19.88	0.00	0.00	19.89
Vendor		0.04	1.11	0.29	0.00	0.87	0.01	0.87	0.10	0.01	0.10	0.00	248.33	248.33	0.02	0.00	248.93
Worker		0.37	0.38	3.30	0.01	0.79	0.01	0.80	0.21	0.00	0.22	0.00	714.22	714.22	0.03	0.00	714.90
Total		0.41	1.54	3.59	0.01	1.72	0.01	1.73	0.32	0.01	0.33	0.00	982.43	982.43	0.05	0.00	983.72

3.3 Throughout Constr - 2019

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						0.71	0.00	0.71	0.23	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road		0.33	1.45	16.23	0.03		0.04	0.04		0.04	0.04	0.00	2,436.15	2,436.15	0.77	0.00	2,455.42
Total		0.33	1.45	16.23	0.03	0.71	0.04	0.75	0.23	0.04	0.27	0.00	2,436.15	2,436.15	0.77	0.00	2,455.42

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		0.00	0.09	0.01	0.00	0.06	0.00	0.06	0.01	0.00	0.01	0.00	36.11	36.11	0.00	0.00	36.13
Vendor		0.07	1.91	0.46	0.00	1.59	0.01	1.60	0.18	0.01	0.19	0.00	453.00	453.00	0.04	0.00	454.09
Worker		0.61	0.62	5.34	0.01	1.46	0.01	1.47	0.39	0.01	0.40	0.00	1,271.89	1,271.89	0.04	0.00	1,272.99
Total		0.68	2.61	5.82	0.02	3.11	0.02	3.13	0.57	0.02	0.59	0.00	1,761.01	1,761.01	0.09	0.00	1,763.21

3.3 Throughout Constr - 2020

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						0.70	0.00	0.70	0.22	0.00	0.22	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road		0.33	1.42	15.98	0.03		0.04	0.04		0.04	0.04	0.00	2,346.20	2,346.20	0.76	0.00	2,365.17
Total		0.33	1.42	15.98	0.03	0.70	0.04	0.75	0.22	0.04	0.27	0.00	2,346.20	2,346.20	0.76	0.00	2,365.17

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	0.00	0.08	0.01	0.00	0.06	0.00	0.06	0.01	0.00	0.01	0.00	35.12	35.12	0.00	0.00	35.13
Vendor	0.06	1.72	0.40	0.00	1.57	0.01	1.57	0.17	0.01	0.18	0.00	442.44	442.44	0.04	0.00	443.47
Worker	0.55	0.54	4.70	0.01	1.44	0.01	1.45	0.38	0.01	0.39	0.00	1,213.27	1,213.27	0.04	0.00	1,214.22
Total	0.61	2.33	5.11	0.02	3.07	0.02	3.08	0.57	0.02	0.58	0.00	1,690.83	1,690.83	0.08	0.00	1,692.82

3.4 Electrical - 2020

Mitigated Construction On-Site

						Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5						
		ROG	NOx	CO	SO2	PM10	PM10	Total	PM2.5	PM2.5	Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr											MT/yr					
Off-Road		0.08	0.53	4.63	0.01		0.01	0.01		0.01	0.01	0.00	578.91	578.91	0.15	0.00	582.58
Total		0.08	0.53	4.63	0.01		0.01	0.01		0.01	0.01	0.00	578.91	578.91	0.15	0.00	582.58

Mitigated Construction Off-Site

						Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5						
		ROG	NOx	CO	SO2	PM10	PM10	Total	PM2.5	PM2.5	Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr											MT/yr					
Hauling		0.02	0.83	0.12	0.00	0.28	0.00	0.28	0.05	0.00	0.05	0.00	384.23	384.23	0.01	0.00	384.37
Vendor		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
Worker		0.47	0.46	4.02	0.01	1.23	0.01	1.24	0.33	0.01	0.33	0.00	1,038.60	1,038.60	0.03	0.00	1,039.41
Total		0.49	1.29	4.14	0.02	1.51	0.01	1.52	0.37	0.01	0.38	0.00	1,422.83	1,422.83	0.04	0.00	1,423.78

3.5 PV Panels - 2019

Mitigated Construction On-Site

						Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5						
		ROG	NOx	CO	SO2	PM10	PM10	Total	PM2.5	PM2.5	Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr											MT/yr					
Off-Road		0.58	2.89	24.79	0.05		0.08	0.08		0.08	0.08	0.00	4,207.90	4,207.90	1.26	0.00	4,239.32
Total		0.58	2.89	24.79	0.05		0.08	0.08		0.08	0.08	0.00	4,207.90	4,207.90	1.26	0.00	4,239.32

Mitigated Construction Off-Site

						Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5						
		ROG	NOx	CO	SO2	PM10	PM10	Total	PM2.5	PM2.5	Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr											MT/yr					
Hauling		0.17	6.70	0.93	0.03	3.86	0.03	3.89	0.61	0.03	0.64	0.00	2,816.63	2,816.63	0.04	0.00	2,817.65
Vendor		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
Worker		1.68	1.70	14.72	0.04	4.02	0.03	4.05	1.07	0.02	1.09	0.00	3,505.75	3,505.75	0.12	0.00	3,508.78
Total		1.85	8.40	15.65	0.07	7.88	0.06	7.94	1.68	0.05	1.73	0.00	6,322.38	6,322.38	0.16	0.00	6,326.43

3.5 PV Panels - 2020

Mitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2 MT/yr	NBio- CO2	Total CO2	CH4	N2O	CO2e
Off-Road		0.60	2.94	25.24	0.05		0.08	0.08		0.08	0.08	0.00	4,207.21	4,207.21	1.28	0.00	4,239.19
Total		0.60	2.94	25.24	0.05		0.08	0.08		0.08	0.08	0.00	4,207.21	4,207.21	1.28	0.00	4,239.19

Mitigated Construction Off-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2 MT/yr	NBio- CO2	Total CO2	CH4	N2O	CO2e
Hauling		0.16	6.15	0.90	0.03	3.86	0.03	3.89	0.61	0.03	0.64	0.00	2,832.85	2,832.85	0.04	0.00	2,833.85
Vendor		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
Worker		1.57	1.53	13.39	0.04	4.10	0.02	4.12	1.09	0.02	1.11	0.00	3,458.53	3,458.53	0.11	0.00	3,461.23
Total		1.73	7.67	14.28	0.07	7.96	0.05	8.01	1.70	0.05	1.75	0.00	6,291.39	6,291.39	0.15	0.00	6,295.08

Attachment 2

CalEEMod Output

IP Athos

Mojave Desert Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	148,104.00	1000sqft	3,400.00	148,104,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	31
Climate Zone	10			**Operational Year**	2020
Utility Company					
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - 30-mo construction over 660 work days

Land Use - up to 3400 ac site plus gen-ties

Construction Phase - Overall 30 mo or 660 days of construction

Off-road Equipment - mix 21 equip ct in seq 3 - electrical

Off-road Equipment - mix 70 equip ct in seq 2 - pv panels

Off-road Equipment - mix 31 equip ct in seq 1 - site prep

Off-road Equipment - mix 56 equip ct in seq 4 - throughout construction and restoration

Trips and VMT - 1,060 peak worker commutes and crew, water trucks as vendor class

On-road Fugitive Dust - Water trucks 10% unpaved; HHDT 1% unpaved

Grading - trenching is no net material import or export

Architectural Coating - no coatings needed

Vehicle Trips - TR 0.0004 per 1000sqft per day: fewer than 100 daily operational trips

Road Dust - approx 1% unpaved VMT during ops

Consumer Products - no consumer products

Area Coating - minimal or no coatings needed

Energy Use - energy use not applicable

Water And Wastewater - interior water consumption factors not applicable

Solid Waste - light industrial solid waste factors not applicable

Land Use Change - up to 3400 ac loss of natural carbon uptake

Construction Off-road Equipment Mitigation - Tier 4 offroad; water 2x daily is 55% effective PM10 control per Rule 403; suppressant is 84% effective per Table XI-D; 15 mph

Operational Off-Road Equipment - fleet of 6 equipment ct for occasional routine op-maint activity

Table Name	Column Name	Default Value	New Value
tblAreaCoating	ReapplicationRatePercent	10	0.1
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	30.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	25.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	13.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	11.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	45.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

tblConstructionPhase	NumDays	155,000.00	220.00
tblConstructionPhase	NumDays	15,500.00	660.00
tblConstructionPhase	NumDays	6,000.00	110.00
tblConsumerProducts	ROG_EF	2.14E-05	0
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	MaterialExported	0.00	1,005,000.00
tblGrading	MaterialImported	0.00	1,005,000.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	18.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOnRoadDust	HaulingPercentPave	100.00	99.00
tblOnRoadDust	HaulingPercentPave	100.00	99.00
tblOnRoadDust	HaulingPercentPave	100.00	99.00
tblOnRoadDust	HaulingPercentPave	100.00	99.00
tblOnRoadDust	VendorPercentPave	100.00	90.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	52.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	52.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	52.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00

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tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	RoadPercentPave	100	99
tblSolidWaste	SolidWasteGenerationRate	183,648.96	0.00
tblTripsAndVMT	HaulingTripLength	20.00	150.00
tblTripsAndVMT	HaulingTripLength	20.00	150.00
tblTripsAndVMT	HaulingTripLength	20.00	150.00
tblTripsAndVMT	HaulingTripLength	20.00	150.00
tblTripsAndVMT	HaulingTripNumber	125,625.00	4,440.00
tblTripsAndVMT	HaulingTripNumber	0.00	400.00
tblTripsAndVMT	HaulingTripNumber	0.00	1,704.00
tblTripsAndVMT	HaulingTripNumber	0.00	24,900.00
tblTripsAndVMT	VendorTripLength	6.60	7.00
tblTripsAndVMT	VendorTripLength	6.60	7.00
tblTripsAndVMT	VendorTripLength	6.60	7.00
tblTripsAndVMT	VendorTripLength	6.60	7.00
tblTripsAndVMT	VendorTripNumber	0.00	124.00
tblTripsAndVMT	VendorTripNumber	24,274.00	0.00
tblTripsAndVMT	WorkerTripLength	16.80	75.00
tblTripsAndVMT	WorkerTripLength	16.80	75.00
tblTripsAndVMT	WorkerTripLength	16.80	75.00
tblTripsAndVMT	WorkerTripLength	16.80	75.00
tblTripsAndVMT	WorkerTripNumber	78.00	200.00
tblTripsAndVMT	WorkerTripNumber	140.00	200.00
tblTripsAndVMT	WorkerTripNumber	62,204.00	200.00
tblTripsAndVMT	WorkerTripNumber	175.00	660.00
tblVehicleTrips	CC_TL	6.60	75.00
tblVehicleTrips	CNW_TL	6.60	75.00

tblVehicleTrips	CW_TL	14.70	75.00
tblVehicleTrips	ST_TR	1.32	4.0000e-004
tblVehicleTrips	SU_TR	0.68	4.0000e-004
tblVehicleTrips	WD_TR	6.97	4.0000e-004
tblWater	IndoorWaterUseRate	34,249,050,000.00	0.00

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	3.3579	34.3929	22.3356	0.0578	19.2612	1.4247	20.6859	3.3268	1.3115	4.6383	0.0000	5,314.6967	5,314.6967	0.9447	0.0000	5,338.3134
2019	6.8962	58.7020	53.3000	0.1620	49.4658	2.3315	51.7973	6.4540	2.1580	8.6120	0.0000	14,727.4562	14,727.4562	2.2775	0.0000	14,784.3933
2020	7.4572	60.2869	59.4218	0.1836	52.3345	2.3969	54.7314	6.9671	2.2217	9.1888	0.0000	16,537.3835	16,537.3835	2.4500	0.0000	16,598.6345
Maximum	**7.4572**	**60.2869**	**59.4218**	**0.1836**	**52.3345**	**2.3969**	**54.7314**	**6.9671**	**2.2217**	**9.1888**	**0.0000**	**16,537.3835**	**16,537.3835**	**2.4500**	**0.0000**	**16,598.6345**

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	1.1269	6.0914	22.4525	0.0578	4.9001	0.0787	4.9788	1.2592	0.0771	1.3363	0.0000	5,314.6934	5,314.6934	0.9447	0.0000	5,338.3101
2019	3.4461	15.3421	62.4913	0.1620	11.7047	0.1988	11.9035	2.4789	0.1943	2.6731	0.0000	14,727.4483	14,727.4483	2.2775	0.0000	14,784.3854
2020	3.8394	16.1969	69.3887	0.1836	13.2387	0.2124	13.4511	2.8618	0.2075	3.0693	0.0000	16,537.3750	16,537.3750	2.4500	0.0000	16,598.6260
Maximum	**3.8394**	**16.1969**	**69.3887**	**0.1836**	**13.2387**	**0.2124**	**13.4511**	**2.8618**	**0.2075**	**3.0693**	**0.0000**	**16,537.3750**	**16,537.3750**	**2.4500**	**0.0000**	**16,598.6260**

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	ROG	NOx	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	**52.50**	**75.47**	**-14.27**	**0.00**	**75.35**	**92.04**	**76.16**	**60.59**	**91.59**	**68.45**	**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	**10-1-2018**	**12-31-2018**	13.9942	2.6210
2	**1-1-2019**	**3-31-2019**	10.6753	2.6354
3	**4-1-2019**	**6-30-2019**	18.0683	5.2262
4	**7-1-2019**	**9-30-2019**	18.2669	5.2836
5	**10-1-2019**	**12-31-2019**	18.3809	5.3977
6	**1-1-2020**	**3-31-2020**	18.0780	5.4213
7	**4-1-2020**	**6-30-2020**	18.7331	5.5593
8	**7-1-2020**	**9-30-2020**	18.9390	5.6204
		Highest	18.9390	5.6204

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	1.8450	0.0127	1.3696	1.0000e-004		4.9100e-003	4.9100e-003		4.9100e-003	4.9100e-003	0.0000	2.6464	2.6464	7.1000e-003	0.0000	2.8238
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	0.0996	0.9049	1.9058	7.6200e-003	6.1847	6.7400e-003	6.1914	0.7125	6.3600e-003	0.7188	0.0000	703.8646	703.8646	0.0283	0.0000	704.5724
Offroad	0.0306	0.2884	0.2834	3.7000e-004		0.0201	0.0201		0.0185	0.0185	0.0000	32.8714	32.8714	0.0106	0.0000	33.1372
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.9753**	**1.2059**	**3.5588**	**8.0900e-003**	**6.1847**	**0.0317**	**6.2164**	**0.7125**	**0.0297**	**0.7422**	**0.0000**	**739.3824**	**739.3824**	**0.0460**	**0.0000**	**740.5334**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.8450	0.0127	1.3696	1.0000e-004		4.9100e-003	4.9100e-003		4.9100e-003	4.9100e-003	0.0000	2.6464	2.6464	7.1000e-003	0.0000	2.8238
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	0.0996	0.9049	1.9058	7.6200e-003	6.1847	6.7400e-003	6.1914	0.7125	6.3600e-003	0.7188	0.0000	703.8646	703.8646	0.0283	0.0000	704.5724
Offroad	0.0306	0.2884	0.2834	3.7000e-004		0.0201	0.0201		0.0185	0.0185	0.0000	32.8714	32.8714	0.0106	0.0000	33.1372
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.9753**	**1.2059**	**3.5588**	**8.0900e-003**	**6.1847**	**0.0317**	**6.2164**	**0.7125**	**0.0297**	**0.7422**	**0.0000**	**739.3824**	**739.3824**	**0.0460**	**0.0000**	**740.5334**

	ROG	NOx	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**

2.3 Vegetation

Vegetation

	CO2e
Category	MT
Vegetation Land Change	-14,654.0000
Total	**-14,654.0000**

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	6/15/2018	11/15/2018	5	110	1 site prep
2	Throughout Constr	Grading	6/15/2018	12/24/2020	5	660	4 throughout cons
3	Electrical	Building Construction	2/3/2020	12/4/2020	5	220	3 electrical
4	PV Panels	Trenching	3/1/2019	11/5/2020	5	440	2 pv panels

Acres of Grading (Site Preparation Phase): 1650

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 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	12	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	6	8.00	247	0.40
Site Preparation	Scrapers	9	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Throughout Constr	Excavators	2	8.00	158	0.38
Throughout Constr	Forklifts	22	8.00	89	0.20
Throughout Constr	Graders	1	8.00	187	0.41
Throughout Constr	Rubber Tired Dozers	1	8.00	247	0.40
Throughout Constr	Rubber Tired Loaders	10	8.00	203	0.36
Throughout Constr	Scrapers	2	8.00	367	0.48
Throughout Constr	Tractors/Loaders/Backhoes	18	8.00	97	0.37
Electrical	Cranes	1	6.00	231	0.29
Electrical	Excavators	1	8.00	158	0.38
Electrical	Forklifts	3	8.00	89	0.20
Electrical	Generator Sets	2	8.00	84	0.74
Electrical	Rollers	7	6.00	80	0.38
Electrical	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Electrical	Trenchers	2	8.00	78	0.50
Electrical	Welders	2	8.00	46	0.45
PV Panels	Bore/Drill Rigs	30	8.00	221	0.50
PV Panels	Cranes	8	6.00	231	0.29
PV Panels	Generator Sets	4	8.00	84	0.74
PV Panels	Other Construction Equipment	4	6.00	172	0.42
PV Panels	Tractors/Loaders/Backhoes	20	8.00	97	0.37
PV Panels	Welders	4	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	31	200.00	0.00	4,440.00	75.00	7.00	150.00	LD_Mix	HDT_Mix	HHDT
Throughout Constr	56	200.00	124.00	400.00	75.00	7.00	150.00	LD_Mix	HDT_Mix	HHDT
Electrical	21	200.00	0.00	1,704.00	75.00	7.00	150.00	LD_Mix	HDT_Mix	HHDT
PV Panels	70	660.00	0.00	24,900.00	75.00	7.00	150.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

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					3.0034	0.0000	3.0034	1.2082	0.0000	1.2082	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.3541	16.4523	7.5715	0.0154		0.6723	0.6723		0.6185	0.6185	0.0000	1,405.7741	1,405.7741	0.4376	0.0000	1,416.7150
Total	**1.3541**	**16.4523**	**7.5715**	**0.0154**	**3.0034**	**0.6723**	**3.6757**	**1.2082**	**0.6185**	**1.8267**	**0.0000**	**1,405.7741**	**1,405.7741**	**0.4376**	**0.0000**	**1,416.7150**

3.2 Site Preparation - 2018

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	0.0628	2.6483	0.3478	0.0108	4.7694	0.0129	4.7823	0.5258	0.0124	0.5382	0.0000	1,025.7170	1,025.7170	0.0149	0.0000	1,026.0896
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2850	0.2965	2.5552	6.1300e-003	0.6153	3.9500e-003	0.6193	0.1634	3.6500e-003	0.1670	0.0000	553.2680	553.2680	0.0210	0.0000	553.7936
Total	**0.3477**	**2.9447**	**2.9030**	**0.0169**	**5.3846**	**0.0169**	**5.4015**	**0.6892**	**0.0160**	**0.7052**	**0.0000**	**1,578.9850**	**1,578.9850**	**0.0359**	**0.0000**	**1,579.8832**

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					1.2840	0.0000	1.2840	0.5165	0.0000	0.5165	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1887	0.8176	7.1272	0.0154		0.0252	0.0252		0.0252	0.0252	0.0000	1,405.7724	1,405.7724	0.4376	0.0000	1,416.7133
Total	**0.1887**	**0.8176**	**7.1272**	**0.0154**	**1.2840**	**0.0252**	**1.3091**	**0.5165**	**0.0252**	**0.5417**	**0.0000**	**1,405.7724**	**1,405.7724**	**0.4376**	**0.0000**	**1,416.7133**

3.2 Site Preparation - 2018

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	0.0628	2.6483	0.3478	0.0108	0.7242	0.0129	0.7371	0.1221	0.0124	0.1345	0.0000	1,025.7170	1,025.7170	0.0149	0.0000	1,026.0896
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.2850	0.2965	2.5552	6.1300e-003	0.6153	3.9500e-003	0.6193	0.1634	3.6500e-003	0.1670	0.0000	553.2680	553.2680	0.0210	0.0000	553.7936
Total	**0.3477**	**2.9447**	**2.9030**	**0.0169**	**1.3395**	**0.0169**	**1.3563**	**0.2855**	**0.0160**	**0.3015**	**0.0000**	**1,578.9850**	**1,578.9850**	**0.0359**	**0.0000**	**1,579.8832**

3.3 Throughout Constr - 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					1.3025	0.0000	1.3025	0.3295	0.0000	0.3295	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.2471	13.4535	8.2700	0.0148		0.7231	0.7231		0.6653	0.6653	0.0000	1,347.5109	1,347.5109	0.4195	0.0000	1,357.9983
Total	**1.2471**	**13.4535**	**8.2700**	**0.0148**	**1.3025**	**0.7231**	**2.0256**	**0.3295**	**0.6653**	**0.9948**	**0.0000**	**1,347.5109**	**1,347.5109**	**0.4195**	**0.0000**	**1,357.9983**

3.3 Throughout Constr - 2018

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	1.2200e-003	0.0513	6.7400e-003	2.1000e-004	0.4246	2.5000e-004	0.4249	0.0455	2.4000e-004	0.0458	0.0000	19.8815	19.8815	2.9000e-004	0.0000	19.8887
Vendor	0.0398	1.1084	0.2859	2.6200e-003	8.3518	7.1300e-003	8.3589	0.8435	6.8200e-003	0.8503	0.0000	248.3266	248.3266	0.0242	0.0000	248.9310
Worker	0.3679	0.3827	3.2985	7.9100e-003	0.7943	5.1100e-003	0.7994	0.2109	4.7100e-003	0.2156	0.0000	714.2187	714.2187	0.0271	0.0000	714.8972
Total	**0.4089**	**1.5424**	**3.5911**	**0.0107**	**9.5707**	**0.0125**	**9.5832**	**1.0999**	**0.0118**	**1.1116**	**0.0000**	**982.4268**	**982.4268**	**0.0516**	**0.0000**	**983.7169**

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					0.5568	0.0000	0.5568	0.1409	0.0000	0.1409	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1815	0.7867	8.8312	0.0148		0.0242	0.0242		0.0242	0.0242	0.0000	1,347.5093	1,347.5093	0.4195	0.0000	1,357.9967
Total	**0.1815**	**0.7867**	**8.8312**	**0.0148**	**0.5568**	**0.0242**	**0.5810**	**0.1409**	**0.0242**	**0.1651**	**0.0000**	**1,347.5093**	**1,347.5093**	**0.4195**	**0.0000**	**1,357.9967**

3.3 Throughout Constr - 2018

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	1.2200e-003	0.0513	6.7400e-003	2.1000e-004	0.0602	2.5000e-004	0.0604	9.1600e-003	2.4000e-004	9.4000e-003	0.0000	19.8815	19.8815	2.9000e-004	0.0000	19.8887
Vendor	0.0398	1.1084	0.2859	2.6200e-003	0.8654	7.1300e-003	0.8725	0.0963	6.8200e-003	0.1031	0.0000	248.3266	248.3266	0.0242	0.0000	248.9310
Worker	0.3679	0.3827	3.2985	7.9100e-003	0.7943	5.1100e-003	0.7994	0.2109	4.7100e-003	0.2156	0.0000	714.2187	714.2187	0.0271	0.0000	714.8972
Total	**0.4089**	**1.5424**	**3.5911**	**0.0107**	**1.7199**	**0.0125**	**1.7324**	**0.3164**	**0.0118**	**0.3281**	**0.0000**	**982.4268**	**982.4268**	**0.0516**	**0.0000**	**983.7169**

3.3 Throughout Constr - 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					
Fugitive Dust					1.6608	0.0000	1.6608	0.5265	0.0000	0.5265	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0841	22.3944	14.7830	0.0271		1.1656	1.1656		1.0724	1.0724	0.0000	2,436.1558	2,436.1558	0.7708	0.0000	2,455.4251
Total	**2.0841**	**22.3944**	**14.7830**	**0.0271**	**1.6608**	**1.1656**	**2.8264**	**0.5265**	**1.0724**	**1.5988**	**0.0000**	**2,436.1558**	**2,436.1558**	**0.7708**	**0.0000**	**2,455.4251**

3.3 Throughout Constr - 2019

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	2.1200e-003	0.0859	0.0119	3.8000e-004	0.4258	4.1000e-004	0.4262	0.0460	3.9000e-004	0.0464	0.0000	36.1147	36.1147	5.2000e-004	0.0000	36.1277
Vendor	0.0658	1.9114	0.4641	4.7800e-003	15.3508	0.0111	15.3618	1.5503	0.0106	1.5609	0.0000	452.9980	452.9980	0.0437	0.0000	454.0892
Worker	0.6109	0.6160	5.3422	0.0141	1.4599	9.1100e-003	1.4690	0.3876	8.4000e-003	0.3960	0.0000	1,271.8941	1,271.8941	0.0440	0.0000	1,272.9936
Total	**0.6788**	**2.6133**	**5.8182**	**0.0192**	**17.2365**	**0.0206**	**17.2571**	**1.9839**	**0.0194**	**2.0032**	**0.0000**	**1,761.0068**	**1,761.0068**	**0.0882**	**0.0000**	**1,763.2106**

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					0.7100	0.0000	0.7100	0.2251	0.0000	0.2251	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3337	1.4460	16.2319	0.0271		0.0445	0.0445		0.0445	0.0445	0.0000	2,436.1529	2,436.1529	0.7708	0.0000	2,455.4222
Total	**0.3337**	**1.4460**	**16.2319**	**0.0271**	**0.7100**	**0.0445**	**0.7545**	**0.2251**	**0.0445**	**0.2696**	**0.0000**	**2,436.1529**	**2,436.1529**	**0.7708**	**0.0000**	**2,455.4222**

3.3 Throughout Constr - 2019

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	2.1200e-003	0.0859	0.0119	3.8000e-004	0.0613	4.1000e-004	0.0618	9.5900e-003	3.9000e-004	9.9800e-003	0.0000	36.1147	36.1147	5.2000e-004	0.0000	36.1277
Vendor	0.0658	1.9114	0.4641	4.7800e-003	1.5907	0.0111	1.6017	0.1770	0.0106	0.1876	0.0000	452.9980	452.9980	0.0437	0.0000	454.0892
Worker	0.6109	0.6160	5.3422	0.0141	1.4599	9.1100e-003	1.4690	0.3876	8.4000e-003	0.3960	0.0000	1,271.8941	1,271.8941	0.0440	0.0000	1,272.9936
Total	**0.6788**	**2.6133**	**5.8182**	**0.0192**	**3.1119**	**0.0206**	**3.1325**	**0.5742**	**0.0194**	**0.5936**	**0.0000**	**1,761.0068**	**1,761.0068**	**0.0882**	**0.0000**	**1,763.2106**

3.3 Throughout Constr - 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					
Fugitive Dust					1.6488	0.0000	1.6488	0.5198	0.0000	0.5198	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8904	20.1129	14.2318	0.0267		1.0144	1.0144		0.9333	0.9333	0.0000	2,346.2042	2,346.2042	0.7588	0.0000	2,365.1744
Total	**1.8904**	**20.1129**	**14.2318**	**0.0267**	**1.6488**	**1.0144**	**2.6632**	**0.5198**	**0.9333**	**1.4531**	**0.0000**	**2,346.2042**	**2,346.2042**	**0.7588**	**0.0000**	**2,365.1744**

3.3 Throughout Constr - 2020

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	1.9500e-003	0.0762	0.0111	3.7000e-004	0.4257	3.5000e-004	0.4261	0.0459	3.3000e-004	0.0463	0.0000	35.1216	35.1216	5.0000e-004	0.0000	35.1340
Vendor	0.0557	1.7194	0.4006	4.6700e-003	15.1155	7.3300e-003	15.1229	1.5266	7.0100e-003	1.5336	0.0000	442.4355	442.4355	0.0415	0.0000	443.4735
Worker	0.5519	0.5365	4.6956	0.0134	1.4376	8.6900e-003	1.4462	0.3816	8.0100e-003	0.3897	0.0000	1,213.2711	1,213.2711	0.0378	0.0000	1,214.2171
Total	**0.6096**	**2.3321**	**5.1074**	**0.0185**	**16.9788**	**0.0164**	**16.9952**	**1.9541**	**0.0154**	**1.9695**	**0.0000**	**1,690.8282**	**1,690.8282**	**0.0799**	**0.0000**	**1,692.8246**

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					0.7048	0.0000	0.7048	0.2222	0.0000	0.2222	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3286	1.4238	15.9832	0.0267		0.0438	0.0438		0.0438	0.0438	0.0000	2,346.2014	2,346.2014	0.7588	0.0000	2,365.1716
Total	**0.3286**	**1.4238**	**15.9832**	**0.0267**	**0.7048**	**0.0438**	**0.7487**	**0.2222**	**0.0438**	**0.2660**	**0.0000**	**2,346.2014**	**2,346.2014**	**0.7588**	**0.0000**	**2,365.1716**

3.3 Throughout Constr - 2020

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	1.9500e-003	0.0762	0.0111	3.7000e-004	0.0613	3.5000e-004	0.0617	9.5700e-003	3.3000e-004	9.9000e-003	0.0000	35.1216	35.1216	5.0000e-004	0.0000	35.1340
Vendor	0.0557	1.7194	0.4006	4.6700e-003	1.5663	7.3300e-003	1.5736	0.1743	7.0100e-003	0.1813	0.0000	442.4355	442.4355	0.0415	0.0000	443.4735
Worker	0.5519	0.5365	4.6956	0.0134	1.4376	8.6900e-003	1.4462	0.3816	8.0100e-003	0.3897	0.0000	1,213.2711	1,213.2711	0.0378	0.0000	1,214.2171
Total	**0.6096**	**2.3321**	**5.1074**	**0.0185**	**3.0651**	**0.0164**	**3.0815**	**0.5655**	**0.0154**	**0.5809**	**0.0000**	**1,690.8282**	**1,690.8282**	**0.0799**	**0.0000**	**1,692.8246**

3.4 Electrical - 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	0.5480	4.8943	4.4591	6.7100e-003		0.3030	0.3030		0.2837	0.2837	0.0000	578.9154	578.9154	0.1468	0.0000	582.5841
Total	**0.5480**	**4.8943**	**4.4591**	**6.7100e-003**		**0.3030**	**0.3030**		**0.2837**	**0.2837**	**0.0000**	**578.9154**	**578.9154**	**0.1468**	**0.0000**	**582.5841**

3.4 Electrical - 2020

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	0.0214	0.8335	0.1215	4.0400e-003	1.8304	3.7800e-003	1.8342	0.2018	3.6200e-003	0.2054	0.0000	384.2326	384.2326	5.4200e-003	0.0000	384.3681
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4724	0.4593	4.0196	0.0115	1.2306	7.4400e-003	1.2380	0.3267	6.8600e-003	0.3336	0.0000	1,038.5979	1,038.5979	0.0324	0.0000	1,039.4077
Total	**0.4938**	**1.2928**	**4.1411**	**0.0155**	**3.0610**	**0.0112**	**3.0722**	**0.5285**	**0.0105**	**0.5390**	**0.0000**	**1,422.8305**	**1,422.8305**	**0.0378**	**0.0000**	**1,423.7758**

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	0.0818	0.5335	4.6323	6.7100e-003		0.0103	0.0103		0.0103	0.0103	0.0000	578.9147	578.9147	0.1468	0.0000	582.5834
Total	**0.0818**	**0.5335**	**4.6323**	**6.7100e-003**		**0.0103**	**0.0103**		**0.0103**	**0.0103**	**0.0000**	**578.9147**	**578.9147**	**0.1468**	**0.0000**	**582.5834**

3.4 Electrical - 2020

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	0.0214	0.8335	0.1215	4.0400e-003	0.2779	3.7800e-003	0.2817	0.0469	3.6200e-003	0.0505	0.0000	384.2326	384.2326	5.4200e-003	0.0000	384.3681
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4724	0.4593	4.0196	0.0115	1.2306	7.4400e-003	1.2380	0.3267	6.8600e-003	0.3336	0.0000	1,038.5979	1,038.5979	0.0324	0.0000	1,039.4077
Total	**0.4938**	**1.2928**	**4.1411**	**0.0155**	**1.5085**	**0.0112**	**1.5197**	**0.3736**	**0.0105**	**0.3840**	**0.0000**	**1,422.8305**	**1,422.8305**	**0.0378**	**0.0000**	**1,423.7758**

3.5 PV Panels - 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	2.2840	25.2985	17.0462	0.0472		1.0883	1.0883		1.0126	1.0126	0.0000	4,207.9098	4,207.9098	1.2567	0.0000	4,239.3282
Total	**2.2840**	**25.2985**	**17.0462**	**0.0472**		**1.0883**	**1.0883**		**1.0126**	**1.0126**	**0.0000**	**4,207.9098**	**4,207.9098**	**1.2567**	**0.0000**	**4,239.3282**

3.5 PV Panels - 2019

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	0.1655	6.6978	0.9277	0.0296	26.5445	0.0320	26.5765	2.8754	0.0306	2.9060	0.0000	2,816.6343	2,816.6343	0.0406	0.0000	2,817.6493
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6838	1.6980	14.7249	0.0388	4.0240	0.0251	4.0491	1.0683	0.0232	1.0914	0.0000	3,505.7494	3,505.7494	0.1212	0.0000	3,508.7801
Total	**1.8493**	**8.3958**	**15.6526**	**0.0684**	**30.5685**	**0.0571**	**30.6256**	**3.9437**	**0.0538**	**3.9974**	**0.0000**	**6,322.3838**	**6,322.3838**	**0.1618**	**0.0000**	**6,326.4294**

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	0.5843	2.8870	24.7886	0.0472		0.0766	0.0766		0.0766	0.0766	0.0000	4,207.9048	4,207.9048	1.2567	0.0000	4,239.3232
Total	**0.5843**	**2.8870**	**24.7886**	**0.0472**		**0.0766**	**0.0766**		**0.0766**	**0.0766**	**0.0000**	**4,207.9048**	**4,207.9048**	**1.2567**	**0.0000**	**4,239.3232**

3.5 PV Panels - 2019

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	0.1655	6.6978	0.9277	0.0296	3.8587	0.0320	3.8907	0.6113	0.0306	0.6419	0.0000	2,816.6343	2,816.6343	0.0406	0.0000	2,817.6493
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6838	1.6980	14.7249	0.0388	4.0240	0.0251	4.0491	1.0683	0.0232	1.0914	0.0000	3,505.7494	3,505.7494	0.1212	0.0000	3,508.7801
Total	**1.8493**	**8.3958**	**15.6526**	**0.0684**	**7.8828**	**0.0571**	**7.9399**	**1.6796**	**0.0538**	**1.7334**	**0.0000**	**6,322.3838**	**6,322.3838**	**0.1618**	**0.0000**	**6,326.4294**

3.5 PV Panels - 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	2.1848	23.9801	17.2011	0.0482		0.9993	0.9993		0.9294	0.9294	0.0000	4,207.2199	4,207.2199	1.2790	0.0000	4,239.1947
Total	**2.1848**	**23.9801**	**17.2011**	**0.0482**		**0.9993**	**0.9993**		**0.9294**	**0.9294**	**0.0000**	**4,207.2199**	**4,207.2199**	**1.2790**	**0.0000**	**4,239.1947**

3.5 PV Panels - 2020

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	0.1575	6.1453	0.8960	0.0298	26.5481	0.0279	26.5760	2.8767	0.0267	2.9034	0.0000	2,832.8545	2,832.8545	0.0400	0.0000	2,833.8534
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5732	1.5294	13.3853	0.0383	4.0978	0.0248	4.1226	1.0879	0.0228	1.1107	0.0000	3,458.5309	3,458.5309	0.1079	0.0000	3,461.2275
Total	**1.7307**	**7.6747**	**14.2813**	**0.0681**	**30.6460**	**0.0527**	**30.6986**	**3.9646**	**0.0495**	**4.0141**	**0.0000**	**6,291.3854**	**6,291.3854**	**0.1478**	**0.0000**	**6,295.0810**

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	0.5950	2.9399	25.2435	0.0482		0.0780	0.0780		0.0780	0.0780	0.0000	4,207.2149	4,207.2149	1.2790	0.0000	4,239.1897
Total	**0.5950**	**2.9399**	**25.2435**	**0.0482**		**0.0780**	**0.0780**		**0.0780**	**0.0780**	**0.0000**	**4,207.2149**	**4,207.2149**	**1.2790**	**0.0000**	**4,239.1897**

3.5 PV Panels - 2020

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	0.1575	6.1453	0.8960	0.0298	3.8624	0.0279	3.8903	0.6126	0.0267	0.6393	0.0000	2,832.8545	2,832.8545	0.0400	0.0000	2,833.8534
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5732	1.5294	13.3853	0.0383	4.0978	0.0248	4.1226	1.0879	0.0228	1.1107	0.0000	3,458.5309	3,458.5309	0.1079	0.0000	3,461.2275
Total	**1.7307**	**7.6747**	**14.2813**	**0.0681**	**7.9602**	**0.0527**	**8.0129**	**1.7005**	**0.0495**	**1.7500**	**0.0000**	**6,291.3854**	**6,291.3854**	**0.1478**	**0.0000**	**6,295.0810**

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	0.0996	0.9049	1.9058	7.6200e-003	6.1847	6.7400e-003	6.1914	0.7125	6.3600e-003	0.7188	0.0000	703.8646	703.8646	0.0283	0.0000	704.5724
Unmitigated	0.0996	0.9049	1.9058	7.6200e-003	6.1847	6.7400e-003	6.1914	0.7125	6.3600e-003	0.7188	0.0000	703.8646	703.8646	0.0283	0.0000	704.5724

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	59.24	59.24	59.24	1,508,193	1,508,193
Total	59.24	59.24	59.24	1,508,193	1,508,193

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	75.00	75.00	75.00	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	0.533720	0.036539	0.171303	0.112547	0.020259	0.005751	0.010148	0.095159	0.001607	0.002105	0.008722	0.000887	0.001253

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	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	0.0000	0.0000	0.0000	0.0000	0.0000
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**

5.2 Energy by Land Use - NaturalGas

Mitigated

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

5.3 Energy by Land Use - Electricity

Mitigated

	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**

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	1.8450	0.0127	1.3696	1.0000e-004		4.9100e-003	4.9100e-003		4.9100e-003	4.9100e-003	0.0000	2.6464	2.6464	7.1000e-003	0.0000	2.8238
Unmitigated	1.8450	0.0127	1.3696	1.0000e-004		4.9100e-003	4.9100e-003		4.9100e-003	4.9100e-003	0.0000	2.6464	2.6464	7.1000e-003	0.0000	2.8238

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	1.7162					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1289	0.0127	1.3696	1.0000e-004		4.9100e-003	4.9100e-003		4.9100e-003	4.9100e-003	0.0000	2.6464	2.6464	7.1000e-003	0.0000	2.8238
Total	**1.8450**	**0.0127**	**1.3696**	**1.0000e-004**		**4.9100e-003**	**4.9100e-003**		**4.9100e-003**	**4.9100e-003**	**0.0000**	**2.6464**	**2.6464**	**7.1000e-003**	**0.0000**	**2.8238**

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	1.7162					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1289	0.0127	1.3696	1.0000e-004		4.9100e-003	4.9100e-003		4.9100e-003	4.9100e-003	0.0000	2.6464	2.6464	7.1000e-003	0.0000	2.8238
Total	**1.8450**	**0.0127**	**1.3696**	**1.0000e-004**		**4.9100e-003**	**4.9100e-003**		**4.9100e-003**	**4.9100e-003**	**0.0000**	**2.6464**	**2.6464**	**7.1000e-003**	**0.0000**	**2.8238**

7.0 Water Detail

7.1 Mitigation Measures Water

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

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
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
Forklifts	2	8.00	52	89	0.20	Diesel
Other General Industrial Equipment	2	8.00	52	88	0.34	Diesel
Tractors/Loaders/Backhoes	2	8.00	52	97	0.37	Diesel

UnMitigated/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
Equipment Type	tons/yr										MT/yr					
Forklifts	7.4900e-003	0.0675	0.0614	8.0000e-005		5.0300e-003	5.0300e-003		4.6200e-003	4.6200e-003	0.0000	6.9832	6.9832	2.2600e-003	0.0000	7.0396
Other General Industrial Equipment	0.0122	0.1114	0.1035	1.3000e-004		8.1200e-003	8.1200e-003		7.4700e-003	7.4700e-003	0.0000	11.6999	11.6999	3.7800e-003	0.0000	11.7945
Tractors/Loaders/Backhoes	0.0109	0.1095	0.1185	1.6000e-004		6.9200e-003	6.9200e-003		6.3700e-003	6.3700e-003	0.0000	14.1883	14.1883	4.5900e-003	0.0000	14.3031
Total	**0.0306**	**0.2884**	**0.2834**	**3.7000e-004**		**0.0201**	**0.0201**		**0.0185**	**0.0185**	**0.0000**	**32.8714**	**32.8714**	**0.0106**	**0.0000**	**33.1372**

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

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	-14,654.0000	0.0000	0.0000	-14,654.0000

11.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Grassland	3400 / 0	-14,654.0000	0.0000	0.0000	-14,654.0000
Total		**-14,654.0000**	**0.0000**	**0.0000**	**-14,654.0000**

IP Athos

Mojave Desert Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	148,104.00	1000sqft	3,400.00	148,104,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	31
Climate Zone	10			**Operational Year**	2020
Utility Company					
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - 30-mo construction over 660 work days

Land Use - up to 3400 ac site plus gen-ties

Construction Phase - Overall 30 mo or 660 days of construction

Off-road Equipment - mix 21 equip ct in seq 3 - electrical

Off-road Equipment - mix 70 equip ct in seq 2 - pv panels

Off-road Equipment - mix 31 equip ct in seq 1 - site prep

Off-road Equipment - mix 56 equip ct in seq 4 - throughout construction and restoration

Trips and VMT - 1,060 peak worker commutes and crew, water trucks as vendor class

On-road Fugitive Dust - Water trucks 10% unpaved; HHDT 1% unpaved

Grading - trenching is no net material import or export

Architectural Coating - no coatings needed

Vehicle Trips - TR 0.0004 per 1000sqft per day: fewer than 100 daily operational trips

Road Dust - approx 1% unpaved VMT during ops

Consumer Products - no consumer products

Area Coating - minimal or no coatings needed

Energy Use - energy use not applicable

Water And Wastewater - interior water consumption factors not applicable

Solid Waste - light industrial solid waste factors not applicable

Land Use Change - up to 3400 ac loss of natural carbon uptake

Construction Off-road Equipment Mitigation - Tier 4 offroad; water 2x daily is 55% effective PM10 control per Rule 403; suppressant is 84% effective per Table XI-D; 15 mph

Operational Off-Road Equipment - fleet of 6 equipment ct for occasional routine op-maint activity

Table Name	Column Name	Default Value	New Value
tblAreaCoating	ReapplicationRatePercent	10	0.1
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	30.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	25.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	13.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	11.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	45.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

tblConstructionPhase	NumDays	155,000.00	220.00
tblConstructionPhase	NumDays	15,500.00	660.00
tblConstructionPhase	NumDays	6,000.00	110.00
tblConsumerProducts	ROG_EF	2.14E-05	0
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	MaterialExported	0.00	1,005,000.00
tblGrading	MaterialImported	0.00	1,005,000.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	18.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOnRoadDust	HaulingPercentPave	100.00	99.00
tblOnRoadDust	HaulingPercentPave	100.00	99.00
tblOnRoadDust	HaulingPercentPave	100.00	99.00
tblOnRoadDust	HaulingPercentPave	100.00	99.00
tblOnRoadDust	VendorPercentPave	100.00	90.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	52.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	52.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	52.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00

IP Athos - Mojave Desert Air Basin, Winter

tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	RoadPercentPave	100	99
tblSolidWaste	SolidWasteGenerationRate	183,648.96	0.00
tblTripsAndVMT	HaulingTripLength	20.00	150.00
tblTripsAndVMT	HaulingTripLength	20.00	150.00
tblTripsAndVMT	HaulingTripLength	20.00	150.00
tblTripsAndVMT	HaulingTripLength	20.00	150.00
tblTripsAndVMT	HaulingTripNumber	125,625.00	4,440.00
tblTripsAndVMT	HaulingTripNumber	0.00	400.00
tblTripsAndVMT	HaulingTripNumber	0.00	1,704.00
tblTripsAndVMT	HaulingTripNumber	0.00	24,900.00
tblTripsAndVMT	VendorTripLength	6.60	7.00
tblTripsAndVMT	VendorTripLength	6.60	7.00
tblTripsAndVMT	VendorTripLength	6.60	7.00
tblTripsAndVMT	VendorTripLength	6.60	7.00
tblTripsAndVMT	VendorTripNumber	0.00	124.00
tblTripsAndVMT	VendorTripNumber	24,274.00	0.00
tblTripsAndVMT	WorkerTripLength	16.80	75.00
tblTripsAndVMT	WorkerTripLength	16.80	75.00
tblTripsAndVMT	WorkerTripLength	16.80	75.00
tblTripsAndVMT	WorkerTripLength	16.80	75.00
tblTripsAndVMT	WorkerTripNumber	78.00	200.00
tblTripsAndVMT	WorkerTripNumber	140.00	200.00
tblTripsAndVMT	WorkerTripNumber	62,204.00	200.00
tblTripsAndVMT	WorkerTripNumber	175.00	660.00
tblVehicleTrips	CC_TL	6.60	75.00
tblVehicleTrips	CNW_TL	6.60	75.00

tblVehicleTrips	CW_TL	14.70	75.00
tblVehicleTrips	ST_TR	1.32	4.0000e-004
tblVehicleTrips	SU_TR	0.68	4.0000e-004
tblVehicleTrips	WD_TR	6.97	4.0000e-004
tblWater	IndoorWaterUseRate	34,249,050,000.00	0.00

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	55.4239	562.0032	351.2001	0.9379	315.4488	22.8907	338.3395	55.6045	21.0723	76.6768	0.0000	95,140.4284	95,140.4284	16.8093	0.0000	95,560.6604
2019	61.3960	498.0230	445.7100	1.3998	454.9076	19.5983	474.5059	58.5114	18.1491	76.6605	0.0000	140,332.4917	140,332.4917	21.5810	0.0000	140,872.0175
2020	66.8738	513.2358	498.9561	1.5815	479.7234	20.3554	500.0789	63.0193	18.8761	81.8955	0.0000	157,050.4047	157,050.4047	23.1929	0.0000	157,630.2279
Maximum	**66.8738**	**562.0032**	**498.9561**	**1.5815**	**479.7234**	**22.8907**	**500.0789**	**63.0193**	**21.0723**	**81.8955**	**0.0000**	**157,050.4047**	**157,050.4047**	**23.1929**	**0.0000**	**157,630.2279**

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	19.2268	99.3310	351.0276	0.9379	78.0081	1.2816	79.2897	20.8875	1.2557	22.1433	0.0000	95,140.4284	95,140.4284	16.8093	0.0000	95,560.6604
2019	32.3892	131.8886	527.8448	1.3998	104.2190	1.7265	105.9455	21.9485	1.6865	23.6350	0.0000	140,332.4917	140,332.4917	21.5810	0.0000	140,872.0175
2020	36.1597	138.6009	586.6134	1.5815	117.6621	1.8418	119.5040	25.3215	1.7987	27.1201	0.0000	157,050.4047	157,050.4047	23.1929	0.0000	157,630.2279
Maximum	**36.1597**	**138.6009**	**586.6134**	**1.5815**	**117.6621**	**1.8418**	**119.5040**	**25.3215**	**1.7987**	**27.1201**	**0.0000**	**157,050.4047**	**157,050.4047**	**23.1929**	**0.0000**	**157,630.2279**

	ROG	NOx	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	**52.22**	**76.49**	**-13.09**	**0.00**	**76.01**	**92.28**	**76.79**	**61.52**	**91.84**	**69.01**	**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	10.8353	0.1405	15.2182	1.1300e-003		0.0546	0.0546		0.0546	0.0546		32.4129	32.4129	0.0869		34.5859
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	0.5409	4.8421	9.8457	0.0411	34.0393	0.0371	34.0764	3.9288	0.0350	3.9638		4,180.2776	4,180.2776	0.1707		4,184.5448
Offroad	1.1777	11.0911	10.8995	0.0144		0.7718	0.7718		0.7101	0.7101		1,393.6350	1,393.6350	0.4507		1,404.9033
Total	**12.5538**	**16.0737**	**35.9635**	**0.0566**	**34.0393**	**0.8635**	**34.9027**	**3.9288**	**0.7996**	**4.7285**		**5,606.3255**	**5,606.3255**	**0.7083**	**0.0000**	**5,624.0340**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	10.8353	0.1405	15.2182	1.1300e-003		0.0546	0.0546		0.0546	0.0546		32.4129	32.4129	0.0869		34.5859
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	0.5409	4.8421	9.8457	0.0411	34.0393	0.0371	34.0764	3.9288	0.0350	3.9638		4,180.2776	4,180.2776	0.1707		4,184.5448
Offroad	1.1777	11.0911	10.8995	0.0144		0.7718	0.7718		0.7101	0.7101		1,393.6350	1,393.6350	0.4507		1,404.9033
Total	**12.5538**	**16.0737**	**35.9635**	**0.0566**	**34.0393**	**0.8635**	**34.9027**	**3.9288**	**0.7996**	**4.7285**		**5,606.3255**	**5,606.3255**	**0.7083**	**0.0000**	**5,624.0340**

	ROG	NOx	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	6/15/2018	11/15/2018	5	110	1 site prep
2	Throughout Constr	Grading	6/15/2018	12/24/2020	5	660	4 throughout cons
3	Electrical	Building Construction	2/3/2020	12/4/2020	5	220	3 electrical
4	PV Panels	Trenching	3/1/2019	11/5/2020	5	440	2 pv panels

Acres of Grading (Site Preparation Phase): 1650

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 (Architectural Coating – sqft)

OffRoad Equipment

IP Athos - Mojave Desert Air Basin, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	12	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	6	8.00	247	0.40
Site Preparation	Scrapers	9	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Throughout Constr	Excavators	2	8.00	158	0.38
Throughout Constr	Forklifts	22	8.00	89	0.20
Throughout Constr	Graders	1	8.00	187	0.41
Throughout Constr	Rubber Tired Dozers	1	8.00	247	0.40
Throughout Constr	Rubber Tired Loaders	10	8.00	203	0.36
Throughout Constr	Scrapers	2	8.00	367	0.48
Throughout Constr	Tractors/Loaders/Backhoes	18	8.00	97	0.37
Electrical	Cranes	1	6.00	231	0.29
Electrical	Excavators	1	8.00	158	0.38
Electrical	Forklifts	3	8.00	89	0.20
Electrical	Generator Sets	2	8.00	84	0.74
Electrical	Rollers	7	6.00	80	0.38
Electrical	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Electrical	Trenchers	2	8.00	78	0.50
Electrical	Welders	2	8.00	46	0.45
PV Panels	Bore/Drill Rigs	30	8.00	221	0.50
PV Panels	Cranes	8	6.00	231	0.29
PV Panels	Generator Sets	4	8.00	84	0.74
PV Panels	Other Construction Equipment	4	6.00	172	0.42
PV Panels	Tractors/Loaders/Backhoes	20	8.00	97	0.37
PV Panels	Welders	4	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	31	200.00	0.00	4,440.00	75.00	7.00	150.00	LD_Mix	HDT_Mix	HHDT
Throughout Constr	56	200.00	124.00	400.00	75.00	7.00	150.00	LD_Mix	HDT_Mix	HHDT
Electrical	21	200.00	0.00	1,704.00	75.00	7.00	150.00	LD_Mix	HDT_Mix	HHDT
PV Panels	70	660.00	0.00	24,900.00	75.00	7.00	150.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

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	lb/day										lb/day					
Fugitive Dust					54.6077	0.0000	54.6077	21.9678	0.0000	21.9678			0.0000			0.0000
Off-Road	24.6196	299.1328	137.6626	0.2799		12.2226	12.2226		11.2448	11.2448		28,174.5575	28,174.5575	8.7711		28,393.8356
Total	**24.6196**	**299.1328**	**137.6626**	**0.2799**	**54.6077**	**12.2226**	**66.8304**	**21.9678**	**11.2448**	**33.2127**		**28,174.5575**	**28,174.5575**	**8.7711**		**28,393.8356**

3.2 Site Preparation - 2018

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	1.1505	47.3610	6.4819	0.1954	94.3672	0.2350	94.6022	10.3362	0.2248	10.5610		20,487.4060	20,487.4060	0.3137		20,495.2489
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	5.7459	5.0251	43.1092	0.1080	11.3977	0.0719	11.4696	3.0217	0.0663	3.0880		10,751.8127	10,751.8127	0.4042		10,761.9179
Total	**6.8964**	**52.3861**	**49.5911**	**0.3034**	**105.7649**	**0.3069**	**106.0717**	**13.3578**	**0.2911**	**13.6490**		**31,239.2187**	**31,239.2187**	**0.7179**		**31,257.1668**

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					23.3448	0.0000	23.3448	9.3912	0.0000	9.3912			0.0000			0.0000
Off-Road	3.4306	14.8658	129.5857	0.2799		0.4574	0.4574		0.4574	0.4574	0.0000	28,174.5575	28,174.5575	8.7711		28,393.8356
Total	**3.4306**	**14.8658**	**129.5857**	**0.2799**	**23.3448**	**0.4574**	**23.8022**	**9.3912**	**0.4574**	**9.8487**	**0.0000**	**28,174.5575**	**28,174.5575**	**8.7711**		**28,393.8356**

3.2 Site Preparation - 2018

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	1.1505	47.3610	6.4819	0.1954	13.9923	0.2350	14.2273	2.3146	0.2248	2.5394		20,487.4060	20,487.4060	0.3137		20,495.2489
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	5.7459	5.0251	43.1092	0.1080	11.3977	0.0719	11.4696	3.0217	0.0663	3.0880		10,751.8127	10,751.8127	0.4042		10,761.9179
Total	**6.8964**	**52.3861**	**49.5911**	**0.3034**	**25.3900**	**0.3069**	**25.6968**	**5.3363**	**0.2911**	**5.6274**		**31,239.2187**	**31,239.2187**	**0.7179**		**31,257.1668**

3.3 Throughout Constr - 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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	17.5651	189.4855	116.4784	0.2078		10.1849	10.1849		9.3701	9.3701		20,920.7953	20,920.7953	6.5129		21,083.6185
Total	**17.5651**	**189.4855**	**116.4784**	**0.2078**	**8.6733**	**10.1849**	**18.8582**	**3.5965**	**9.3701**	**12.9666**		**20,920.7953**	**20,920.7953**	**6.5129**		**21,083.6185**

3.3 Throughout Constr - 2018

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	0.0173	0.7111	0.0973	2.9300e-003	6.5144	3.5300e-003	6.5180	0.6955	3.3800e-003	0.6989		307.6187	307.6187	4.7100e-003		307.7365
Vendor	0.5797	15.2626	4.2614	0.0359	128.4908	0.1010	128.5917	12.9652	0.0966	13.0618		3,746.4256	3,746.4256	0.3984		3,756.3851
Worker	5.7459	5.0251	43.1092	0.1080	11.3977	0.0719	11.4696	3.0217	0.0663	3.0880		10,751.8127	10,751.8127	0.4042		10,761.9179
Total	**6.3429**	**20.9989**	**47.4679**	**0.1468**	**146.4029**	**0.1764**	**146.5793**	**16.6823**	**0.1663**	**16.8486**		**14,805.8570**	**14,805.8570**	**0.8073**		**14,826.0396**

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					3.7079	0.0000	3.7079	1.5375	0.0000	1.5375			0.0000			0.0000
Off-Road	2.5570	11.0802	124.3828	0.2078		0.3409	0.3409		0.3409	0.3409	0.0000	20,920.7953	20,920.7953	6.5129		21,083.6185
Total	**2.5570**	**11.0802**	**124.3828**	**0.2078**	**3.7079**	**0.3409**	**4.0488**	**1.5375**	**0.3409**	**1.8784**	**0.0000**	**20,920.7953**	**20,920.7953**	**6.5129**		**21,083.6185**

3.3 Throughout Constr - 2018

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	0.0173	0.7111	0.0973	2.9300e-003	0.9052	3.5300e-003	0.9087	0.1357	3.3800e-003	0.1390		307.6187	307.6187	4.7100e-003		307.7365
Vendor	0.5797	15.2626	4.2614	0.0359	13.2627	0.1010	13.3636	1.4652	0.0966	1.5618		3,746.4256	3,746.4256	0.3984		3,756.3851
Worker	5.7459	5.0251	43.1092	0.1080	11.3977	0.0719	11.4696	3.0217	0.0663	3.0880		10,751.8127	10,751.8127	0.4042		10,761.9179
Total	**6.3429**	**20.9989**	**47.4679**	**0.1468**	**25.5655**	**0.1764**	**25.7419**	**4.6225**	**0.1663**	**4.7888**		**14,805.8570**	**14,805.8570**	**0.8073**		**14,826.0396**

3.3 Throughout Constr - 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					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	15.9704	171.6044	113.2796	0.2078		8.9318	8.9318		8.2172	8.2172		20,577.7937	20,577.7937	6.5106		20,740.5586
Total	**15.9704**	**171.6044**	**113.2796**	**0.2078**	**8.6733**	**8.9318**	**17.6051**	**3.5965**	**8.2172**	**11.8137**		**20,577.7937**	**20,577.7937**	**6.5106**		**20,740.5586**

3.3 Throughout Constr - 2019

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	0.0164	0.6473	0.0935	2.9000e-003	3.5532	3.1500e-003	3.5563	0.3816	3.0100e-003	0.3846		304.0049	304.0049	4.6300e-003		304.1205
Vendor	0.5216	14.3218	3.7911	0.0356	128.4908	0.0852	128.5760	12.9652	0.0815	13.0467		3,717.6030	3,717.6030	0.3923		3,727.4099
Worker	5.2100	4.3989	38.0065	0.1046	11.3977	0.0698	11.4675	3.0217	0.0644	3.0860		10,416.8058	10,416.8058	0.3563		10,425.7135
Total	**5.7480**	**19.3680**	**41.8911**	**0.1431**	**143.4416**	**0.1582**	**143.5998**	**16.3685**	**0.1489**	**16.5173**		**14,438.4136**	**14,438.4136**	**0.7532**		**14,457.2440**

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					3.7079	0.0000	3.7079	1.5375	0.0000	1.5375			0.0000			0.0000
Off-Road	2.5570	11.0802	124.3828	0.2078		0.3409	0.3409		0.3409	0.3409	0.0000	20,577.7937	20,577.7937	6.5106		20,740.5586
Total	**2.5570**	**11.0802**	**124.3828**	**0.2078**	**3.7079**	**0.3409**	**4.0488**	**1.5375**	**0.3409**	**1.8784**	**0.0000**	**20,577.7937**	**20,577.7937**	**6.5106**		**20,740.5586**

3.3 Throughout Constr - 2019

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	0.0164	0.6473	0.0935	2.9000e-003	0.5014	3.1500e-003	0.5046	0.0770	3.0100e-003	0.0801		304.0049	304.0049	4.6300e-003		304.1205
Vendor	0.5216	14.3218	3.7911	0.0356	13.2627	0.0852	13.3479	1.4652	0.0815	1.5467		3,717.6030	3,717.6030	0.3923		3,727.4099
Worker	5.2100	4.3989	38.0065	0.1046	11.3977	0.0698	11.4675	3.0217	0.0644	3.0860		10,416.8058	10,416.8058	0.3563		10,425.7135
Total	**5.7480**	**19.3680**	**41.8911**	**0.1431**	**25.1617**	**0.1582**	**25.3199**	**4.5639**	**0.1489**	**4.7128**		**14,438.4136**	**14,438.4136**	**0.7532**		**14,457.2440**

3.3 Throughout Constr - 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					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	14.7112	156.5206	110.7535	0.2078		7.8943	7.8943		7.2627	7.2627		20,126.4389	20,126.4389	6.5093		20,289.1714
Total	**14.7112**	**156.5206**	**110.7535**	**0.2078**	**8.6733**	**7.8943**	**16.5676**	**3.5965**	**7.2627**	**10.8592**		**20,126.4389**	**20,126.4389**	**6.5093**		**20,289.1714**

3.3 Throughout Constr - 2020

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	0.0153	0.5831	0.0888	2.8600e-003	3.6082	2.6900e-003	3.6109	0.3874	2.5800e-003	0.3900		300.2368	300.2368	4.4800e-003		300.3489
Vendor	0.4499	13.0838	3.3431	0.0353	128.4908	0.0574	128.5482	12.9652	0.0549	13.0201		3,686.9033	3,686.9033	0.3799		3,696.3995
Worker	4.7937	3.8897	33.9333	0.1013	11.3977	0.0677	11.4653	3.0217	0.0623	3.0840		10,091.1493	10,091.1493	0.3117		10,098.9406
Total	**5.2589**	**17.5566**	**37.3651**	**0.1394**	**143.4966**	**0.1277**	**143.6244**	**16.3743**	**0.1198**	**16.4941**		**14,078.2894**	**14,078.2894**	**0.6960**		**14,095.6889**

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					3.7079	0.0000	3.7079	1.5375	0.0000	1.5375			0.0000			0.0000
Off-Road	2.5570	11.0802	124.3828	0.2078		0.3409	0.3409		0.3409	0.3409	0.0000	20,126.4389	20,126.4389	6.5093		20,289.1713
Total	**2.5570**	**11.0802**	**124.3828**	**0.2078**	**3.7079**	**0.3409**	**4.0488**	**1.5375**	**0.3409**	**1.8784**	**0.0000**	**20,126.4389**	**20,126.4389**	**6.5093**		**20,289.1713**

3.3 Throughout Constr - 2020

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	0.0153	0.5831	0.0888	2.8600e-003	0.5089	2.6900e-003	0.5116	0.0781	2.5800e-003	0.0807		300.2368	300.2368	4.4800e-003		300.3489
Vendor	0.4499	13.0838	3.3431	0.0353	13.2627	0.0574	13.3201	1.4652	0.0549	1.5201		3,686.9033	3,686.9033	0.3799		3,696.3995
Worker	4.7937	3.8897	33.9333	0.1013	11.3977	0.0677	11.4653	3.0217	0.0623	3.0840		10,091.1493	10,091.1493	0.3117		10,098.9406
Total	**5.2589**	**17.5566**	**37.3651**	**0.1394**	**25.1692**	**0.1277**	**25.2970**	**4.5650**	**0.1198**	**4.6848**		**14,078.2894**	**14,078.2894**	**0.6960**		**14,095.6889**

3.4 Electrical - 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	4.9816	44.4938	40.5373	0.0610		2.7543	2.7543		2.5793	2.5793		5,801.3180	5,801.3180	1.4706		5,838.0819
Total	**4.9816**	**44.4938**	**40.5373**	**0.0610**		**2.7543**	**2.7543**		**2.5793**	**2.5793**		**5,801.3180**	**5,801.3180**	**1.4706**		**5,838.0819**

3.4 Electrical - 2020

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	0.1958	7.4524	1.1343	0.0366	18.1083	0.0344	18.1427	1.9834	0.0329	2.0164		3,837.0267	3,837.0267	0.0573		3,838.4583
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	4.7937	3.8897	33.9333	0.1013	11.3977	0.0677	11.4653	3.0217	0.0623	3.0840		10,091.1493	10,091.1493	0.3117		10,098.9406
Total	**4.9896**	**11.3421**	**35.0676**	**0.1379**	**29.5060**	**0.1021**	**29.6080**	**5.0051**	**0.0953**	**5.1004**		**13,928.1760**	**13,928.1760**	**0.3689**		**13,937.3989**

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	0.7435	4.8502	42.1116	0.0610		0.0933	0.0933		0.0933	0.0933	0.0000	5,801.3180	5,801.3180	1.4706		5,838.0818
Total	**0.7435**	**4.8502**	**42.1116**	**0.0610**		**0.0933**	**0.0933**		**0.0933**	**0.0933**	**0.0000**	**5,801.3180**	**5,801.3180**	**1.4706**		**5,838.0818**

3.4 Electrical - 2020

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	0.1958	7.4524	1.1343	0.0366	2.6850	0.0344	2.7194	0.4442	0.0329	0.4771		3,837.0267	3,837.0267	0.0573		3,838.4583
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	4.7937	3.8897	33.9333	0.1013	11.3977	0.0677	11.4653	3.0217	0.0623	3.0840		10,091.1493	10,091.1493	0.3117		10,098.9406
Total	**4.9896**	**11.3421**	**35.0676**	**0.1379**	**14.0827**	**0.1021**	**14.1848**	**3.4658**	**0.0953**	**3.5611**		**13,928.1760**	**13,928.1760**	**0.3689**		**13,937.3989**

3.5 PV Panels - 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	20.9540	232.0961	156.3874	0.4330		9.9840	9.9840		9.2894	9.2894		42,554.3724	42,554.3724	12.7093		42,872.1047
Total	**20.9540**	**232.0961**	**156.3874**	**0.4330**		**9.9840**	**9.9840**		**9.2894**	**9.2894**		**42,554.3724**	**42,554.3724**	**12.7093**		**42,872.1047**

3.5 PV Panels - 2019

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	1.5308	60.4379	8.7307	0.2708	265.1803	0.2940	265.4743	28.5749	0.2813	28.8562		28,386.4530	28,386.4530	0.4321		28,397.2557
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	17.1928	14.5165	125.4213	0.3452	37.6123	0.2304	37.8427	9.9715	0.2123	10.1838		34,375.4590	34,375.4590	1.1758		34,404.8545
Total	**18.7237**	**74.9544**	**134.1519**	**0.6159**	**302.7926**	**0.5244**	**303.3170**	**38.5464**	**0.4936**	**39.0400**		**62,761.9120**	**62,761.9120**	**1.6079**		**62,802.1102**

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	5.3606	26.4859	227.4190	0.4330		0.7031	0.7031		0.7031	0.7031	0.0000	42,554.3724	42,554.3724	12.7093		42,872.1047
Total	**5.3606**	**26.4859**	**227.4190**	**0.4330**		**0.7031**	**0.7031**		**0.7031**	**0.7031**	**0.0000**	**42,554.3724**	**42,554.3724**	**12.7093**		**42,872.1047**

3.5 PV Panels - 2019

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	1.5308	60.4379	8.7307	0.2708	37.7371	0.2940	38.0311	5.8757	0.2813	6.1569		28,386.4530	28,386.4530	0.4321		28,397.2557
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	17.1928	14.5165	125.4213	0.3452	37.6123	0.2304	37.8427	9.9715	0.2123	10.1838		34,375.4590	34,375.4590	1.1758		34,404.8545
Total	**18.7237**	**74.9544**	**134.1519**	**0.6159**	**75.3494**	**0.5244**	**75.8738**	**15.8471**	**0.4936**	**16.3407**		**62,761.9120**	**62,761.9120**	**1.6079**		**62,802.1102**

3.5 PV Panels - 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	19.6824	216.0369	154.9652	0.4339		9.0024	9.0024		8.3728	8.3728		41,780.7757	41,780.7757	12.7013		42,098.3089
Total	**19.6824**	**216.0369**	**154.9652**	**0.4339**		**9.0024**	**9.0024**		**8.3728**	**8.3728**		**41,780.7757**	**41,780.7757**	**12.7013**		**42,098.3089**

3.5 PV Panels - 2020

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	1.4309	54.4498	8.2875	0.2674	260.4352	0.2515	260.6867	28.0720	0.2406	28.3126		28,034.6142	28,034.6142	0.4184		28,045.0741
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	15.8193	12.8361	111.9799	0.3342	37.6123	0.2233	37.8356	9.9715	0.2057	10.1772		33,300.7926	33,300.7926	1.0285		33,326.5039
Total	**17.2501**	**67.2859**	**120.2673**	**0.6016**	**298.0475**	**0.4747**	**298.5222**	**38.0435**	**0.4463**	**38.4898**		**61,335.4068**	**61,335.4068**	**1.4469**		**61,371.5780**

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	5.3606	26.4859	227.4190	0.4339		0.7031	0.7031		0.7031	0.7031	0.0000	41,780.7757	41,780.7757	12.7013		42,098.3089
Total	**5.3606**	**26.4859**	**227.4190**	**0.4339**		**0.7031**	**0.7031**		**0.7031**	**0.7031**	**0.0000**	**41,780.7757**	**41,780.7757**	**12.7013**		**42,098.3089**

3.5 PV Panels - 2020

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	1.4309	54.4498	8.2875	0.2674	37.0901	0.2515	37.3415	5.7817	0.2406	6.0223		28,034.6142	28,034.6142	0.4184		28,045.0741
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	15.8193	12.8361	111.9799	0.3342	37.6123	0.2233	37.8356	9.9715	0.2057	10.1772		33,300.7926	33,300.7926	1.0285		33,326.5039
Total	**17.2501**	**67.2859**	**120.2673**	**0.6016**	**74.7024**	**0.4747**	**75.1771**	**15.7532**	**0.4463**	**16.1995**		**61,335.4068**	**61,335.4068**	**1.4469**		**61,371.5780**

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	0.5409	4.8421	9.8457	0.0411	34.0393	0.0371	34.0764	3.9288	0.0350	3.9638		4,180.2776	4,180.2776	0.1707		4,184.5448
Unmitigated	0.5409	4.8421	9.8457	0.0411	34.0393	0.0371	34.0764	3.9288	0.0350	3.9638		4,180.2776	4,180.2776	0.1707		4,184.5448

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	59.24	59.24	59.24	1,508,193	1,508,193
Total	59.24	59.24	59.24	1,508,193	1,508,193

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	75.00	75.00	75.00	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	0.533720	0.036539	0.171303	0.112547	0.020259	0.005751	0.010148	0.095159	0.001607	0.002105	0.008722	0.000887	0.001253

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	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**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
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	10.8353	0.1405	15.2182	1.1300e-003		0.0546	0.0546		0.0546	0.0546		32.4129	32.4129	0.0869		34.5859
Unmitigated	10.8353	0.1405	15.2182	1.1300e-003		0.0546	0.0546		0.0546	0.0546		32.4129	32.4129	0.0869		34.5859

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	9.4036					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.4317	0.1405	15.2182	1.1300e-003		0.0546	0.0546		0.0546	0.0546		32.4129	32.4129	0.0869		34.5859
Total	**10.8353**	**0.1405**	**15.2182**	**1.1300e-003**		**0.0546**	**0.0546**		**0.0546**	**0.0546**		**32.4129**	**32.4129**	**0.0869**		**34.5859**

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	9.4036					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.4317	0.1405	15.2182	1.1300e-003		0.0546	0.0546		0.0546	0.0546		32.4129	32.4129	0.0869		34.5859
Total	**10.8353**	**0.1405**	**15.2182**	**1.1300e-003**		**0.0546**	**0.0546**		**0.0546**	**0.0546**		**32.4129**	**32.4129**	**0.0869**		**34.5859**

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
Forklifts	2	8.00	52	89	0.20	Diesel
Other General Industrial Equipment	2	8.00	52	88	0.34	Diesel
Tractors/Loaders/Backhoes	2	8.00	52	97	0.37	Diesel

UnMitigated/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
Equipment Type	lb/day										lb/day					
Forklifts	0.2880	2.5950	2.3605	3.0500e-003		0.1933	0.1933		0.1779	0.1779		296.0617	296.0617	0.0958		298.4555
Other General Industrial Equipment	0.4707	4.2858	3.9796	5.1200e-003		0.3123	0.3123		0.2873	0.2873		496.0363	496.0363	0.1604		500.0470
Tractors/Loaders/Backhoes	0.4190	4.2103	4.5594	6.2100e-003		0.2662	0.2662		0.2449	0.2449		601.5370	601.5370	0.1946		606.4008
Total	**1.1777**	**11.0910**	**10.8995**	**0.0144**		**0.7718**	**0.7718**		**0.7101**	**0.7101**		**1,393.6350**	**1,393.6350**	**0.4507**		**1,404.9033**

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

Attachment 3

AERSCREEN Input-Output

AERSCREEN Settings for Single Source, Ambient Air Quality Impact Calculation

Project Number / Name:	3397 IP Athos
Scenario:	non-contiguous; groups of typical 1/4-section parcels (160 ac; 0.5 mi sides)
Model Description:	AERSCREEN: 40 CFR 51, Appendix W, Section 4.2.1.1 (Federal Register: Jan 17, 2017)
Model Assumptions:	See U.S. EPA, AERSCREEN User's Guide (EPA-454/B-16-004), December 2016
	Also U.S. EPA, AERMOD User's Guide (EPA-454/B-16-011), December 2016

Input / Settings

Source	Type = VOL Configuration	Emiss. Rate (g/s)	Release Height (m)	SyInit (m)	SzInit (m)
	Name : IP_per_160ac	1	3.66	186	1.8
		(unit emis	(12-ft tailpipe	(calc'd below	(6-ft vert mix tailpipes
			(center of the volume	(initial lateral	(vertical dim / 2.15

[Initial Vertical Dimention (SyInit)

(SyInit = length of side / 4.3

800	(m) sq. site	158.1	(ac) site
186.05	SyInit		

[Use of volume sources for mobile configurations (SCAQMD, 2003) & roadway segments (BAAQMD, 2012).
[Ref: SCAQMD, Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis (2003)

Options:

Rural / Urban ? = R
Minimum Receptor Distance ? = default for VOL source
Modeling NO2 chemistry ? = no
Terrain heights ? = no
Flagpole receptors ? = yes, at 1.8 m
Source elevation ? = default for VOL source

Meteorology / Surface Characteristics	Min wind sp (m/s)	MinTemp (K)	MaxTemp (K)	AnemHt (m)	Surf	Clim	Albedo --	Bowen --	Length (m)
	0.5	270	310	10					
					((surface char. per AERMET Seasonal Tables				

Surface Characteristics Tables

User settings for AERMET Seasonal Tables - Dominant Surface Profile:

1) Water
2) Deciduous Forest
3) Coniferous Forest
4) Swamp
5) Cultivated Land
6) Grassland
7) Urban

>>> 8) Desert Shrubland

User settings for AERMET Seasonal Tables - Dominant Climate Profile:

1) Average Moisture
2) Wet Conditions

>>> 3) Dry Conditions

Surface friction velocity setting

Adjust U*? = N

[No ADJ_U* is worst-case, per AERMOD in screening mode w/ general met matrix from MAKEMET.

[Yes ADJ_U* is a regulatory option for AERMOD when using standard met data w/o turbulence and prognostic meteorological inputs (82 FR 5187)

Results : AERSCREEN 16216 / AERMOD 16216r

```
---------------------------------------------------------------------------
 *********************  AERSCREEN MAXIMUM IMPACT SUMMARY  *********************
 ---------------------------------------------------------------------------

                      MAXIMUM      SCALED      SCALED      SCALED      SCALED
                       1-HOUR      3-HOUR      8-HOUR     24-HOUR      ANNUAL
  CALCULATION           CONC        CONC        CONC        CONC        CONC
   PROCEDURE          (ug/m3)     (ug/m3)     (ug/m3)     (ug/m3)     (ug/m3)
 ---------------    ----------  ----------  ----------  ----------  ----------
 FLAT TERRAIN        420.4       420.4       378.3       252.2       42.04

 DISTANCE FROM SOURCE        400.90 meters
```

```
MAXIMUM CONCENTRATIONS BY DISTANCE
                 MAXIMUM
      DIST     1-HR CONC
       (m)      (ug/m3)
   ---------------------
    400.90      420.4
    800.00      344.7
   1600.00      244.4
   2400.00      183.8
   4800.00      96.51
```

Post-Processing

Description	Pollutant	Location (m)	Input (g/s)	VOL Source Daily Emissions (lb/d)	Annual Emissions (tpy)	1-hr (ug/m3)	24-hr (ug/m3)	Annual (ug/m3)
Unit emission rate 1 g/s	None	400.90	1	190.48	34.76	420.4	252.2	42.04
		800.00	1	190.48	34.76	344.7	206.8	34.5
		1600.00	1	190.48	34.76	244.4	146.6	24.4
		2400.00	1	190.48	34.76	183.8	110.3	18.4
		4800.00	1	190.48	34.76	96.51	57.9	9.7

Ground Level Concentrations - Fenceline, per single VOL source						Impact (GLC at Ambient Boundary)		
Description	Pollutant	Total On-site (lb/d)	per VOL source (g/s)	per VOL source (lb/d)	(tpy)	1-hr (ug/m3)	24-hr (ug/m3)	Annual (ug/m3)
On-site; Construction	PM10	10.78	0.003	0.539		1.19	0.714	0.119
On-site; Construction	PM2.5	4.26	0.001	0.213		0.47	0.282	0.047
On-site; Construction	DPM	0.92	0.000	0.046		0.10	0.061	0.010
On-site + Off-site	CO				61.72	746.42	447.78	74.64

0.05 (each VOL source: 160 ac fraction of 3400 ac total on-site ~ 1/20

Overlapping Concentrations, groups of non-contiguous parcels						Impact (GLC Overlapping)		
Description	Pollutant	multiple VOL sources?	Distance (m)	multi VOL sources (g/s)	multi VOL sources (lb/d)		24-hr (ug/m3)	Annual (ug/m3)
On-site; Construction	PM10	1	400.90	0.003	0.54		0.714	0.119
		2	800.00	0.006	1.08		1.170	0.195
		2	1600.00	0.006	1.08		0.830	0.138
		5	2400.00	0.014	2.70		1.560	0.260
		10	4800.00	0.028	5.39		1.638	0.273
		20			10.78	Sum of PM10	5.912	0.986
On-site; Construction	PM2.5	1	400.90	0.001	0.21		0.282	0.047
		2	800.00	0.002	0.43		0.462	0.077
		2	1600.00	0.002	0.43		0.328	0.055
		5	2400.00	0.006	1.07		0.617	0.103
		10	4800.00	0.011	2.13		0.647	0.108
		20			4.26	Sum of PM2.5	2.336	0.389
On-site; Construction	DPM	1	400.90	0.000	0.05		0.061	0.010
		2	800.00	0.000	0.09		0.100	0.017
		2	1600.00	0.000	0.09		0.071	0.012
		5	2400.00	0.001	0.23		0.133	0.022
		10	4800.00	0.002	0.46		0.140	0.023
		20			0.92	Sum of DPM	0.505	0.084

AERSCREEN 16216 / AERMOD 16216r 05/09/18
14:39:38

TITLE: IP_per_160ac

********** VOLUME PARAMETERS **********

SOURCE EMISSION RATE:	1.0000	g/s	7.937	lb/hr
VOLUME HEIGHT:	3.66	meters	12.01	feet
INITIAL LATERAL DIMENSION:	186.00	meters	610.24	feet
INITIAL VERTICAL DIMENSION:	1.80	meters	5.91	feet
RURAL OR URBAN:	RURAL			
FLAGPOLE RECEPTOR HEIGHT:	1.80	meters	5.91	feet
INITIAL PROBE DISTANCE =	5000.	meters	16404.	feet

********** BUILDING DOWNWASH PARAMETERS **********

BUILDING DOWNWASH NOT USED FOR NON-POINT SOURCES

********** PROBE ANALYSIS **********
25 meter receptor spacing: 401. meters - 5000. meters

Zo SECTOR	ROUGHNESS LENGTH	1-HR CONC (ug/m3)	DIST (m)	TEMPORAL PERIOD
1*	0.150	420.4	400.9	WIN

* = worst case flow sector

********** MAKEMET METEOROLOGY PARAMETERS **********

MIN/MAX TEMPERATURE: 270.0 / 310.0 (K)

MINIMUM WIND SPEED: 0.5 m/s

ANEMOMETER HEIGHT: 10.000 meters

SURFACE CHARACTERISTICS INPUT: AERMET SEASONAL TABLES

DOMINANT SURFACE PROFILE: Desert Shrubland
DOMINANT CLIMATE TYPE: Dry Conditions
DOMINANT SEASON: Winter

ALBEDO: 0.45
BOWEN RATIO: 10.00
ROUGHNESS LENGTH: 0.150 (meters)

SURFACE FRICTION VELOCITY (U*) NOT ADUSTED

METEOROLOGY CONDITIONS USED TO PREDICT OVERALL MAXIMUM IMPACT

YR	MO	DY	JDY	HR
10	01	01	1	01

H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS
-0.49	0.024	-9.000	0.020	-999.	8.	2.3	0.150	10.00	0.45	0.50

HT	REF TA	HT
10.0	270.0	2.0

METEOROLOGY CONDITIONS USED TO PREDICT AMBIENT BOUNDARY IMPACT

YR	MO	DY	JDY	HR
10	01	01	1	01

H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS
-0.49	0.024	-9.000	0.020	-999.	8.	2.3	0.150	10.00	0.45	0.50

HT	REF TA	HT
10.0	270.0	2.0

********** AERSCREEN AUTOMATED DISTANCES **********

OVERALL MAXIMUM CONCENTRATIONS BY DISTANCE

DIST (m)	MAXIMUM 1-HR CONC (ug/m3)	DIST (m)	MAXIMUM 1-HR CONC (ug/m3)
400.90	420.4	2725.00	165.8
425.00	414.9	2750.00	164.6
450.00	409.5	2775.00	163.3
475.00	404.2	2800.00	162.1
500.00	399.0	2825.00	160.9
525.00	394.0	2850.00	159.7
550.00	389.1	2875.00	158.5
575.00	384.3	2900.00	157.3
600.00	379.6	2925.00	156.1
625.00	374.9	2950.00	155.0
650.00	370.4	2975.00	153.9
675.00	365.9	3000.00	152.7
700.00	361.6	3025.00	151.6
725.00	357.2	3050.00	150.5
750.00	353.0	3075.00	149.4
775.00	348.8	3100.00	148.4
800.00	344.7	3125.00	147.3
825.00	340.7	3150.00	146.3
850.00	336.7	3175.00	145.2
875.00	332.9	3200.00	144.2
900.00	329.0	3225.00	143.2
925.00	325.3	3250.00	142.2
950.00	321.6	3275.00	141.2
975.00	317.9	3300.00	140.2
1000.00	314.4	3325.00	139.3
1025.00	310.8	3350.00	138.3
1050.00	307.4	3375.00	137.3
1075.00	304.0	3400.00	136.4
1100.00	300.6	3425.00	135.5
1125.00	297.4	3450.00	134.6
1150.00	294.1	3475.00	133.7
1175.00	291.0	3500.00	132.8
1200.00	287.8	3525.00	131.9
1225.00	284.8	3550.00	131.0
1250.00	281.8	3575.00	130.1
1275.00	278.8	3600.00	129.3

1300.00	275.9	3625.00	128.4
1325.00	273.0	3650.00	127.6
1350.00	270.2	3675.00	126.7
1375.00	267.4	3700.00	125.9
1400.00	264.7	3725.00	125.1
1425.00	262.0	3750.00	124.3
1450.00	259.4	3775.00	123.5
1475.00	256.8	3800.00	122.7
1500.00	254.2	3825.00	121.9
1525.00	251.7	3850.00	121.1
1550.00	249.2	3875.00	120.4
1575.00	246.8	3900.00	119.6
1600.00	244.4	3925.00	118.8
1625.00	242.0	3950.00	118.1
1650.00	239.7	3975.00	117.4
1675.00	237.4	4000.00	116.6
1700.00	235.2	4025.00	115.9
1725.00	232.9	4050.00	115.2
1750.00	230.8	4075.00	114.5
1775.00	228.6	4100.00	113.8
1800.00	226.5	4125.00	113.1
1825.00	224.4	4150.00	112.4
1850.00	222.3	4175.00	111.7
1875.00	220.3	4200.00	111.0
1900.00	218.3	4225.00	110.4
1925.00	216.3	4250.00	109.7
1950.00	214.4	4275.00	109.0
1975.00	212.5	4300.00	108.4
2000.00	210.6	4325.00	107.7
2025.00	208.8	4350.00	107.1
2050.00	206.9	4375.00	106.5
2075.00	205.1	4400.00	105.8
2100.00	203.3	4425.00	105.2
2125.00	201.6	4450.00	104.6
2150.00	199.9	4475.00	104.0
2175.00	198.1	4500.00	103.4
2200.00	196.5	4525.00	102.8
2225.00	194.8	4550.00	102.2
2250.00	193.2	4575.00	101.6
2275.00	191.6	4600.00	101.0
2300.00	190.0	4625.00	100.4
2325.00	188.4	4650.00	99.85
2350.00	186.8	4675.00	99.28
2375.00	185.3	4700.00	98.72
2400.00	183.8	4725.00	98.16
2425.00	182.3	4750.00	97.60
2450.00	180.8	4775.00	97.06
2475.00	179.4	4800.00	96.51

2500.00	177.9	4825.00	95.97
2525.00	176.5	4850.00	95.44
2550.00	175.1	4875.00	94.91
2575.00	173.8	4900.00	94.38
2600.00	172.4	4925.00	93.86
2625.00	171.0	4950.00	93.34
2650.00	169.7	4975.00	92.83
2675.00	168.4	5000.00	92.32
2700.00	167.1		

********** AERSCREEN MAXIMUM IMPACT SUMMARY **********

CALCULATION PROCEDURE	MAXIMUM 1-HOUR CONC (ug/m3)	SCALED 3-HOUR CONC (ug/m3)	SCALED 8-HOUR CONC (ug/m3)	SCALED 24-HOUR CONC (ug/m3)	SCALED ANNUAL CONC (ug/m3)
FLAT TERRAIN	420.4	420.4	378.3	252.2	42.04

DISTANCE FROM SOURCE 400.90 meters

IMPACT AT THE AMBIENT BOUNDARY	420.4	420.4	378.3	252.2	42.04

DISTANCE FROM SOURCE 400.90 meters

Attachment 4

Avoided GHG Emissions

Cover Sheet

Proposed Near-Term Method for Estimating Generation Fuel Displacement by Avoided Use of Grid Electricity

California Energy Commission, Energy Assessments Division

7-23-15

Summary: The following data sheets contain a functional calculator for estimating generation fuel displacement by avoided use of grid electricity over a five-year period. The avoided electricity is converted to carbon dioxide emissions using the carbon content of the fuel source, natural gas.

The intended audience is the general public, load serving entity resource planning staff, and electric industry stakeholders.

Source of Data: Quarterly Fuel and Energy Report

Key Caveats:

1. These values are produced with data submitted in Spring 2014 pursuant to the Forms and Instructions for Submitting Electricity Resource Plans prepared in support of the *2013 Integrated Energy Policy Report* (CEC-200-2012-007-SF).

2. The heat rates are extrapolated using the historical tend of California's flexible natural gas-fired resources. The method assumes that these resources make up the marginal resource class and would be the resources reduced in use on an annual average basis in response to reductions in electricity demand. Changes to the resource stack, such as increasing renewable energy and the subsequent change to the operation of the grid and its existing resources is not accounted for in the heat rate estimates.

3. A line loss factor of 1.08460, the equivalent of line losses of 7.8 percent, is used to convert the annual average heat rates to onsite adjusted annual average heat rates.

4. Since this method uses annual averages, it is inappropriate for estimating short-term grid variations, including day-to-day operational changes and seasonal variation. Further, this method is inappropriate for estimating large-scale changes to the electric gird, actions that result in the displacement of terawatt-hours. In addition, direct comparison of new and old emissions may be a more appropriate and accurate measure of emission reductions when generation resources are replaced on a one-for-one basis.

Author:

Bryan Neff, Supply Analysis Office, Energy Assessments Division, 916-654-4414. bryan.neff@energy.ca.gov

Full Report: http://energy.ca.gov/2015publications/CEC-200-2015-002/CEC-200-2015-002.pdf

Basis: CEC (2015) Proposed Near-Term Method for Estimating Generation Fuel Displacement by Avoided Use of Grid Electricity

Example: Solar PV Project assumptions: Riverside East cap factor (34% tracking, 28% fixed, per CPUC 9/2017 RESOLVE RPS); ~0% cap factor when conventional peaking resources are generating.

Average Annual Emissions Equivalent (metric tonnes CO2)	**451,670**
Total kWh Savings (10-yrs)	**11,920,608,000**
Avoided Emissions Displacement Factor (kg CO2/MWh)	**378.90**

Typ Ann. Export (MWh)
1,192,061

Inputs:	
Generator Size (kW)	**500,000**
Off-Peak Capacity Factor (Percentage)	**28.0%**
Off-Peak Export (Percentage)	**100%**
On-Peak Capacity Factor (Percentage)	**0.0%**
On-Peak Export (Percentage)	**100%**
Total Capacity Factor	**25.2%**

Year	Estimated Energy Generation				Annual Total (mmBtu)	Annual Total (metric tonnes CO2)
	Export		Onsite			
	Load Following (kWh)	Peaking (kWh)	Load Following (kWh)	Peaking (kWh)		
2020	*1,192,060,800*	-	-	-	*8,557,259*	*454,133.97*
2021	*1,192,060,800*	-	-	-	*8,548,815*	*453,685.88*
2022	*1,192,060,800*	-	-	-	*8,540,372*	*453,237.80*
2023	*1,192,060,800*	-	-	-	*8,531,929*	*452,789.72*
2024	*1,192,060,800*	-	-	-	*8,523,486*	*452,341.63*
2025	*1,192,060,800*	-	-	-	*8,515,042*	*451,893.55*
2026	*1,192,060,800*	-	-	-	*8,506,599*	*451,445.47*
2027	*1,192,060,800*	-	-	-	*8,498,156*	*450,997.38*
2028	*1,192,060,800*	-	-	-	*8,489,713*	*450,549.30*
2029	*1,192,060,800*	-	-	-	*8,481,269*	*450,101.22*
2030	*1,192,060,800*	-	-	-	*8,472,826*	*449,653.13*

10-yrs Totals	11,920,608,000	-	-	-	85,108,207	4,516,695

	Btu/kWh	Btu/kWh	Btu/kWh	Btu/kWh
Year	**Export**		**Onsite**	
	Load Following	**Peaking**	**Load Following**	**Peaking**
2014	7,221	10,554	7,832	11,446
2015	7,214	10,534	7,824	11,426
2016	7,207	10,515	7,817	11,405
2017	7,200	10,496	7,809	11,384
2018	7,193	10,477	7,801	11,363
2019	7,186	10,458	7,794	11,343
2020	7,179	10,439	7,786	11,322
2021	7,171	10,420	7,778	11,301
2022	7,164	10,401	7,770	11,281
2023	7,157	10,382	7,763	11,260
2024	7,150	10,362	7,755	11,239
2025	7,143	10,343	7,747	11,218
2026	7,136	10,324	7,740	11,198
2027	7,129	10,305	7,732	11,177
2028	7,122	10,286	7,724	11,156
2029	7,115	10,267	7,717	11,136
2030	7,108	10,248	7,709	11,115

Conversion Factors	
1 mmBtu NG	117 lbs. CO2
1 lb	0.45359 kg
1000 kg	1 metric tonne

Percentage of Load Balancing Energy From Peaking Resources
2.8%

AQ-GHG Construction Emissions Estimation - with Mitigation for Onroad Hauling

Copy of CalEEMod: Daily Output. Date: 5/7/2018 11:25 AM

Construction: Maximum lb/day (by Year)

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

Year	lb/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2018		55.4	562.0	351.2	0.9	315.4	22.9	338.3	55.6	21.1	76.7
2019		61.4	498.0	445.7	1.4	454.9	19.6	474.5	58.5	18.1	76.7
2020		66.9	513.2	499.0	1.6	479.7	20.4	500.1	63.0	18.9	81.9
Maximum		66.9	562.0	499.0	1.6	479.7	22.9	500.1	63.0	21.1	81.9

Mitigated Construction

Year	lb/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2018		19.2	99.3	351.0	0.9	78.0	1.3	79.3	20.9	1.3	22.1
2019		32.4	131.9	527.8	1.4	104.2	1.7	105.9	21.9	1.7	23.6
2020		36.2	138.6	586.6	1.6	117.7	1.8	119.5	25.3	1.8	27.1
Maximum		36.2	138.6	586.6	1.6	117.7	1.8	119.5	25.3	1.8	27.1

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Percent Reduction	52.2	76.5	-13.1	0.0	76.0	92.3	76.8	61.5	91.8	69.0

Mitigated Construction Detail (inc. MM AQ-1 & AQ-2 --- w/o MM AQ-3 or AQ-4)

3.2 Site Preparation - 2018

Mitigated Construction On-Site

Category	2018 lb/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Fugitive Du	2018					23.34	0.00	23.34	9.39	0.00	9.39
Off-Road	2018	3.43	14.87	129.59	0.28		0.46	0.46		0.46	0.46
Total	2018	3.43	14.87	129.59	0.28	23.34	0.46	23.80	9.39	0.46	9.85

Mitigated Construction Off-Site

	2018	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category	lb/day										
Hauling	2018	1.15	47.36	6.48	0.20	13.99	0.24	14.23	2.31	0.22	2.54
Vendor	2018	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	2018	5.75	5.03	43.11	0.11	11.40	0.07	11.47	3.02	0.07	3.09
Total	2018	6.90	52.39	49.59	0.30	25.39	0.31	25.70	5.34	0.29	5.63

3.3 Throughout Constr - 2018
Mitigated Construction On-Site

	2018	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category	lb/day										
Fugitive Du	2018					3.71	0.00	3.71	1.54	0.00	1.54
Off-Road	2018	2.56	11.08	124.38	0.21		0.34	0.34		0.34	0.34
Total	2018	2.56	11.08	124.38	0.21	3.71	0.34	4.05	1.54	0.34	1.88

Mitigated Construction Off-Site

	2018	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category	lb/day										
Hauling	2018	0.02	0.71	0.10	0.00	0.91	0.00	0.91	0.14	0.00	0.14
Vendor	2018	0.58	15.26	4.26	0.04	13.26	0.10	13.36	1.47	0.10	1.56
Worker	2018	5.75	5.03	43.11	0.11	11.40	0.07	11.47	3.02	0.07	3.09
Total	2018	6.34	21.00	47.47	0.15	25.57	0.18	25.74	4.62	0.17	4.79

3.3 Throughout Constr - 2019
Mitigated Construction On-Site

	2019	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category	lb/day										
Fugitive Du	2019					3.71	0.00	3.71	1.54	0.00	1.54
Off-Road	2019	2.56	11.08	124.38	0.21		0.34	0.34		0.34	0.34
Total	2019	2.56	11.08	124.38	0.21	3.71	0.34	4.05	1.54	0.34	1.88

Mitigated Construction Off-Site

	2019	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Category	lb/day										

Hauling	2019	0.02	0.65	0.09	0.00	0.50	0.00	0.50	0.08	0.00	0.08
Vendor	2019	0.52	14.32	3.79	0.04	13.26	0.09	13.35	1.47	0.08	1.55
Worker	2019	5.21	4.40	38.01	0.10	11.40	0.07	11.47	3.02	0.06	3.09
Total	2019	5.75	19.37	41.89	0.14	25.16	0.16	25.32	4.56	0.15	4.71

3.3 Throughout Constr - 2020
Mitigated Construction On-Site

						Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5
	2020	ROG	NOx	CO	SO2	PM10	PM10	Total	PM2.5	PM2.5	Total
Category	lb/day										
Fugitive Du	2020					3.71	0.00	3.71	1.54	0.00	1.54
Off-Road	2020	2.56	11.08	124.38	0.21		0.34	0.34		0.34	0.34
Total	2020	2.56	11.08	124.38	0.21	3.71	0.34	4.05	1.54	0.34	1.88

Mitigated Construction Off-Site

						Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5
	2020	ROG	NOx	CO	SO2	PM10	PM10	Total	PM2.5	PM2.5	Total
Category	lb/day										
Hauling	2020	0.02	0.58	0.09	0.00	0.51	0.00	0.51	0.08	0.00	0.08
Vendor	2020	0.45	13.08	3.34	0.04	13.26	0.06	13.32	1.47	0.05	1.52
Worker	2020	4.79	3.89	33.93	0.10	11.40	0.07	11.47	3.02	0.06	3.08
Total	2020	5.26	17.56	37.37	0.14	25.17	0.13	25.30	4.57	0.12	4.68

3.4 Electrical - 2020
Mitigated Construction On-Site

						Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5
	2020	ROG	NOx	CO	SO2	PM10	PM10	Total	PM2.5	PM2.5	Total
Category	lb/day										
Off-Road	2020	0.74	4.85	42.11	0.06		0.09	0.09		0.09	0.09
Total	2020	0.74	4.85	42.11	0.06		0.09	0.09		0.09	0.09

Mitigated Construction Off-Site

						Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5
	2020	ROG	NOx	CO	SO2	PM10	PM10	Total	PM2.5	PM2.5	Total
Category	lb/day										
Hauling	2020	0.20	7.45	1.13	0.04	2.69	0.03	2.72	0.44	0.03	0.48
Vendor	2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	2020	4.79	3.89	33.93	0.10	11.40	0.07	11.47	3.02	0.06	3.08
Total	2020	4.99	11.34	35.07	0.14	14.08	0.10	14.18	3.47	0.10	3.56

3.5 PV Panels - 2019
Mitigated Construction On-Site

						Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5
	2019	ROG	NOx	CO	SO2	PM10	PM10	Total	PM2.5	PM2.5	Total
Category	lb/day										
Off-Road	2019	5.36	26.49	227.42	0.43		0.70	0.70		0.70	0.70
Total	2019	5.36	26.49	227.42	0.43		0.70	0.70		0.70	0.70

Mitigated Construction Off-Site

						Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5
	2019	ROG	NOx	CO	SO2	PM10	PM10	Total	PM2.5	PM2.5	Total
Category	lb/day										
Hauling	2019	1.53	60.44	8.73	0.27	37.74	0.29	38.03	5.88	0.28	6.16
Vendor	2019	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	2019	17.19	14.52	125.42	0.35	37.61	0.23	37.84	9.97	0.21	10.18
Total	2019	18.72	74.95	134.15	0.62	75.35	0.52	75.87	15.85	0.49	16.34

3.5 PV Panels - 2020
Mitigated Construction On-Site

						Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5
	2020	ROG	NOx	CO	SO2	PM10	PM10	Total	PM2.5	PM2.5	Total
Category	lb/day										
Off-Road	2020	5.36	26.49	227.42	0.43		0.70	0.70		0.70	0.70
Total	2020	5.36	26.49	227.42	0.43		0.70	0.70		0.70	0.70

Mitigated Construction Off-Site

						Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5
	2020	ROG	NOx	CO	SO2	PM10	PM10	Total	PM2.5	PM2.5	Total
Category	lb/day										
Hauling	2020	1.43	54.45	8.29	0.27	37.09	0.25	37.34	5.78	0.24	6.02
Vendor	2020	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	2020	15.82	12.84	111.98	0.33	37.61	0.22	37.84	9.97	0.21	10.18
Total	2020	17.25	67.29	120.27	0.60	74.70	0.47	75.18	15.75	0.45	16.20

Mitigated Construction Detail (inc. MM AQ-1 & AQ-2 --- w/o MM AQ-3 or AQ-4)

All Phases (by year) lb/day		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Fugitive Du	2018	0.00	0.00	0.00	0.00	27.05	0.00	27.05	10.93	0.00	10.93
Off-Road	2018	5.99	25.95	253.97	0.49	0.00	0.80	0.80	0.00	0.80	0.80
Hauling	2018	1.17	48.07	6.58	0.20	14.90	0.24	15.14	2.45	0.23	2.68
Vendor	2018	0.58	15.26	4.26	0.04	13.26	0.10	13.36	1.47	0.10	1.56
Worker	2018	11.49	10.05	86.22	0.22	22.80	0.14	22.94	6.04	0.13	6.18
Total	**2018**	**19.23**	**99.33**	**351.03**	**0.94**	**78.01**	**1.28**	**79.29**	**20.89**	**1.26**	**22.14**
Fugitive Du	2019	0.00	0.00	0.00	0.00	3.71	0.00	3.71	1.54	0.00	1.54
Off-Road	2019	7.92	37.57	351.80	0.64	0.00	1.04	1.04	0.00	1.04	1.04
Hauling	2019	1.55	61.09	8.82	0.27	38.24	0.30	38.54	5.95	0.28	6.24
Vendor	2019	0.52	14.32	3.79	0.04	13.26	0.09	13.35	1.47	0.08	1.55
Worker	2019	22.40	18.92	163.43	0.45	49.01	0.30	49.31	12.99	0.28	13.27
Total	**2019**	**32.39**	**131.89**	**527.84**	**1.40**	**104.22**	**1.73**	**105.95**	**21.95**	**1.69**	**23.64**
Fugitive Du	2020	0.00	0.00	0.00	0.00	3.71	0.00	3.71	1.54	0.00	1.54
Off-Road	2020	8.66	42.42	393.91	0.70	0.00	1.14	1.14	0.00	1.14	1.14
Hauling	2020	1.64	62.49	9.51	0.31	40.28	0.29	40.57	6.30	0.28	6.58
Vendor	2020	0.45	13.08	3.34	0.04	13.26	0.06	13.32	1.47	0.05	1.52
Worker	2020	25.41	20.62	179.85	0.54	60.41	0.36	60.77	16.01	0.33	16.35
Total	**2020**	**36.16**	**138.60**	**586.61**	**1.58**	**117.66**	**1.84**	**119.50**	**25.32**	**1.80**	**27.12**

Mitigated Construction Detail (w/ MM AQ-3 to Reduce Onroad Hauling & Vendor)

Off-Site, Onroad % Reduced w/ ONLY Model Yrs 2010-newer (HHDT & MHDT):

MDAB-wide	ROG	NOx	CO	SOx	PM10	PM2.5
% Reduce Hauling	31.5%	42.2%	27.0%	2.3%	8.1%	17.4%
% Reduce Vendor	82.8%	63.0%	80.5%	0.5%	31.2%	50.6%

All Phases (by year) lb/day		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Reduced by (lb/day) w/ ONLY Model Yrs 2010-newer (HHDT & MHDT):											
Hauling	2018	-0.37	-20.27	-1.78	0.00		-0.02			-0.04	
Vendor	2018	-0.48	-9.62	-3.43	0.00		-0.03			-0.05	
Total	**2018**	**18.38**	**69.44**	**345.82**	**0.93**	**78.01**	**1.23**	**79.24**	**20.89**	**1.17**	**22.05**
Hauling	2019	-0.49	-25.76	-2.39	-0.01		-0.02			-0.05	
Vendor	2019	-0.43	-9.03	-3.05	0.00		-0.03			-0.04	
Total	**2019**	**31.47**	**97.10**	**522.41**	**1.39**	**104.22**	**1.68**	**105.89**	**21.95**	**1.60**	**23.54**
Hauling	2020	-0.52	-26.35	-2.57	-0.01		-0.02			-0.05	
Vendor	2020	-0.37	-8.25	-2.69	0.00		-0.02			-0.03	
Total	**2019**	**35.27**	**104.00**	**581.35**	**1.57**	**117.66**	**1.80**	**119.46**	**25.32**	**1.72**	**27.04**

AQ-GHG Construction Emissions Estimation - with Mitigation for Activity Management Plar

Activity and Input Notes | (mitigation could extend original construction sequence of ~4/13/2

Air Quality Setting

Jurisdiction: SCAQMD

Air Basin: Mojave Desert

Federal Mandatory Class I Area: JTNP = 1.4 km to NE from edge of Parcel (8) VG Devco (643 acres)

Rough Sequence of Phases	Duration of Phase	Start Seq. (mo)	End Seq. (mo)	Duration (days)
1 Site Prep	6 months	0	6	132
2 PV Panel System	34 months	6	40	748
3 Electrical (collectors onsite plus gen-ties)	10 months	30	40	220
4 Throughout Construction and Restoration	40 months	0	40	880

CalEEMod Input Assumptions

Construction Phase - Originally 30 mo or 660 days, w mitigation to avoid overlap and extend to 880 days

Off-road Equipment - 31 equipment count in Seq 1 Site Prep *(mitigation extends from 5 mo to 6 mo)*

Off-road Equipment - 70 equipment count in Seq 2 PV Panels*(mitigation extends from 20 mo to 34 mo)*

Off-road Equipment - 21 equipment count during Seq 3 Electrical*(Not changed w activity mitigation)*

Off-road Equipment - 56 equipment count during Seq 4 Throughout Const*(mitigation extends from 30 mo to 40 mo)*

Trips and VMT - 1,260 peak worker commutes and onsite crew, water trucks as vendor class

On-road Fugitive Dust - Water trucks 10% unpaved; HHDT 1% unpaved

Grading - disturbance 3228 ac site plus 104 ac gen-tie ROW

Architectural Coating - minimal or no coatings needed

Vehicle Trips - TR 0.0004 per 1000sqft per day: fewer than 100 daily operational trips

Road Dust - approx 1% unpaved VMT during ops

Consumer Products - consumer products not applicable

Area Coating - no coatings necessary

Energy Use - energy use not applicable

Water And Wastewater - interior water consumption factors not applicable

Solid Waste - light industrial solid waste factors not applicable

Land Use Change - land use conversion calculated separately

Construction Off-road Equipment Mitigation - Tier 4 offroad fleet; water 2x daily is 55% effective PM10 control per Rule 403; suppressant is 84% effective per Table XI-D; 15 mph

Operations off-road equipment - fleet of 6 equipment ct for occasional routine op-maint activity

Trenching: Underground cables, panel strings, collectors

3	ft wide
6	ft depth
2000	ft linear per 2 MW block
250	(2-MW blocks)
9,000,000	ft^3
1,000,000	cy material handling

Foundations: 220 kV OH gen-tie, transmission

35	ft depth
10	ft^2 area
120	(220 kV structs)
42,000	ft^3
4,667	cy material handling

22 days/mo

ONROAD - LD, MDT, HHDT

Item	Truck Deliveries	Vehicle Type	Est. Delivery/Day (# roundtrips)	Duration (months)	Sequence	one way LD_mix Worker Trip (#/day)	one way HDT_Mix Vendor Trip (#/day)	one way HHDT Hauling Total Trips (# oneway)
Modules	8,400	53' Flatbed	12	34	2			16,800
Foundation posts	1,600	48' Flatbed	4	34	2			3,200
Racking	1,850	48' Flatbed	4	34	2			3,700
Cable	260	53' Flatbed	1	10	3			520
Inverters	380	48' Flatbed	1	10	3			760
Transformers	12	53' Flatbed	1	10	3			24
Concrete	600	Concrete Mixer	5	34	2			1,200
Road base	1,650	Dump truck	10	6	1			3,300
Trash (haul off)	200	40-YD roll-off	2	40	4			400
Fencing	90	48' Flatbed	2	6	1			180
Offroad eq transport	480	48' Flatbed	8	6	1			960
Electrical equipment	200	48' Flatbed	2	10	3			400
Water	40,734	4,000 gallon trucks	62	40	4		124	
		Worker commutes, Crew pickups	530	40	4	1,060		

			Worker Trip (#/day)	Vendor Trip (#/day)	Hauling Trip (# overall)
Water requirements, dust control		by Sequence	1,060	124	31,444
500	ac-ft water	1			4,440
21,780,000	ft^3 water	2			24,900
40,734	- equiv per 4,000 gal trucks	3	0	0	1,704
		4	1,060	124	400

	Worker Trip (mi/trip)	Vendor Trip (mi/trip)	Hauling Trip (mi/trip)
	75	7	150

OFFROAD - Construciton Equipment

Items	Appx Equip Ct. Units	Typ Daily Use (hrs/day)	Purpose	CalEEMod Equip Type	Duration (months)	Sequence
Front end loader	10	6	Material movement	rubber tired loader	40	4
Forklifts	26	6	Material staging	forklift	40	4
Tractor	20	6	Material staging	tractor / loader / backhoe	40	4
Scrapers	12	6.7	Grading	scraper	6	1
Bulldozers	7	6.7	Grading	rubber tired dozer	6	1
Graders	12	6.7	Grading	grader	6	1
Hydraulic rock hammer	30	6	Foundation installation	bore / drill rig	34	2
Concrete batch plant	4	4	Foundation installation	other const equip	34	2
Cranes or lifts	8	4	Module, Inverter placement	crane	34	2
Generators	4	6	Misc modules, structures	generator sets	34	2
Welders	4	6	Misc modules, structures	welders	34	2
Backhoes	20	6	Excavation	tractor / loader / backhoe	34	2
Pile driver			*Post installation*	*(alternate to hydraulic hammer)*		
Cranes or lifts	2	6	Gen-tie, yard work	crane	10	3
Generators	2	8	Misc electrical	generator sets	10	3
Welders	2	8	Misc electrical	welders	10	3
Trencher	4	8	Underground work (AC/DC/Fiber op	trencher	10	3
Compactor	8	6	Compaction	roller	10	3
Cable plow	3	8	Underground cable installation	excavator	10	3

by Sequence	Offroad Equipment (count)
1	31
2	70
3	21
4	56

AQ-GHG Construction Emissions Estimation - with Mitigation for Activity Management Plan

Copy of CalEEMod: Daily Output. Date: 10/9/2018 10:25 AM
(with mitigation: Construction Activity Management Plan)

Construction: Maximum lb/day (by Year)

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction >> Extended Schedule with Activity Management Plan

Year	lb/day	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
2019		16.7	80.3	286.9	0.8	71.0	1.0	72.0	18.6	1.0	19.6
2020		27.8	90.2	415.6	1.1	96.5	1.3	97.8	20.4	1.2	21.7
2021		26.3	83.0	402.5	1.1	96.6	1.2	97.8	20.4	1.2	21.6
2022		30.1	90.2	462.5	1.3	115.6	1.3	116.9	24.6	1.3	25.9
Maximum		30.1	90.2	462.5	1.3	115.6	1.3	116.9	24.6	1.3	25.9

AQ-GHG Construction Emissions Estimation - with Mitigation for Activity Management Plan

Copy of CalEEMod: Annual Output. Date: 10/9/2018 10:28 AM
(with mitigation: Construction Activity Management Plan)

Construction: Total over Duration (Mitigated)

		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total			CO2e
	tons, total													**MT, total**
Fugitive Dust	On-site	0.00	0.00	0.00	0.00	3.63	0.00	3.63	1.15	0.00	1.15			0
Off-Road	On-site	2.60	12.36	115.78	0.21	0.00	0.34	0.34	0.00	0.34	0.34			18,674
Hauling	Off-site	0.38	13.89	2.18	0.07	12.62	0.06	12.69	1.97	0.06	2.03			7,033
Vendor	Off-site	0.18	5.59	1.28	0.02	5.36	0.02	5.38	0.60	0.02	0.61			1,511
Worker	Off-site	7.50	7.06	62.85	0.19	20.70	0.12	20.82	5.50	0.11	5.61			16,944
Total	**Total**	**10.66**	**38.90**	**182.08**	**0.49**	**42.32**	**0.54**	**42.86**	**9.21**	**0.53**	**9.74**			**44,162**
	sumcheck	10.66	38.90	182.08	0.49	42.32	0.54	42.86	9.21	0.53	9.74	CO2e (MT/30-yr)		1,472

Duration (days)		ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
880	**lb/day, avg**										
	On-site	5.91	28.09	263.13	0.48	8.26	0.78	9.04	2.61	0.78	3.39
	Off-site	18.31	60.32	150.69	0.63	87.92	0.46	88.38	18.32	0.43	18.75
	Total	**24.22**	**88.41**	**413.82**	**1.11**	**96.18**	**1.24**	**97.42**	**20.93**	**1.21**	**22.14**

Construction Detail: Annual (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
3.2 Site Preparation - 2019																
Mitigated Construction On-Site																
						Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5						
	ROG	NOx	CO	SO2	PM10	PM10	Total	PM2.5	PM2.5	Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.29	0.00	1.29	0.52	0.00	0.52	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.19	0.82	7.16	0.02		0.03	0.03		0.03	0.03	0.00	1,388.63	1,388.63	0.44	0.00	1,399.62
Total	0.19	0.82	7.16	0.02	1.29	0.03	1.31	0.52	0.03	0.54	0.00	1,388.63	1,388.63	0.44	0.00	1,399.62
Mitigated Construction Off-Site																
						Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5						
	ROG	NOx	CO	SO2	PM10	PM10	Total	PM2.5	PM2.5	Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.06	2.41	0.33	0.01	0.72	0.01	0.74	0.12	0.01	0.13	0.00	1,013.70	1,013.70	0.01	0.00	1,014.07
Vendor	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
Worker	0.31	0.31	2.70	0.01	0.74	0.00	0.74	0.20	0.00	0.20	0.00	643.26	643.26	0.02	0.00	643.81
Total	0.37	2.72	3.04	0.02	1.46	0.02	1.48	0.32	0.02	0.33	0.00	1,656.96	1,656.96	0.04	0.00	1,657.88

3.3 Throughout Constr - 2019

Mitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
												MT/yr					
Fugitive Dust						0.50	0.00	0.50	0.11	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road		0.13	0.55	6.16	0.01		0.02	0.02		0.02	0.02	0.00	924.06	924.06	0.29	0.00	931.37
Total		0.13	0.55	6.16	0.01	0.50	0.02	0.52	0.11	0.02	0.13	0.00	924.06	924.06	0.29	0.00	931.37

Mitigated Construction Off-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
												MT/yr					
Hauling		0.00	0.03	0.00	0.00	0.06	0.00	0.06	0.01	0.00	0.01	0.00	13.70	13.70	0.00	0.00	13.70
Vendor		0.03	0.97	0.23	0.00	0.80	0.01	0.81	0.09	0.01	0.09	0.00	229.10	229.10	0.02	0.00	229.65
Worker		0.31	0.31	2.70	0.01	0.74	0.00	0.74	0.20	0.00	0.20	0.00	643.26	643.26	0.02	0.00	643.81
Total		0.34	1.31	2.94	0.01	1.60	0.01	1.61	0.29	0.01	0.30	0.00	886.06	886.06	0.04	0.00	887.17

3.3 Throughout Constr - 2020

Mitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
												MT/yr					
Fugitive Dust						0.63	0.00	0.63	0.18	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road		0.25	1.09	12.22	0.02		0.03	0.03		0.03	0.03	0.00	1,793.89	1,793.89	0.58	0.00	1,808.39
Total		0.25	1.09	12.22	0.02	0.63	0.03	0.66	0.18	0.03	0.21	0.00	1,793.89	1,793.89	0.58	0.00	1,808.39

Mitigated Construction Off-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
												MT/yr					
Hauling		0.00	0.06	0.01	0.00	0.06	0.00	0.06	0.01	0.00	0.01	0.00	26.85	26.85	0.00	0.00	26.86
Vendor		0.06	1.75	0.41	0.00	1.60	0.01	1.60	0.18	0.01	0.18	0.00	451.04	451.04	0.04	0.00	452.10
Worker		0.56	0.55	4.79	0.01	1.47	0.01	1.47	0.39	0.01	0.40	0.00	1,236.88	1,236.88	0.04	0.00	1,237.84
Total		0.62	2.36	5.20	0.02	3.12	0.02	3.14	0.58	0.02	0.59	0.00	1,714.77	1,714.77	0.08	0.00	1,716.80

3.3 Throughout Constr - 2021

Mitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
												MT/yr					
Fugitive Dust						0.63	0.00	0.63	0.18	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road		0.25	1.08	12.17	0.02		0.03	0.03		0.03	0.03	0.00	1,787.39	1,787.39	0.58	0.00	1,801.84
Total		0.25	1.08	12.17	0.02	0.63	0.03	0.66	0.18	0.03	0.21	0.00	1,787.39	1,787.39	0.58	0.00	1,801.84

Mitigated Construction Off-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
												MT/yr					
Hauling		0.00	0.05	0.01	0.00	0.06	0.00	0.06	0.01	0.00	0.01	0.00	26.45	26.45	0.00	0.00	26.46
Vendor		0.05	1.58	0.36	0.00	1.59	0.00	1.59	0.18	0.00	0.18	0.00	445.97	445.97	0.04	0.00	446.98
Worker		0.52	0.49	4.36	0.01	1.46	0.01	1.47	0.39	0.01	0.40	0.00	1,188.98	1,188.98	0.03	0.00	1,189.85
Total		0.57	2.12	4.73	0.02	3.11	0.01	3.12	0.57	0.01	0.58	0.00	1,661.41	1,661.41	0.08	0.00	1,663.28

3.3 Throughout Constr - 2022

Mitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
												MT/yr					
Fugitive Dust						0.59	0.00	0.59	0.16	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road		0.22	0.93	10.49	0.02		0.03	0.03		0.03	0.03	0.00	1,541.94	1,541.94	0.50	0.00	1,554.40
Total		0.22	0.93	10.49	0.02	0.59	0.03	0.62	0.16	0.03	0.19	0.00	1,541.94	1,541.94	0.50	0.00	1,554.40

Mitigated Construction Off-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
												MT/yr					
Hauling		0.00	0.04	0.01	0.00	0.06	0.00	0.06	0.01	0.00	0.01	0.00	22.52	22.52	0.00	0.00	22.52
Vendor		0.04	1.29	0.28	0.00	1.37	0.00	1.37	0.15	0.00	0.15	0.00	381.54	381.54	0.03	0.00	382.36
Worker		0.42	0.38	3.43	0.01	1.26	0.01	1.27	0.33	0.01	0.34	0.00	987.95	987.95	0.03	0.00	988.61
Total		0.46	1.70	3.72	0.02	2.69	0.01	2.70	0.50	0.01	0.50	0.00	1,392.00	1,392.00	0.06	0.00	1,393.49

3.4 PV Panels - 2020

Mitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
												MT/yr					
Off-Road		0.52	2.57	22.02	0.04		0.07	0.07		0.07	0.07	0.00	3,672.96	3,672.96	1.12	0.00	3,700.85
Total		0.52	2.57	22.02	0.04		0.07	0.07		0.07	0.07	0.00	3,672.96	3,672.96	1.12	0.00	3,700.85

Mitigated Construction Off-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
												MT/yr					
Hauling		0.11	4.27	0.62	0.02	3.80	0.02	3.82	0.59	0.02	0.61	0.00	1,966.63	1,966.63	0.03	0.00	1,967.33
Vendor		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
Worker		1.86	1.81	15.80	0.05	4.84	0.03	4.87	1.28	0.03	1.31	0.00	4,081.69	4,081.69	0.13	0.00	4,084.87
Total		1.97	6.07	16.42	0.07	8.64	0.05	8.69	1.87	0.05	1.92	0.00	6,048.32	6,048.32	0.16	0.00	6,052.20

3.4 PV Panels - 2021

Mitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
												MT/yr					
Off-Road		0.52	2.56	21.94	0.04		0.07	0.07		0.07	0.07	0.00	3,665.09	3,665.09	1.11	0.00	3,692.86
Total		0.52	2.56	21.94	0.04		0.07	0.07		0.07	0.07	0.00	3,665.09	3,665.09	1.11	0.00	3,692.86

Mitigated Construction Off-Site

Category	tons/yr	ROG	NOx	CO	SO2	itive PM10	aust PM10	M10 Total	tive PM2.5	aust PM2.5	M2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
												MT/yr					
Hauling		0.10	3.70	0.59	0.02	3.80	0.02	3.82	0.59	0.02	0.61	0.00	1,936.94	1,936.94	0.03	0.00	1,937.60
Vendor		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
Worker		1.72	1.61	14.40	0.04	4.82	0.03	4.85	1.28	0.03	1.31	0.00	3,923.65	3,923.65	0.11	0.00	3,926.49
Total		1.82	5.31	14.99	0.06	8.62	0.04	8.66	1.87	0.04	1.91	0.00	5,860.59	5,860.59	0.14	0.00	5,864.09

3.4 PV Panels - 2022

Mitigated Construction On-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
												MT/yr					
Off-Road		0.45	2.21	18.91	0.04		0.06	0.06		0.06	0.06	0.00	3,163.52	3,163.52	0.96	0.00	3,187.46
Total		0.45	2.21	18.91	0.04		0.06	0.06		0.06	0.06	0.00	3,163.52	3,163.52	0.96	0.00	3,187.46

Mitigated Construction Off-Site

Category	tons/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
												MT/yr					
Hauling		0.08	2.72	0.49	0.02	3.78	0.01	3.79	0.58	0.01	0.59	0.00	1,649.00	1,649.00	0.02	0.00	1,649.54
Vendor		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

Worker	1.39	1.24	11.32	0.04	4.15	0.02	4.18	1.10	0.02	1.12	0.00	3,260.23	3,260.23	0.09	0.00	3,262.42
Total	1.47	3.96	11.81	0.05	7.93	0.04	7.97	1.69	0.03	1.72	0.00	4,909.23	4,909.23	0.11	0.00	4,911.96

3.5 Electrical - 2022

Mitigated Construction On-Site

						Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5						
		ROG	NOx	CO	SO2	PM10	PM10	Total	PM2.5	PM2.5	Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr											MT/yr					
Off-Road		0.08	0.54	4.70	0.01		0.01	0.01		0.01	0.01	0.00	593.02	593.02	0.15	0.00	596.75
Total		0.08	0.54	4.70	0.01		0.01	0.01		0.01	0.01	0.00	593.02	593.02	0.15	0.00	596.75

Mitigated Construction Off-Site

						Fugitive	Exhaust	PM10	Fugitive	Exhaust	PM2.5						
		ROG	NOx	CO	SO2	PM10	PM10	Total	PM2.5	PM2.5	Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr											MT/yr					
Hauling		0.02	0.62	0.11	0.00	0.28	0.00	0.28	0.05	0.00	0.05	0.00	375.15	375.15	0.00	0.00	375.28
Vendor		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
Worker		0.41	0.37	3.35	0.01	1.23	0.01	1.24	0.33	0.01	0.33	0.00	965.99	965.99	0.03	0.00	966.64
Total		0.43	0.99	3.46	0.01	1.51	0.01	1.52	0.37	0.01	0.38	0.00	1,341.15	1,341.15	0.03	0.00	1,341.92

EMFAC2014 (v1.0.7) Emissions Inventory
Region Type: Air Basin
Region: Mojave Desert
Calendar Year: 2019
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumptior

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Population	VMT	Trips	ROG_TOTAL	CO_TOTEX	NOx_TOTEX	CO2_TOTEX	PM10_TOTAL	PM2_5_TOTAL	SOx_TOTEX	Fuel_Consumption
Mojave De	2019	T6 Ag	Aggregate	Aggregate	DSL	78	1,384	0	0.000995108	0.002802227	0.012590697	1.78461337	0.000806528	0.000653672	1.7026E-05	0.160615203
Mojave De	2019	T6 CAIRP h	Aggregate	Aggregate	DSL	150	8,091	0	0.000306037	0.001300855	0.017540138	9.787975254	0.001336844	0.000589392	9.33819E-05	0.880917773
Mojave De	2019	T6 CAIRP sı	Aggregate	Aggregate	DSL	382	24,837	0	0.002290509	0.008691122	0.054058427	30.33008131	0.005538773	0.003182203	0.000289363	2.729707318
Mojave De	2019	T6 instate (	Aggregate	Aggregate	DSL	298	21,514	0	0.001287925	0.004353944	0.079360264	26.05986874	0.003954186	0.001949416	0.000248623	2.345388187
Mojave De	2019	T6 instate (	Aggregate	Aggregate	DSL	998	57,795	0	0.008960387	0.031595339	0.188530765	71.26082639	0.015663999	0.010060309	0.000679862	6.413474375
Mojave De	2019	T6 instate l	Aggregate	Aggregate	DSL	1,162	55,054	0	0.002873772	0.010634278	0.170220255	67.44057829	0.009397663	0.004298724	0.000643415	6.069652046
Mojave De	2019	T6 instate s	Aggregate	Aggregate	DSL	2,417	135,009	0	0.026227009	0.091714633	0.517744777	166.2828261	0.041042726	0.027759943	0.001586416	14.96545435
Mojave De	2019	T6 OOS hea	Aggregate	Aggregate	DSL	88	4,636	0	0.000177708	0.0007555	0.01051954	5.614740538	0.000769998	0.000341562	5.35672E-05	0.505326648
Mojave De	2019	T6 OOS sm	Aggregate	Aggregate	DSL	219	14,231	0	0.001312376	0.004979686	0.030973447	17.37799674	0.003173509	0.001823283	0.000165794	1.564019706
Mojave De	2019	T6 Public	Aggregate	Aggregate	DSL	383	6,346	0	0.000277888	0.000984285	0.037066067	7.85632254	0.001170213	0.000578688	7.4953E-05	0.707069029
Mojave De	2019	T6 utility	Aggregate	Aggregate	DSL	73	1,413	0	2.89895E-05	0.000155405	0.002955219	1.818098185	0.000224423	9.4319E-05	1.73455E-05	0.163628837
Mojave De	2019	T6TS	Aggregate	Aggregate	GAS	1,211	86,696	24,235	0.056669008	0.694471743	0.1240738	102.7002401	0.013767806	0.005776806	0.001037344	11.06477753
Mojave De	2019	T7 Ag	Aggregate	Aggregate	DSL	61	1,030	0	0.001460461	0.00544317	0.017018094	2.017246646	0.000936337	0.000829951	1.92455E-05	0.181552198
Mojave De	2019	T7 CAIRP	Aggregate	Aggregate	DSL	5,974	1,237,695	0	0.127773189	0.565658905	5.682665749	2196.703649	0.15668382	0.070704175	0.02095758	197.7033284
Mojave De	2019	T7 CAIRP c	Aggregate	Aggregate	DSL	65	15,262	0	0.001666134	0.006929132	0.076497294	27.23303214	0.002073591	0.001007262	0.000259816	2.450972893
Mojave De	2019	T7 NNOOS	Aggregate	Aggregate	DSL	6,121	1,534,744	0	0.100632528	0.498733515	3.424156811	2552.279802	0.17986469	0.073873775	0.024349942	229.7051822
Mojave De	2019	T7 NOOS	Aggregate	Aggregate	DSL	2,419	488,889	0	0.053074656	0.234170994	2.355771785	887.4754462	0.06231571	0.028335362	0.008466931	79.87279015
Mojave De	2019	T7 POLA	Aggregate	Aggregate	DSL	726	107,135	0	0.028145919	0.099291274	0.830844725	211.7215774	0.014871718	0.007372669	0.002019923	19.05494197
Mojave De	2019	T7 Public	Aggregate	Aggregate	DSL	242	5,532	0	0.000922568	0.003483338	0.077489357	11.62645402	0.000957495	0.000562062	0.000110922	1.046380862
Mojave De	2019	T7 Single	Aggregate	Aggregate	DSL	547	52,091	0	0.006932559	0.027755244	0.291227083	92.05601303	0.008216552	0.004527738	0.000878257	8.285041172
Mojave De	2019	T7 single c	Aggregate	Aggregate	DSL	424	39,481	0	0.004088462	0.016268875	0.215677826	68.23840346	0.005704325	0.002931154	0.000651026	6.141456311
Mojave De	2019	T7 SWCV	Aggregate	Aggregate	DSL	146	6,745	0	0.001191147	0.012182354	0.10418472	34.50369717	0.000851282	0.000382835	0.000297996	3.105332745
Mojave De	2019	T7 tractor	Aggregate	Aggregate	DSL	2,442	338,930	0	0.035450381	0.141804283	1.851860809	571.1900183	0.045317341	0.021668418	0.00544942	51.40710165
Mojave De	2019	T7 tractor (	Aggregate	Aggregate	DSL	332	29,436	0	0.003938059	0.015651188	0.191675058	51.38370076	0.004618193	0.002534791	0.000490225	4.624533069
Mojave De	2019	T7 utility	Aggregate	Aggregate	DSL	32	726	0	4.18854E-05	0.000200238	0.002675364	1.478700672	8.0314E-05	3.04058E-05	1.41075E-05	0.13308306
Mojave De	2019	T7IS	Aggregate	Aggregate	GAS	66	11,014	1,315	0.012307835	0.466767281	0.053184392	20.35893899	0.001009355	0.000397675	0.000210971	2.250310998

MDAB-wide	Population	VMT (mi/d)	ROG_TOTAL (ton/day)	CO_TOTEX (ton/day)	NOx_TOTEX (ton/day)	CO2_TOTEX (ton/day)	PM10_TOTAL (ton/day)	PM2_5_TOTAL (ton/day)	SOx_TOTEX (ton/day)
All Model Years (MHDT = T6)	7,458	417,006	0.101	0.852	1.246	508.314	0.097	0.057	0.005
All Model Years (HHDT = T7)	19,597	3,868,709	0.378	2.094	15.175	6728.267	0.484	0.215	0.064
All Model Years (T6 + T7)	27,055	4,285,715	0.479	2.947	16.421	7236.581	0.580	0.272	0.069

MDAB-wide	ROG (lb/mi)	CO (lb/mi)	NOx (lb/mi)	CO2 (lb/mi)	PM10 (lb/mi)	PM2.5 (lb/mi)	SOx (lb/mi)
All Model Years (MHDT = T6)	4.86E-04	4.09E-03	5.97E-03	2.44E+00	4.64E-04	2.74E-04	2.35E-05
All Model Years (HHDT = T7)	1.95E-04	1.08E-03	7.84E-03	3.48E+00	2.50E-04	1.11E-04	3.32E-05
All Model Years (T6 + T7)	2.24E-04	1.38E-03	7.66E-03	3.38E+00	2.71E-04	1.27E-04	3.22E-05

EMFAC2014 (v1.0.7) Emissions Inventory
Region Type: Air Basin
Region: Mojave Desert
Calendar Year: 2019
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Population	VMT	Trips	ROG_TOTAL	CO_TOTEX	NOx_TOTEX	CO2_TOTEX	PM10_TOTAL	PM2_5_TOTAL	SOx_TOTEX	nsumption
Mojave De	2019	T6 Ag	2010	Aggregatec	DSL	0	9	0	7.83389E-07	2.15168E-06	4.48757E-05	0.011012069	1.54309E-06	7.35505E-07	1.0506E-07	0.000991
Mojave De	2019	T6 Ag	2011	Aggregatec	DSL	0	5	0	1.9814E-07	8.30649E-07	1.17171E-05	0.005930231	7.42469E-07	3.24571E-07	5.65772E-08	0.000534
Mojave De	2019	T6 Ag	2012	Aggregatec	DSL	11	394	0	1.20455E-05	6.38453E-05	0.000809747	0.520797093	6.31854E-05	2.68668E-05	4.96865E-06	0.046872
Mojave De	2019	T6 Ag	2013	Aggregatec	DSL	2	87	0	2.49549E-06	1.32318E-05	0.000165338	0.114024262	1.38522E-05	5.87916E-06	1.08784E-06	0.010262
Mojave De	2019	T6 Ag	2014	Aggregatec	DSL	2	87	0	2.15358E-06	1.14318E-05	0.000124984	0.107571985	1.38598E-05	5.85818E-06	1.02629E-06	0.009681
Mojave De	2019	T6 CAIRP heavy	2010	Aggregatec	DSL	3	133	0	1.21835E-05	3.27521E-05	0.000686823	0.160473766	2.37627E-05	1.13657E-05	1.53099E-06	0.014443
Mojave De	2019	T6 CAIRP heavy	2011	Aggregatec	DSL	6	282	0	1.24938E-05	5.20527E-05	0.000686929	0.348791501	4.62391E-05	2.024E-05	3.32763E-06	0.031391
Mojave De	2019	T6 CAIRP heavy	2012	Aggregatec	DSL	47	2,501	0	7.72931E-05	0.000408671	0.004654432	3.138637239	0.000401146	0.000170666	2.99441E-05	0.282477
Mojave De	2019	T6 CAIRP heavy	2013	Aggregatec	DSL	11	618	0	1.79216E-05	9.47584E-05	0.001035511	0.772509165	9.89051E-05	4.19943E-05	7.3701E-06	0.069526
Mojave De	2019	T6 CAIRP heavy	2014	Aggregatec	DSL	12	706	0	1.74875E-05	9.25085E-05	0.000817772	0.842668625	0.000112719	4.76524E-05	8.03945E-06	0.07584
Mojave De	2019	T6 CAIRP heavy	2015	Aggregatec	DSL	12	769	0	1.77542E-05	9.393E-05	0.000782548	0.913250293	0.000122625	5.17429E-05	8.71283E-06	0.082193
Mojave De	2019	T6 CAIRP heavy	2016	Aggregatec	DSL	11	690	0	1.52031E-05	8.04378E-05	0.000666837	0.818701958	0.000109857	4.62969E-05	7.8108E-06	0.073683
Mojave De	2019	T6 CAIRP heavy	2017	Aggregatec	DSL	8	502	0	1.05154E-05	5.56451E-05	0.000463771	0.572804997	7.97927E-05	3.35828E-05	5.46483E-06	0.051552
Mojave De	2019	T6 CAIRP heavy	2018	Aggregatec	DSL	8	491	0	9.75698E-06	5.16478E-05	0.000439143	0.560588722	7.80058E-05	3.27868E-05	5.34828E-06	0.050453
Mojave De	2019	T6 CAIRP heavy	2019	Aggregatec	DSL	5	347	0	6.5256E-06	3.4554E-05	0.000299459	0.396553212	5.51224E-05	2.31376E-05	3.7833E-06	0.03569
Mojave De	2019	T6 CAIRP heavy	2020	Aggregatec	DSL	2	61	0	1.10128E-06	5.88319E-06	9.74372E-05	0.07044924	9.65777E-06	4.0485E-06	6.72119E-07	0.00634
Mojave De	2019	T6 CAIRP small	2010	Aggregatec	DSL	6	330	0	3.00951E-05	8.04554E-05	0.001689949	0.413872782	5.8859E-05	2.81522E-05	3.94854E-06	0.037249
Mojave De	2019	T6 CAIRP small	2011	Aggregatec	DSL	12	698	0	3.09039E-05	0.000128509	0.001635034	0.907169141	0.000114624	5.01737E-05	8.65482E-06	0.081645
Mojave De	2019	T6 CAIRP small	2012	Aggregatec	DSL	22	1,409	0	4.34919E-05	0.000229785	0.002471113	1.848944406	0.000226119	9.62008E-05	1.76398E-05	0.166405
Mojave De	2019	T6 CAIRP small	2013	Aggregatec	DSL	29	1,937	0	5.61235E-05	0.000296527	0.003050444	2.533046125	0.000310281	0.000131742	2.41664E-05	0.227974
Mojave De	2019	T6 CAIRP small	2014	Aggregatec	DSL	35	2,483	0	6.13551E-05	0.000324302	0.002627536	3.049154271	0.000396255	0.000167517	2.90904E-05	0.274424
Mojave De	2019	T6 CAIRP small	2015	Aggregatec	DSL	38	2,789	0	6.42376E-05	0.000339571	0.002570226	3.408270884	0.000444573	0.000187592	3.25165E-05	0.306744
Mojave De	2019	T6 CAIRP small	2016	Aggregatec	DSL	39	3,035	0	6.67373E-05	0.000352802	0.002652867	3.70727814	0.000483225	0.000203644	3.53692E-05	0.333655
Mojave De	2019	T6 CAIRP small	2017	Aggregatec	DSL	39	3,078	0	6.43917E-05	0.000340449	0.002566783	3.618630012	0.000489642	0.000206078	3.45234E-05	0.325677
Mojave De	2019	T6 CAIRP small	2018	Aggregatec	DSL	39	3,072	0	6.09252E-05	0.000322206	0.002468466	3.611698772	0.000488175	0.000205185	3.44573E-05	0.325053
Mojave De	2019	T6 CAIRP small	2019	Aggregatec	DSL	26	1,995	0	3.74073E-05	0.000197884	0.001538958	2.345735431	0.000316729	0.000132946	2.23794E-05	0.211116
Mojave De	2019	T6 CAIRP small	2020	Aggregatec	DSL	11	350	0	6.29068E-06	3.35264E-05	0.000483379	0.415720937	5.54925E-05	2.32621E-05	3.96617E-06	0.037415
Mojave De	2019	T6 instate cons	2010	Aggregatec	DSL	14	886	0	6.57794E-05	0.000176154	0.004371703	1.07925091	0.000157123	7.48211E-05	1.02966E-05	0.097133
Mojave De	2019	T6 instate cons	2011	Aggregatec	DSL	17	1,072	0	3.87075E-05	0.000161157	0.002242465	1.362156649	0.000175729	7.6771E-05	1.29956E-05	0.122594
Mojave De	2019	T6 instate cons	2012	Aggregatec	DSL	25	1,856	0	4.66644E-05	0.000246574	0.002725775	2.38218514	0.000297547	0.000126462	2.27272E-05	0.214397
Mojave De	2019	T6 instate cons	2013	Aggregatec	DSL	14	1,693	0	3.98416E-05	0.000210264	0.002009004	2.160788	0.000270962	0.000114939	2.06149E-05	0.194471
Mojave De	2019	T6 instate cons	2014	Aggregatec	DSL	14	1,665	0	3.3423E-05	0.00017647	0.001192333	1.996555987	0.000265549	0.000112172	1.90481E-05	0.17969
Mojave De	2019	T6 instate cons	2015	Aggregatec	DSL	13	1,590	0	2.97475E-05	0.000157098	0.000972656	1.897274697	0.000253205	0.000106765	1.81009E-05	0.170755
Mojave De	2019	T6 instate cons	2016	Aggregatec	DSL	12	1,439	0	2.57197E-05	0.000135848	0.00084549	1.717487546	0.000228992	9.64373E-05	1.63856E-05	0.154574
Mojave De	2019	T6 instate cons	2017	Aggregatec	DSL	11	1,313	0	2.23177E-05	0.0001179	0.000738136	1.507735797	0.000208664	8.77653E-05	1.43845E-05	0.135696
Mojave De	2019	T6 instate cons	2018	Aggregatec	DSL	11	1,325	0	2.13558E-05	0.000112841	0.000711167	1.522112377	0.00021044	8.83979E-05	1.45217E-05	0.13699
Mojave De	2019	T6 instate cons	2019	Aggregatec	DSL	9	1,071	0	1.63146E-05	8.62233E-05	0.000547404	1.230180468	0.000169907	7.12794E-05	1.17365E-05	0.110716
Mojave De	2019	T6 instate cons	2020	Aggregatec	DSL	2	48	0	7.09496E-07	3.80731E-06	6.94153E-05	0.055739436	7.55004E-06	3.1634E-06	5.3178E-07	0.005017
Mojave De	2019	T6 instate cons	2010	Aggregatec	DSL	30	1,658	0	0.000151025	0.000403979	0.008464322	2.076853513	0.000295287	0.000141236	1.98142E-05	0.186917
Mojave De	2019	T6 instate cons	2011	Aggregatec	DSL	39	2,279	0	0.000100907	0.000419689	0.005217638	2.962014256	0.000374186	0.00016379	2.8259E-05	0.266581
Mojave De	2019	T6 instate cons	2012	Aggregatec	DSL	109	6,751	0	0.00020836	0.001100935	0.011422704	8.857905948	0.001083089	0.000460794	8.45086E-05	0.797212
Mojave De	2019	T6 instate cons	2013	Aggregatec	DSL	62	4,058	0	0.000117593	0.000621348	0.006155197	5.307334529	0.00065	0.000275984	5.06345E-05	0.47766
Mojave De	2019	T6 instate cons	2014	Aggregatec	DSL	79	5,503	0	0.000136033	0.000719081	0.00551333	6.760143682	0.000878372	0.000371334	6.44949E-05	0.608413
Mojave De	2019	T6 instate cons	2015	Aggregatec	DSL	61	4,460	0	0.000102743	0.000543166	0.003867715	5.451016633	0.000710913	0.000299977	5.20052E-05	0.490591

Mojave De	2019	T6 instate cons	2016	Aggregate	DSL	61	4,621	0	0.000101627	0.000537292	0.003796594	5.64511639	0.000735699	0.000310044	5.3857E-05	0.50806
Mojave De	2019	T6 instate cons	2017	Aggregate	DSL	61	4,682	0	9.79506E-05	0.000517927	0.003662643	5.504194167	0.000744668	0.000313412	5.25126E-05	0.495377
Mojave De	2019	T6 instate cons	2018	Aggregate	DSL	62	4,714	0	9.35001E-05	0.000494527	0.003543679	5.542341992	0.000749016	0.000314819	5.28765E-05	0.498811
Mojave De	2019	T6 instate cons	2019	Aggregate	DSL	46	3,502	0	6.56641E-05	0.000347397	0.002519738	4.117290019	0.000555845	0.000233315	3.92809E-05	0.370556
Mojave De	2019	T6 instate cons	2020	Aggregate	DSL	10	305	0	5.47715E-06	2.91978E-05	0.000382822	0.361870501	4.82868E-05	2.02415E-05	3.45241E-06	0.032568
Mojave De	2019	T6 instate heav	2010	Aggregate	DSL	15	669	0	5.90718E-05	0.000159225	0.003420341	0.803382726	0.000119179	5.6997E-05	7.66465E-06	0.072304
Mojave De	2019	T6 instate heav	2011	Aggregate	DSL	23	1,093	0	4.53978E-05	0.000189391	0.002538851	1.345289574	0.000179407	7.84995E-05	1.28347E-05	0.121076
Mojave De	2019	T6 instate heav	2012	Aggregate	DSL	549	27,721	0	0.000849691	0.004493671	0.049544486	34.8140253	0.004447393	0.001892257	0.000332142	3.133262
Mojave De	2019	T6 instate heav	2013	Aggregate	DSL	28	1,520	0	4.25428E-05	0.000225021	0.002400608	1.8968413	0.000243455	0.000103365	1.80968E-05	0.170716
Mojave De	2019	T6 instate heav	2014	Aggregate	DSL	27	1,554	0	3.71177E-05	0.000196431	0.001630016	1.849829386	0.000248064	0.000104867	1.76482E-05	0.166485
Mojave De	2019	T6 instate heav	2015	Aggregate	DSL	27	1,580	0	3.51733E-05	0.000186164	0.001441049	1.871141152	0.000251881	0.000106281	1.78516E-05	0.168403
Mojave De	2019	T6 instate heav	2016	Aggregate	DSL	24	1,497	0	3.1823E-05	0.000168442	0.001297719	1.772258608	0.000238416	0.000100473	1.69082E-05	0.159503
Mojave De	2019	T6 instate heav	2017	Aggregate	DSL	22	1,384	0	2.79822E-05	0.000148138	0.001147801	1.576290206	0.000220142	9.26505E-05	1.50385E-05	0.141866
Mojave De	2019	T6 instate heav	2018	Aggregate	DSL	22	1,386	0	2.65746E-05	0.000140734	0.001112992	1.57886114	0.000220261	9.25762E-05	1.50631E-05	0.142098
Mojave De	2019	T6 instate heav	2019	Aggregate	DSL	19	1,181	0	2.13985E-05	0.000113362	0.000914253	1.344576141	0.00018738	7.86512E-05	1.28279E-05	0.121012
Mojave De	2019	T6 instate heav	2020	Aggregate	DSL	3	73	0	1.2817E-06	6.855E-06	0.000105908	0.084680757	1.16318E-05	4.87592E-06	8.07894E-07	0.007621
Mojave De	2019	T6 instate smal	2010	Aggregate	DSL	39	2,156	0	0.000190653	0.000510203	0.010945771	2.695542012	0.000384085	0.000183706	2.57167E-05	0.242599
Mojave De	2019	T6 instate smal	2011	Aggregate	DSL	64	3,775	0	0.000157332	0.000654676	0.008393275	4.877911062	0.000619687	0.000271158	4.65376E-05	0.439012
Mojave De	2019	T6 instate smal	2012	Aggregate	DSL	299	18,769	0	0.000578322	0.003055612	0.031468397	24.63372349	0.003011281	0.001281256	0.000235017	2.217035
Mojave De	2019	T6 instate smal	2013	Aggregate	DSL	131	8,747	0	0.000247918	0.001310007	0.012951657	11.42020825	0.001400946	0.000594846	0.000108954	1.027819
Mojave De	2019	T6 instate smal	2014	Aggregate	DSL	177	12,477	0	0.000298786	0.001579527	0.011805234	15.28671153	0.001991454	0.00084188	0.000145842	1.375804
Mojave De	2019	T6 instate smal	2015	Aggregate	DSL	119	8,804	0	0.000196562	0.001039224	0.007157215	10.73116563	0.001403101	0.000592047	0.00010238	0.965805
Mojave De	2019	T6 instate smal	2016	Aggregate	DSL	120	9,185	0	0.00019583	0.001035405	0.007082849	11.19350454	0.001462497	0.000616331	0.000106791	1.007415
Mojave De	2019	T6 instate smal	2017	Aggregate	DSL	119	9,264	0	0.000187886	0.000993542	0.006812338	10.86430415	0.001473573	0.000620185	0.000103651	0.977787
Mojave De	2019	T6 instate smal	2018	Aggregate	DSL	120	9,295	0	0.0001787	0.000945229	0.006582492	10.89994524	0.001476805	0.000620713	0.000103991	0.980995
Mojave De	2019	T6 instate smal	2019	Aggregate	DSL	94	7,300	0	0.000132676	0.000701984	0.004960015	8.560310859	0.001158599	0.000486317	8.16694E-05	0.770428
Mojave De	2019	T6 instate smal	2020	Aggregate	DSL	14	454	0	7.91035E-06	4.21773E-05	0.000549764	0.5375516	7.19208E-05	3.01485E-05	5.12849E-06	0.04838
Mojave De	2019	T6 OOS heavy	2010	Aggregate	DSL	2	73	0	6.68729E-06	1.79901E-05	0.000377177	0.088078003	1.30381E-05	6.23616E-06	8.40305E-07	0.007927
Mojave De	2019	T6 OOS heavy	2011	Aggregate	DSL	3	154	0	6.85707E-06	2.85757E-05	0.000378889	0.191427522	2.53705E-05	1.11053E-05	1.82631E-06	0.017228
Mojave De	2019	T6 OOS heavy	2012	Aggregate	DSL	29	1,506	0	4.65672E-05	0.000246238	0.002825059	1.890975265	0.000241624	0.000102798	1.80408E-05	0.170188
Mojave De	2019	T6 OOS heavy	2013	Aggregate	DSL	6	339	0	9.83557E-06	5.20094E-05	0.000572744	0.423959694	5.42673E-05	2.30415E-05	4.04477E-06	0.038156
Mojave De	2019	T6 OOS heavy	2014	Aggregate	DSL	7	387	0	9.59757E-06	5.07763E-05	0.000453796	0.462458522	6.18469E-05	2.6146E-05	4.41207E-06	0.041621
Mojave De	2019	T6 OOS heavy	2015	Aggregate	DSL	7	422	0	9.74396E-06	5.1557E-05	0.000434706	0.501189375	6.7282E-05	2.83904E-05	4.78158E-06	0.045107
Mojave De	2019	T6 OOS heavy	2016	Aggregate	DSL	6	379	0	8.34389E-06	4.41515E-05	0.000370501	0.449298229	6.02765E-05	2.54022E-05	4.28652E-06	0.040437
Mojave De	2019	T6 OOS heavy	2017	Aggregate	DSL	4	275	0	5.77122E-06	3.05434E-05	0.00025776	0.314350426	4.37808E-05	1.84263E-05	2.99905E-06	0.028292
Mojave De	2019	T6 OOS heavy	2018	Aggregate	DSL	4	269	0	5.35505E-06	2.83499E-05	0.000244191	0.307646505	4.28003E-05	1.79895E-05	2.93509E-06	0.027688
Mojave De	2019	T6 OOS heavy	2019	Aggregate	DSL	3	191	0	3.58159E-06	1.89674E-05	0.0001666	0.217625159	3.02446E-05	1.26952E-05	2.07625E-06	0.019586
Mojave De	2019	T6 OOS heavy	2020	Aggregate	DSL	1	33	0	6.04718E-07	3.2315E-06	5.4427E-05	0.038672666	5.29904E-06	2.22134E-06	3.68955E-07	0.003481
Mojave De	2019	T6 OOS small	2010	Aggregate	DSL	3	189	0	1.72433E-05	4.60979E-05	0.000968277	0.23713355	3.3724E-05	1.61302E-05	2.26236E-06	0.021342
Mojave De	2019	T6 OOS small	2011	Aggregate	DSL	7	400	0	1.77068E-05	7.36309E-05	0.000936813	0.519773825	6.56753E-05	2.87476E-05	4.95889E-06	0.04678
Mojave De	2019	T6 OOS small	2012	Aggregate	DSL	13	808	0	2.49192E-05	0.000131658	0.001415855	1.059375658	0.000129558	5.51194E-05	1.01069E-05	0.095344
Mojave De	2019	T6 OOS small	2013	Aggregate	DSL	17	1,110	0	3.21567E-05	0.000169899	0.00174779	1.451340234	0.000177779	7.54834E-05	1.38465E-05	0.130621
Mojave De	2019	T6 OOS small	2014	Aggregate	DSL	20	1,422	0	3.51542E-05	0.000185813	0.001505479	1.747050805	0.000227039	9.59812E-05	1.66677E-05	0.157235
Mojave De	2019	T6 OOS small	2015	Aggregate	DSL	21	1,598	0	3.68057E-05	0.000194562	0.001472643	1.952811128	0.000254723	0.000107483	1.86307E-05	0.175753
Mojave De	2019	T6 OOS small	2016	Aggregate	DSL	23	1,739	0	3.8238E-05	0.000202142	0.001519993	2.124131049	0.00027687	0.000116681	2.02652E-05	0.191172
Mojave De	2019	T6 OOS small	2017	Aggregate	DSL	22	1,764	0	3.6894E-05	0.000195064	0.00147067	2.073339003	0.000280547	0.000118075	1.97806E-05	0.186601
Mojave De	2019	T6 OOS small	2018	Aggregate	DSL	23	1,760	0	3.49078E-05	0.000184612	0.001414338	2.069367663	0.000279706	0.000117563	1.97427E-05	0.186243
Mojave De	2019	T6 OOS small	2019	Aggregate	DSL	15	1,143	0	2.1433E-05	0.00011338	0.000881765	1.344018246	0.000181474	7.61732E-05	1.28226E-05	0.120962
Mojave De	2019	T6 OOS small	2020	Aggregate	DSL	6	201	0	3.60432E-06	1.92094E-05	0.000276958	0.238192474	3.17951E-05	1.33283E-05	2.27247E-06	0.021437
Mojave De	2019	T6 Public	2010	Aggregate	DSL	7	124	0	6.68976E-06	2.00773E-05	0.000504879	0.156019854	2.09807E-05	9.49987E-06	1.4885E-06	0.014042
Mojave De	2019	T6 Public	2011	Aggregate	DSL	3	55	0	2.34716E-06	9.98563E-06	0.000154523	0.075466575	8.81184E-06	3.7837E-06	7.19986E-07	0.006792
Mojave De	2019	T6 Public	2012	Aggregate	DSL	3	56	0	1.02103E-06	5.48996E-06	0.00012582	0.07320001	8.84302E-06	3.72133E-06	6.98362E-07	0.006588
Mojave De	2019	T6 Public	2013	Aggregate	DSL	24	450	0	6.95409E-06	3.75231E-05	0.000955948	0.583402993	7.15903E-05	3.00964E-05	5.56594E-06	0.052506

Mojave De	2019 T6 Public	2014 Aggregate	DSL	22	414	0	6.03343E-06	3.25872E-05	0.000767939	0.504025678	6.57618E-05	2.76128E-05	4.80864E-06	0.045362
Mojave De	2019 T6 Public	2015 Aggregate	DSL	21	420	0	5.97952E-06	3.23005E-05	0.000746852	0.5089708	6.67318E-05	2.80059E-05	4.85582E-06	0.045807
Mojave De	2019 T6 Public	2016 Aggregate	DSL	21	423	0	5.92051E-06	3.19791E-05	0.00073652	0.511199735	6.70431E-05	2.81274E-05	4.87708E-06	0.046008
Mojave De	2019 T6 Public	2017 Aggregate	DSL	21	430	0	5.93704E-06	3.20663E-05	0.000735978	0.500702014	6.82474E-05	2.86232E-05	4.77693E-06	0.045063
Mojave De	2019 T6 Public	2018 Aggregate	DSL	21	435	0	5.90282E-06	3.188E-05	0.000729702	0.505450857	6.89112E-05	2.88919E-05	4.82224E-06	0.045491
Mojave De	2019 T6 Public	2019 Aggregate	DSL	19	404	0	5.40581E-06	2.9195E-05	0.000666742	0.470226468	6.4123E-05	2.68751E-05	4.48618E-06	0.04232
Mojave De	2019 T6 Public	2020 Aggregate	DSL	2	15	0	2.13441E-07	1.189E-06	5.54007E-05	0.018014799	2.36316E-06	9.90177E-07	1.7187E-07	0.001621
Mojave De	2019 T6 utility	2012 Aggregate	DSL	5	89	0	1.95715E-06	1.04871E-05	0.000208808	0.119418721	1.4174E-05	5.9662E-06	1.13931E-06	0.010748
Mojave De	2019 T6 utility	2013 Aggregate	DSL	37	704	0	1.50711E-05	8.07655E-05	0.001586623	0.940619446	0.00011195	4.70943E-05	8.97395E-06	0.084656
Mojave De	2019 T6 utility	2014 Aggregate	DSL	6	107	0	2.16843E-06	1.16285E-05	0.000213585	0.134572206	1.70293E-05	7.15507E-06	1.28388E-06	0.012111
Mojave De	2019 T6 utility	2015 Aggregate	DSL	3	62	0	1.22501E-06	6.56989E-06	0.000118534	0.077430828	9.84608E-06	4.13481E-06	7.38726E-07	0.006969
Mojave De	2019 T6 utility	2016 Aggregate	DSL	6	120	0	2.33388E-06	1.25162E-05	0.000224818	0.14965099	1.90344E-05	7.99068E-06	1.42774E-06	0.013469
Mojave De	2019 T6 utility	2017 Aggregate	DSL	7	134	0	2.56735E-06	1.37676E-05	0.000246302	0.160801788	2.1256E-05	8.92019E-06	1.53412E-06	0.014472
Mojave De	2019 T6 utility	2018 Aggregate	DSL	3	67	0	1.2592E-06	6.75233E-06	0.000120391	0.08008417	1.05883E-05	4.44188E-06	7.6404E-07	0.007208
Mojave De	2019 T6 utility	2019 Aggregate	DSL	6	126	0	2.34207E-06	1.25589E-05	0.000223259	0.151329755	2.00119E-05	8.3921E-06	1.44376E-06	0.01362
Mojave De	2019 T6 utility	2020 Aggregate	DSL	0	3	0	6.53736E-08	3.58894E-07	1.29001E-05	0.004190281	5.33658E-07	2.23727E-07	3.99772E-08	0.000377
Mojave De	2019 T6TS	2010 Aggregate	GAS	21	1,738	429	0.000303449	0.003030973	0.000468459	2.046125308	0.00027311	0.000113124	2.04785E-05	0.218433
Mojave De	2019 T6TS	2011 Aggregate	GAS	41	3,080	817	0.000531105	0.005732121	0.000868321	3.641054562	0.00048416	0.000200684	3.64472E-05	0.388762
Mojave De	2019 T6TS	2012 Aggregate	GAS	36	2,634	713	0.000420886	0.005016843	0.000752349	3.136650297	0.000414486	0.00017201	3.13993E-05	0.334919
Mojave De	2019 T6TS	2013 Aggregate	GAS	55	5,192	1,093	0.000585062	0.00785433	0.001227407	6.329254346	0.000818097	0.000340067	6.33177E-05	0.675375
Mojave De	2019 T6TS	2014 Aggregate	GAS	59	5,878	1,182	0.000600069	0.008512362	0.001331607	6.859138846	0.000927835	0.000386458	6.86183E-05	0.731914
Mojave De	2019 T6TS	2015 Aggregate	GAS	65	6,733	1,294	0.000625016	0.009338662	0.001458527	7.849898837	0.001064391	0.000444136	7.85222E-05	0.837553
Mojave De	2019 T6TS	2016 Aggregate	GAS	69	7,499	1,380	0.000638848	0.009980347	0.001559798	8.735523565	0.001186725	0.000495829	8.73734E-05	0.931964
Mojave De	2019 T6TS	2017 Aggregate	GAS	72	8,137	1,436	0.000815849	0.012425015	0.002205119	9.115310785	0.001288313	0.000538638	9.12093E-05	0.97288
Mojave De	2019 T6TS	2018 Aggregate	GAS	72	8,533	1,446	0.000792042	0.012520474	0.002213602	9.552915078	0.0013515	0.000565265	9.55784E-05	1.019483
Mojave De	2019 T6TS	2019 Aggregate	GAS	64	7,805	1,272	0.000674735	0.011017058	0.001941323	8.732381846	0.00123639	0.000517233	8.73607E-05	0.931829
Mojave De	2019 T7 Ag	2010 Aggregate	DSL	0	7	0	1.25007E-06	4.04489E-06	6.1268E-05	0.013317744	9.23648E-07	4.6096E-07	1.27058E-07	0.001199
Mojave De	2019 T7 Ag	2011 Aggregate	DSL	0	3	0	2.15209E-07	9.56108E-07	1.07539E-05	0.00489878	3.02902E-07	1.26698E-07	4.67367E-08	0.000441
Mojave De	2019 T7 Ag	2012 Aggregate	DSL	6	238	0	1.3559E-05	7.39565E-05	0.000775213	0.451862403	2.68965E-05	1.05158E-05	4.31098E-06	0.040668
Mojave De	2019 T7 Ag	2013 Aggregate	DSL	1	36	0	1.93605E-06	1.05219E-05	0.000107999	0.067828119	4.02616E-06	1.56637E-06	6.47112E-07	0.006105
Mojave De	2019 T7 Ag	2014 Aggregate	DSL	1	36	0	1.7186E-06	9.24079E-06	8.02574E-05	0.059764175	4.01212E-06	1.54415E-06	5.70178E-07	0.005379
Mojave De	2019 T7 CAIRP	2010 Aggregate	DSL	205	35,226	0	0.008385349	0.026653874	0.398202384	68.35795952	0.005409282	0.002921148	0.000652167	6.152216
Mojave De	2019 T7 CAIRP	2011 Aggregate	DSL	213	40,498	0	0.004548454	0.020340161	0.188923258	74.72652429	0.005030672	0.002221544	0.000712926	6.725387
Mojave De	2019 T7 CAIRP	2012 Aggregate	DSL	2,678	562,586	0	0.041997105	0.233381209	1.744502455	1021.936887	0.065063448	0.026248298	0.009749756	91.97432
Mojave De	2019 T7 CAIRP	2013 Aggregate	DSL	239	55,221	0	0.003798102	0.021125874	0.147844733	99.54108682	0.00634913	0.002540804	0.000949669	8.958698
Mojave De	2019 T7 CAIRP	2014 Aggregate	DSL	258	65,417	0	0.003670792	0.02026668	0.090827158	104.4554161	0.007419441	0.002912376	0.000996554	9.400987
Mojave De	2019 T7 CAIRP	2015 Aggregate	DSL	268	73,663	0	0.003739506	0.020616816	0.080366951	116.9999792	0.008305782	0.003232717	0.001116234	10.53
Mojave De	2019 T7 CAIRP	2016 Aggregate	DSL	232	68,163	0	0.003227614	0.017790755	0.068302155	107.8200474	0.007655206	0.002962202	0.001028654	9.703804
Mojave De	2019 T7 CAIRP	2017 Aggregate	DSL	166	51,117	0	0.002244798	0.012350347	0.046945553	78.33610036	0.005716358	0.002198056	0.000747363	7.050249
Mojave De	2019 T7 CAIRP	2018 Aggregate	DSL	163	51,672	0	0.002093232	0.011470888	0.043485505	79.06149519	0.005752566	0.002197164	0.000754284	7.115535
Mojave De	2019 T7 CAIRP	2019 Aggregate	DSL	107	34,079	0	0.001268752	0.00690577	0.026393524	52.14112299	0.00377647	0.001432323	0.000497451	4.692701
Mojave De	2019 T7 CAIRP	2020 Aggregate	DSL	56	7,460	0	0.000334617	0.00166801	0.009657841	12.30398513	0.000823086	0.000310096	0.000117386	1.107359
Mojave De	2019 T7 CAIRP const	2010 Aggregate	DSL	3	577	0	0.000129079	0.000403634	0.006353103	1.137052043	8.85292E-05	4.78055E-05	1.0848E-05	0.102335
Mojave De	2019 T7 CAIRP const	2011 Aggregate	DSL	3	619	0	6.69857E-05	0.000301132	0.002795664	1.180407333	7.69147E-05	3.39632E-05	1.12616E-05	0.106237
Mojave De	2019 T7 CAIRP const	2012 Aggregate	DSL	9	2,103	0	0.000153597	0.000859846	0.006341722	3.955834382	0.00024319	9.81039E-05	3.77405E-05	0.356025
Mojave De	2019 T7 CAIRP const	2013 Aggregate	DSL	5	1,258	0	8.54064E-05	0.000477139	0.003308768	2.36062174	0.00014464	5.78805E-05	2.25214E-05	0.212456
Mojave De	2019 T7 CAIRP const	2014 Aggregate	DSL	5	1,438	0	8.02359E-05	0.000443815	0.001972178	2.364080381	0.000163089	6.4017E-05	2.25544E-05	0.212767
Mojave De	2019 T7 CAIRP const	2015 Aggregate	DSL	6	1,527	0	7.76699E-05	0.000427915	0.001674542	2.504431354	0.000172148	6.70023E-05	2.38934E-05	0.225399
Mojave De	2019 T7 CAIRP const	2016 Aggregate	DSL	5	1,359	0	6.48662E-05	0.000356592	0.001389854	2.224333825	0.000152604	5.90514E-05	2.12212E-05	0.20019
Mojave De	2019 T7 CAIRP const	2017 Aggregate	DSL	3	1,005	0	4.46827E-05	0.000244874	0.000951948	1.596213286	0.000112432	4.32334E-05	1.52286E-05	0.143659
Mojave De	2019 T7 CAIRP const	2018 Aggregate	DSL	3	1,019	0	4.18104E-05	0.000228155	0.000886489	1.614978603	0.000113416	4.33195E-05	1.54077E-05	0.145348
Mojave De	2019 T7 CAIRP const	2019 Aggregate	DSL	2	632	0	2.38765E-05	0.000129367	0.000507892	1.002250098	7.00612E-05	2.65731E-05	9.56193E-06	0.090203
Mojave De	2019 T7 CAIRP const	2020 Aggregate	DSL	1	162	0	7.47142E-06	3.69654E-05	0.000221042	0.277134318	1.7847E-05	6.72419E-06	2.64399E-06	0.024942

Mojave De	2019 T7 NNOOS	2010 Aggregate	DSL	95	16,408	0	0.00413545	0.01333226	0.18991992	32.66608859	0.002519838	0.001360845	0.00031165	2.939948
Mojave De	2019 T7 NNOOS	2011 Aggregate	DSL	150	28,500	0	0.003348931	0.014884727	0.136702211	53.76132316	0.003540603	0.001563665	0.000512908	4.838519
Mojave De	2019 T7 NNOOS	2012 Aggregate	DSL	1,030	216,624	0	0.016781248	0.09211953	0.690265534	401.3240328	0.025054541	0.010108652	0.003828819	36.11916
Mojave De	2019 T7 NNOOS	2013 Aggregate	DSL	380	88,150	0	0.006288383	0.034556884	0.24285661	161.7900651	0.010135891	0.004056565	0.001543553	14.56111
Mojave De	2019 T7 NNOOS	2014 Aggregate	DSL	454	115,126	0	0.0067292	0.036661575	0.16801946	186.8596956	0.013058158	0.005126205	0.001782729	16.81737
Mojave De	2019 T7 NNOOS	2015 Aggregate	DSL	545	149,814	0	0.007928505	0.043124776	0.173267615	241.5922478	0.016893089	0.006575546	0.002304903	21.7433
Mojave De	2019 T7 NNOOS	2016 Aggregate	DSL	602	176,842	0	0.008730606	0.047475604	0.188046531	283.7473558	0.019861647	0.007686116	0.002707082	25.53726
Mojave De	2019 T7 NNOOS	2017 Aggregate	DSL	657	202,650	0	0.009288665	0.050401447	0.197940391	314.8203327	0.022663423	0.008715201	0.003003533	28.33383
Mojave De	2019 T7 NNOOS	2018 Aggregate	DSL	758	240,647	0	0.010198055	0.055083801	0.216176226	373.1245877	0.026792231	0.010233921	0.003559783	33.58121
Mojave De	2019 T7 NNOOS	2019 Aggregate	DSL	576	182,863	0	0.007149063	0.03831628	0.151989041	283.5123245	0.020264734	0.007686499	0.00270484	25.51611
Mojave De	2019 T7 NNOOS	2020 Aggregate	DSL	359	47,466	0	0.002341584	0.011398632	0.067906973	80.61119367	0.005237563	0.001973603	0.000769068	7.255007
Mojave De	2019 T7 NOOS	2010 Aggregate	DSL	79	13,430	0	0.003403418	0.010986555	0.155820127	26.80386504	0.002062504	0.001113866	0.000255721	2.412348
Mojave De	2019 T7 NOOS	2011 Aggregate	DSL	83	15,440	0	0.001822221	0.00809441	0.074329958	29.18828314	0.00191816	0.000847139	0.00027847	2.626945
Mojave De	2019 T7 NOOS	2012 Aggregate	DSL	1,102	227,537	0	0.017689892	0.096994021	0.728111008	422.3524495	0.026316853	0.010618055	0.00402944	38.01172
Mojave De	2019 T7 NOOS	2013 Aggregate	DSL	93	21,054	0	0.001507224	0.008273166	0.05826195	38.70987595	0.002420857	0.000968879	0.00036931	3.483889
Mojave De	2019 T7 NOOS	2014 Aggregate	DSL	100	24,941	0	0.001463571	0.007963649	0.036682747	40.54616033	0.00282894	0.001110559	0.000386829	3.649154
Mojave De	2019 T7 NOOS	2015 Aggregate	DSL	104	28,085	0	0.001492297	0.008106488	0.032776493	45.35740104	0.003166876	0.0012327	0.000432731	4.082166
Mojave De	2019 T7 NOOS	2016 Aggregate	DSL	90	25,988	0	0.001288196	0.006995985	0.027889961	41.75679652	0.00291881	0.001129538	0.000398379	3.758112
Mojave De	2019 T7 NOOS	2017 Aggregate	DSL	64	19,489	0	0.000896987	0.00486077	0.01921816	30.31671825	0.002179552	0.000838151	0.000289236	2.728505
Mojave De	2019 T7 NOOS	2018 Aggregate	DSL	63	19,701	0	0.000838496	0.00452286	0.01787636	30.58556957	0.002193354	0.000837809	0.000291801	2.752701
Mojave De	2019 T7 NOOS	2019 Aggregate	DSL	42	12,993	0	0.000510365	0.002731386	0.010917499	20.17096566	0.001439903	0.000546165	0.00019244	1.815387
Mojave De	2019 T7 NOOS	2020 Aggregate	DSL	22	2,844	0	0.000141572	0.000687686	0.004131178	4.844205784	0.000313853	0.000118267	4.6216E-05	0.435979
Mojave De	2019 T7 POLA	2010 Aggregate	DSL	106	15,614	0	0.00614219	0.018255827	0.180201309	32.73067685	0.002443577	0.001338698	0.000312266	2.945761
Mojave De	2019 T7 POLA	2011 Aggregate	DSL	99	14,581	0	0.002765429	0.012677029	0.083622584	29.29523653	0.00181564	0.000804071	0.00027949	2.636571
Mojave De	2019 T7 POLA	2012 Aggregate	DSL	82	12,111	0	0.001588431	0.00923907	0.052605683	24.00376644	0.001402603	0.00056691	0.000229007	2.160339
Mojave De	2019 T7 POLA	2013 Aggregate	DSL	57	8,342	0	0.001020734	0.005930595	0.033022557	16.53326755	0.000960744	0.000385368	0.000157735	1.487994
Mojave De	2019 T7 POLA	2014 Aggregate	DSL	29	4,269	0	0.000427709	0.002476089	0.01188418	7.430679961	0.000485146	0.000190972	7.08922E-05	0.668761
Mojave De	2019 T7 POLA	2015 Aggregate	DSL	29	4,269	0	0.00038459	0.002221481	0.010140616	7.430679961	0.000481878	0.000187845	7.08922E-05	0.668761
Mojave De	2019 T7 POLA	2016 Aggregate	DSL	29	4,269	0	0.000359839	0.002075332	0.009377309	7.430679961	0.000479857	0.000185912	7.08922E-05	0.668761
Mojave De	2019 T7 POLA	2017 Aggregate	DSL	29	4,269	0	0.000336127	0.001935316	0.008646034	7.220009364	0.000477922	0.00018406	6.88823E-05	0.649801
Mojave De	2019 T7 POLA	2018 Aggregate	DSL	29	4,269	0	0.000313845	0.001803748	0.00795888	7.220009364	0.000476103	0.00018232	6.88823E-05	0.649801
Mojave De	2019 T7 POLA	2019 Aggregate	DSL	29	4,269	0	0.000291298	0.001670611	0.007263536	7.220009364	0.000474262	0.000180559	6.88823E-05	0.649801
Mojave De	2019 T7 Public	2010 Aggregate	DSL	2	46	0	1.03655E-05	3.61234E-05	0.000387353	0.105863478	5.79009E-06	2.5924E-06	1.00999E-06	0.009528
Mojave De	2019 T7 Public	2011 Aggregate	DSL	1	23	0	1.81222E-06	7.51377E-06	0.000100599	0.048577925	2.61168E-06	1.02806E-06	4.63456E-07	0.004372
Mojave De	2019 T7 Public	2012 Aggregate	DSL	5	115	0	8.16481E-06	4.07854E-05	0.000469037	0.251261909	1.27589E-05	4.85371E-06	2.39716E-06	0.022614
Mojave De	2019 T7 Public	2013 Aggregate	DSL	20	458	0	2.30844E-05	0.000106718	0.001681686	0.955954141	5.06638E-05	1.9172E-05	9.12025E-06	0.086036
Mojave De	2019 T7 Public	2014 Aggregate	DSL	14	314	0	1.5587E-05	7.17463E-05	0.001044928	0.575720955	3.47008E-05	1.31067E-05	5.49265E-06	0.051815
Mojave De	2019 T7 Public	2015 Aggregate	DSL	14	326	0	1.60889E-05	7.39286E-05	0.001062878	0.597874242	3.60175E-05	1.35932E-05	5.704E-06	0.053809
Mojave De	2019 T7 Public	2016 Aggregate	DSL	14	320	0	1.57416E-05	7.22587E-05	0.001042653	0.587073643	3.53551E-05	1.33365E-05	5.60096E-06	0.052837
Mojave De	2019 T7 Public	2017 Aggregate	DSL	14	324	0	1.58836E-05	7.28354E-05	0.001054823	0.577654535	3.57911E-05	1.34941E-05	5.51109E-06	0.051989
Mojave De	2019 T7 Public	2018 Aggregate	DSL	14	310	0	1.51476E-05	6.93876E-05	0.001008594	0.55288129	3.42448E-05	1.29045E-05	5.27475E-06	0.049759
Mojave De	2019 T7 Public	2019 Aggregate	DSL	12	271	0	1.31803E-05	6.03124E-05	0.000879926	0.482824801	2.98957E-05	1.12599E-05	4.60637E-06	0.043454
Mojave De	2019 T7 Public	2020 Aggregate	DSL	1	14	0	1.26259E-06	5.26565E-06	0.000106181	0.031482623	1.55854E-06	5.87696E-07	3.00359E-07	0.002833
Mojave De	2019 T7 Single	2010 Aggregate	DSL	1	122	0	1.75077E-05	5.32992E-05	0.000923999	0.23177647	1.64395E-05	7.9126E-06	2.21126E-06	0.02086
Mojave De	2019 T7 Single	2011 Aggregate	DSL	7	811	0	7.29546E-05	0.000332858	0.002604872	1.537240678	9.54011E-05	3.93718E-05	1.4666E-05	0.138352
Mojave De	2019 T7 Single	2012 Aggregate	DSL	81	11,715	0	0.000636603	0.003679715	0.023620939	21.47618561	0.001317149	0.000510502	0.000204893	1.932857
Mojave De	2019 T7 Single	2013 Aggregate	DSL	18	2,772	0	0.000120088	0.000691691	0.004563497	4.985010633	0.000310581	0.000119737	4.75593E-05	0.448651
Mojave De	2019 T7 Single	2014 Aggregate	DSL	19	2,976	0	0.000115333	0.000662401	0.002878988	4.699439242	0.000331721	0.00012692	4.48348E-05	0.42295
Mojave De	2019 T7 Single	2015 Aggregate	DSL	21	3,250	0	0.000120195	0.000689467	0.00268093	5.131547427	0.000361472	0.000137857	4.89574E-05	0.461839
Mojave De	2019 T7 Single	2016 Aggregate	DSL	20	3,232	0	0.000116068	0.000665269	0.002593687	5.103196993	0.000358986	0.000136616	4.86869E-05	0.459288
Mojave De	2019 T7 Single	2017 Aggregate	DSL	20	3,135	0	0.000108949	0.000623897	0.002440241	4.808479829	0.000347613	0.000131981	4.58751E-05	0.432763
Mojave De	2019 T7 Single	2018 Aggregate	DSL	20	3,133	0	0.000105044	0.000600903	0.00235942	4.806189556	0.000346897	0.000131381	4.58533E-05	0.432557
Mojave De	2019 T7 Single	2019 Aggregate	DSL	16	2,600	0	8.37882E-05	0.000478725	0.001888308	3.988562577	0.000287398	0.000108557	3.80528E-05	0.358971

Mojave De	2019	T7 Single	2020	Aggregate	DSL	3	128	0	4.75399E-06	2.55305E-05	0.000202431	0.205532479	1.41614E-05	5.33551E-06	1.96088E-06	0.018498
Mojave De	2019	T7 single constı	2010	Aggregate	DSL	12	1,137	0	0.000151022	0.000463796	0.008553832	2.140758301	0.000152485	7.31323E-05	2.04238E-05	0.192668
Mojave De	2019	T7 single constı	2011	Aggregate	DSL	16	1,549	0	9.81615E-05	0.000444561	0.004449075	2.829683067	0.000181117	7.41624E-05	2.69965E-05	0.254671
Mojave De	2019	T7 single constı	2012	Aggregate	DSL	44	5,251	0	0.000226783	0.001296251	0.009924581	9.444295663	0.000589339	0.000227798	9.0103E-05	0.849987
Mojave De	2019	T7 single constı	2013	Aggregate	DSL	18	2,466	0	0.00010091	0.000578468	0.004075323	4.419691433	0.000276176	0.0001064	4.21659E-05	0.397772
Mojave De	2019	T7 single constı	2014	Aggregate	DSL	19	2,691	0	9.86608E-05	0.000563671	0.002672154	4.235176946	0.000299857	0.000114658	4.04056E-05	0.381166
Mojave De	2019	T7 single constı	2015	Aggregate	DSL	21	2,888	0	0.000101106	0.000576796	0.002468718	4.544489811	0.000321101	0.000122391	4.33566E-05	0.409004
Mojave De	2019	T7 single constı	2016	Aggregate	DSL	20	2,820	0	9.58979E-05	0.000546582	0.00234954	4.437165728	0.0003131	0.000119088	4.23326E-05	0.399345
Mojave De	2019	T7 single constı	2017	Aggregate	DSL	19	2,745	0	9.04024E-05	0.00051471	0.002223951	4.196832919	0.000304342	0.000115491	4.00397E-05	0.377715
Mojave De	2019	T7 single constı	2018	Aggregate	DSL	19	2,761	0	8.77507E-05	0.000498995	0.002169167	4.220790571	0.000305603	0.000115684	4.02683E-05	0.379871
Mojave De	2019	T7 single constı	2019	Aggregate	DSL	15	2,065	0	6.31215E-05	0.00035843	0.001569166	3.15680552	0.000228187	8.61521E-05	3.01174E-05	0.284112
Mojave De	2019	T7 single constı	2020	Aggregate	DSL	4	184	0	6.65249E-06	3.52011E-05	0.000315766	0.294577938	2.02538E-05	7.62788E-06	2.81041E-06	0.026512
Mojave De	2019	T7 SWCV	2010	Aggregate	DSL	3	156	0	2.37339E-05	8.4279E-05	0.001488097	0.825318982	1.81633E-05	7.36864E-06	7.85853E-06	0.074279
Mojave De	2019	T7 SWCV	2011	Aggregate	DSL	2	81	0	8.8375E-06	0.000776978	0.000175937	0.368575525	9.2302E-06	3.61617E-06	1.66949E-06	0.033172
Mojave De	2019	T7 SWCV	2013	Aggregate	DSL	6	269	0	3.66791E-05	0.001162622	0.000489722	1.285413966	3.08892E-05	1.23509E-05	9.65625E-06	0.115687
Mojave De	2019	T7 SWCV	2014	Aggregate	DSL	6	286	0	1.79639E-05	0.001182336	0.000517006	1.249682251	3.28864E-05	1.31495E-05	9.48483E-06	0.112471
Mojave De	2019	T7 SWCV	2015	Aggregate	DSL	6	280	0	1.24854E-05	0.00114308	0.000504598	1.23385967	3.21665E-05	1.28616E-05	9.38723E-06	0.111047
Mojave De	2019	T7 SWCV	2016	Aggregate	DSL	6	276	0	1.22913E-05	0.001125313	0.000496755	1.214681502	3.16666E-05	1.26617E-05	9.24133E-06	0.109321
Mojave De	2019	T7 SWCV	2017	Aggregate	DSL	6	285	0	1.27189E-05	0.001164461	0.000514037	1.221302512	3.27682E-05	1.31022E-05	9.2917E-06	0.109917
Mojave De	2019	T7 SWCV	2018	Aggregate	DSL	6	280	0	1.24773E-05	0.001142344	0.000504273	1.198105938	3.21458E-05	1.28533E-05	9.11522E-06	0.10783
Mojave De	2019	T7 SWCV	2019	Aggregate	DSL	6	263	0	1.17119E-05	0.001072271	0.000473341	1.124612817	3.0174E-05	1.20649E-05	8.55608E-06	0.101215
Mojave De	2019	T7 SWCV	2020	Aggregate	DSL	1	11	0	6.51458E-07	4.51297E-05	3.86352E-05	0.048895465	1.24761E-06	4.99211E-07	3.71006E-07	0.004401
Mojave De	2019	T7 tractor	2010	Aggregate	DSL	62	7,861	0	0.001437925	0.004310361	0.07823531	14.00819419	0.001181601	0.000627438	0.000133645	1.260737
Mojave De	2019	T7 tractor	2011	Aggregate	DSL	65	8,973	0	0.000784689	0.00358763	0.035043274	15.40213665	0.001098271	0.000476541	0.000146944	1.386192
Mojave De	2019	T7 tractor	2012	Aggregate	DSL	870	128,496	0	0.007722906	0.044747247	0.336860156	219.0051369	0.014748881	0.005888245	0.002089411	19.71046
Mojave De	2019	T7 tractor	2013	Aggregate	DSL	88	13,981	0	0.000781658	0.004528953	0.031851165	23.79206989	0.001596976	0.000633206	0.000226987	2.141286
Mojave De	2019	T7 tractor	2014	Aggregate	DSL	85	14,461	0	0.000660463	0.003816108	0.016677796	21.92951888	0.001632419	0.00063644	0.000209218	1.973657
Mojave De	2019	T7 tractor	2015	Aggregate	DSL	83	14,867	0	0.00060872	0.003513073	0.013251469	22.52027098	0.001668292	0.000644789	0.000214854	2.026824
Mojave De	2019	T7 tractor	2016	Aggregate	DSL	76	14,244	0	0.000544193	0.003138986	0.011706242	21.5594682	0.001592558	0.00061216	0.000205687	1.940352
Mojave De	2019	T7 tractor	2017	Aggregate	DSL	69	13,334	0	0.00047488	0.002736602	0.010136023	19.59956006	0.001485554	0.000568005	0.000186989	1.76396
Mojave De	2019	T7 tractor	2018	Aggregate	DSL	69	13,573	0	0.000450896	0.002594583	0.009610749	19.94652417	0.001507106	0.000573345	0.000190299	1.795187
Mojave De	2019	T7 tractor	2019	Aggregate	DSL	49	9,643	0	0.000297231	0.001706873	0.006356947	14.170245	0.001067036	0.000403838	0.000135191	1.275322
Mojave De	2019	T7 tractor	2020	Aggregate	DSL	19	1,517	0	4.79319E-05	0.000264828	0.001609698	2.281686254	0.000167294	6.29935E-05	2.17684E-05	0.205352
Mojave De	2019	T7 tractor cons	2010	Aggregate	DSL	10	825	0	0.00015691	0.000476279	0.008351621	1.560157384	0.000124062	6.58794E-05	1.48846E-05	0.140414
Mojave De	2019	T7 tractor cons	2011	Aggregate	DSL	13	1,118	0	0.000101004	0.000459457	0.004618356	2.049343735	0.000136815	5.9367E-05	1.95517E-05	0.184441
Mojave De	2019	T7 tractor cons	2012	Aggregate	DSL	37	3,961	0	0.000242772	0.001396729	0.01103437	7.148842752	0.000454623	0.000181508	6.82033E-05	0.643396
Mojave De	2019	T7 tractor cons	2013	Aggregate	DSL	17	2,183	0	0.000123686	0.000713245	0.005197645	3.922431106	0.000249395	9.88886E-05	3.74218E-05	0.353019
Mojave De	2019	T7 tractor cons	2014	Aggregate	DSL	17	2,155	0	0.000100366	0.000575834	0.002761869	3.399068137	0.000243234	9.48344E-05	3.24287E-05	0.305916
Mojave De	2019	T7 tractor cons	2015	Aggregate	DSL	16	2,064	0	8.6682E-05	0.00049579	0.002146718	3.256355448	0.000231662	8.95402E-05	3.10672E-05	0.293072
Mojave De	2019	T7 tractor cons	2016	Aggregate	DSL	15	1,875	0	7.37665E-05	0.000421047	0.001846029	2.956839121	0.000209596	8.05696E-05	2.82096E-05	0.266116
Mojave De	2019	T7 tractor cons	2017	Aggregate	DSL	13	1,715	0	6.31471E-05	0.000359619	0.001598253	2.628125235	0.000191066	7.3058E-05	2.50735E-05	0.236531
Mojave De	2019	T7 tractor cons	2018	Aggregate	DSL	14	1,736	0	5.98011E-05	0.000339735	0.001531843	2.660377477	0.000192778	7.33417E-05	2.53812E-05	0.239434
Mojave De	2019	T7 tractor cons	2019	Aggregate	DSL	9	1,181	0	3.78333E-05	0.000214323	0.000982662	1.809251384	0.000130667	4.94557E-05	1.72611E-05	0.162833
Mojave De	2019	T7 tractor cons	2020	Aggregate	DSL	4	162	0	6.04185E-06	3.16821E-05	0.000303884	0.261520452	1.78456E-05	6.72123E-06	2.49503E-06	0.023537
Mojave De	2019	T7 utility	2012	Aggregate	DSL	5	121	0	7.07288E-06	3.39582E-05	0.000467667	0.256833968	1.33848E-05	5.0767E-06	2.45032E-06	0.023115
Mojave De	2019	T7 utility	2013	Aggregate	DSL	16	375	0	2.17875E-05	0.0001044	0.001423514	0.79792004	4.15571E-05	1.57469E-05	7.61253E-06	0.071813
Mojave De	2019	T7 utility	2014	Aggregate	DSL	2	47	0	2.70643E-06	1.29149E-05	0.000163238	0.088597628	5.24776E-06	1.98477E-06	8.45263E-07	0.007974
Mojave De	2019	T7 utility	2015	Aggregate	DSL	1	34	0	1.91156E-06	9.10651E-06	0.000113673	0.063018918	3.73074E-06	1.40988E-06	6.0123E-07	0.005672
Mojave De	2019	T7 utility	2016	Aggregate	DSL	2	39	0	2.22245E-06	1.05767E-05	0.000132533	0.073582462	4.35461E-06	1.64478E-06	7.02011E-07	0.006622
Mojave De	2019	T7 utility	2017	Aggregate	DSL	2	43	0	2.4346E-06	1.15743E-05	0.000145597	0.07865903	4.78922E-06	1.80798E-06	7.50444E-07	0.007079
Mojave De	2019	T7 utility	2018	Aggregate	DSL	1	31	0	1.74222E-06	8.27397E-06	0.000104487	0.056532756	3.44085E-06	1.29827E-06	5.39349E-07	0.005088
Mojave De	2019	T7 utility	2019	Aggregate	DSL	1	32	0	1.80183E-06	8.548E-06	0.000108373	0.058721236	3.57282E-06	1.34735E-06	5.60228E-07	0.005285
Mojave De	2019	T7 utility	2020	Aggregate	DSL	0	2	0	2.05976E-07	8.84882E-07	1.62824E-05	0.004834635	2.36042E-07	8.91162E-08	4.61247E-08	0.000435

Mojave De	2019	T7IS	2010	Aggregatec	GAS	1	179	26	9.69358E-05	0.006647171	0.000740184	0.344290124	1.62E-05	6.2536E-06	3.54455E-06	0.037808
Mojave De	2019	T7IS	2011	Aggregatec	GAS	2	282	37	0.000138132	0.009745136	0.001094436	0.540687823	2.54894E-05	9.85007E-06	5.55519E-06	0.059254
Mojave De	2019	T7IS	2012	Aggregatec	GAS	1	96	12	4.40293E-05	0.003175075	0.000357541	0.184079596	8.69134E-06	3.3651E-06	1.88896E-06	0.020149
Mojave De	2019	T7IS	2013	Aggregatec	GAS	3	746	60	0.000286807	0.022892372	0.00248232	1.456541662	6.76358E-05	2.62578E-05	1.49095E-05	0.159032
Mojave De	2019	T7IS	2014	Aggregatec	GAS	3	776	58	0.000273997	0.022264971	0.002433832	1.329271696	7.04872E-05	2.74548E-05	1.36289E-05	0.145372
Mojave De	2019	T7IS	2015	Aggregatec	GAS	3	798	55	0.000251586	0.020902573	0.002309702	1.366384398	7.26428E-05	2.83783E-05	1.39771E-05	0.149086
Mojave De	2019	T7IS	2016	Aggregatec	GAS	3	838	53	0.000232134	0.019793775	0.002216201	1.4349758	7.64417E-05	2.99268E-05	1.46436E-05	0.156195
Mojave De	2019	T7IS	2017	Aggregatec	GAS	3	866	51	0.000258302	0.021223198	0.002753657	1.439904972	7.90368E-05	3.09778E-05	1.47163E-05	0.156971
Mojave De	2019	T7IS	2018	Aggregatec	GAS	3	941	51	0.000233973	0.020059623	0.00265954	1.565497069	8.59982E-05	3.37275E-05	1.59507E-05	0.170137
Mojave De	2019	T7IS	2019	Aggregatec	GAS	2	972	49	0.000177827	0.016565323	0.002282754	1.61551527	8.87995E-05	3.48397E-05	1.63928E-05	0.174853

MDAB-wide	Population	VMT (mi/d)	ROG_TOTAL (ton/day)	CO_TOTEX (ton/day)	NOx_TOTEX (ton/day)	CO2_TOTEX (ton/day)	PM10_TOTAL (ton/day)	PM2_5_TOTAL (ton/day)	SOx_TOTEX (ton/day)
ONLY Model Yrs 2010-newer (MHDT = T6)	4,284	293,261	0.012	0.117	0.324	356.775	0.047	0.020	0.003
ONLY Model Yrs 2010-newer (HHDT = T7)	14,950	3,342,262	0.224	1.320	7.582	5681.506	0.384	0.153	0.054
ONLY Model Yrs 2010-newer (T6 + T7)	19,234	3,635,523	0.236	1.437	7.906	6038.281	0.431	0.173	0.058

MDAB-wide	ROG (lb/mi)	CO (lb/mi)	NOx (lb/mi)	CO2 (lb/mi)	PM10 (lb/mi)	PM2.5 (lb/mi)	SOx (lb/mi)
ONLY Model Yrs 2010-newer (MHDT = T6)	8.38E-05	7.97E-04	2.21E-03	2.43E+00	3.20E-04	1.35E-04	2.34E-05
ONLY Model Yrs 2010-newer (HHDT = T7)	1.34E-04	7.90E-04	4.54E-03	3.40E+00	2.30E-04	9.18E-05	3.24E-05
ONLY Model Yrs 2010-newer (T6 + T7)	1.30E-04	7.91E-04	4.35E-03	3.32E+00	2.37E-04	9.54E-05	3.17E-05
MDAB-wide							
All Model Years (MHDT = T6)	4.86E-04	4.09E-03	5.97E-03	2.44E+00	4.64E-04	2.74E-04	2.35E-05
All Model Years (HHDT = T7)	1.95E-04	1.08E-03	7.84E-03	3.48E+00	2.50E-04	1.11E-04	3.32E-05
All Model Years (T6 + T7)	2.24E-04	1.38E-03	7.66E-03	3.38E+00	2.71E-04	1.27E-04	3.22E-05
MHDT: % Reduced w/ ONLY Model Yrs 2010-newer	**82.8%**	**80.5%**	**63.0%**	**0.2%**	**31.2%**	**50.6%**	**0.5%**
HHDT: % Reduced w/ ONLY Model Yrs 2010-newer	**31.5%**	**27.0%**	**42.2%**	**2.3%**	**8.1%**	**17.4%**	**2.3%**
MHDT + HHDT: % Reduced w/ ONLY Model Yrs 2010-newer	**42.0%**	**42.5%**	**43.2%**	**1.6%**	**12.5%**	**25.0%**	**1.7%**

IP Athos

Mojave Desert Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	148,104.00	1000sqft	3,400.00	148,104,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	31
Climate Zone	10			**Operational Year**	2022
Utility Company					
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - 30-mo construction over 660 work days, w mitigation to avoid overlap and extend to 880 days

Land Use - up to 3400 ac site plus gen-ties

Construction Phase - Overall 30 mo or 660 days of construction -- w mitigation to extend overall to 40 mo or 880 days.
- Extends Ph 1 Site Prep to 6 mo.
- Extends Ph 2 PV Panels to 34 mo.

Off-road Equipment - mix 21 equip ct in Ph 3 - electrical. Equip in Ph 3 ranges from 6 to 8 hr-d.

Off-road Equipment - mix 70 equip ct in Ph 2 - pv panels. Equip in Ph 2 at 4 to 6 hr-d for extending from 20 mo to 34 mo.

Off-road Equipment - mix 31 equip ct in Ph 1 - site prep. Equip in Ph 1 at 6.7 hr-d for extending from 5 mo to 6 mo.

Off-road Equipment - mix 56 equip ct in Ph 4 - throughout construction and restoration. Equip in Ph 4 at 6 hr-d for overall extended to 40 mo or 880 days.

Trips and VMT - 1,060 peak worker commutes and crew, water trucks as vendor class

On-road Fugitive Dust - Water trucks 10% unpaved; HHDT 1% unpaved

Grading - trenching is no net material import or export

Architectural Coating - no coatings needed

Vehicle Trips - TR 0.0004 per 1000sqft per day: fewer than 100 daily operational trips

Road Dust - approx 1% unpaved VMT during ops

Consumer Products - no consumer products

Area Coating - minimal or no coatings needed

Energy Use - energy use not applicable

Water And Wastewater - interior water consumption factors not applicable

Solid Waste - light industrial solid waste factors not applicable

Land Use Change - up to 3400 ac loss of natural carbon uptake

Construction Off-road Equipment Mitigation - Tier 4 offroad; water 2x daily is 55% effective PM10 control per Rule 403; suppressant is 84% effective per Table XI-D; 15 mph

Operational Off-Road Equipment - fleet of 6 equipment ct for occasional routine op-maint activity

Table Name	Column Name	Default Value	New Value
tblAreaCoating	ReapplicationRatePercent	10	0.1
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5

tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	30.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	25.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	13.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	11.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	45.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

IP Athos - Mojave Desert Air Basin, Annual

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	155,000.00	220.00
tblConstructionPhase	NumDays	15,500.00	880.00
tblConstructionPhase	NumDays	6,000.00	132.00
tblConsumerProducts	ROG_EF	2.14E-05	0
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	1,658.25	1,650.00
tblGrading	MaterialExported	0.00	1,005,000.00
tblGrading	MaterialImported	0.00	1,005,000.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	18.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.70
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.70
tblOnRoadDust	HaulingPercentPave	100.00	99.00

tblOnRoadDust	HaulingPercentPave	100.00	99.00
tblOnRoadDust	HaulingPercentPave	100.00	99.00
tblOnRoadDust	HaulingPercentPave	100.00	99.00
tblOnRoadDust	VendorPercentPave	100.00	90.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	52.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	52.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	52.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	RoadPercentPave	100	99
tblSolidWaste	SolidWasteGenerationRate	183,648.96	0.00
tblTripsAndVMT	HaulingTripLength	20.00	150.00
tblTripsAndVMT	HaulingTripLength	20.00	150.00
tblTripsAndVMT	HaulingTripLength	20.00	150.00
tblTripsAndVMT	HaulingTripLength	20.00	150.00
tblTripsAndVMT	HaulingTripNumber	125,625.00	4,440.00
tblTripsAndVMT	HaulingTripNumber	0.00	400.00
tblTripsAndVMT	HaulingTripNumber	0.00	24,900.00
tblTripsAndVMT	HaulingTripNumber	0.00	1,704.00
tblTripsAndVMT	VendorTripLength	6.60	7.00
tblTripsAndVMT	VendorTripLength	6.60	7.00
tblTripsAndVMT	VendorTripLength	6.60	7.00
tblTripsAndVMT	VendorTripLength	6.60	7.00
tblTripsAndVMT	VendorTripNumber	0.00	124.00
tblTripsAndVMT	VendorTripNumber	24,274.00	0.00

tblTripsAndVMT	WorkerTripLength	16.80	75.00
tblTripsAndVMT	WorkerTripLength	16.80	75.00
tblTripsAndVMT	WorkerTripLength	16.80	75.00
tblTripsAndVMT	WorkerTripLength	16.80	75.00
tblTripsAndVMT	WorkerTripNumber	78.00	200.00
tblTripsAndVMT	WorkerTripNumber	140.00	200.00
tblTripsAndVMT	WorkerTripNumber	175.00	660.00
tblTripsAndVMT	WorkerTripNumber	62,204.00	200.00
tblVehicleTrips	CC_TL	6.60	75.00
tblVehicleTrips	CNW_TL	6.60	75.00
tblVehicleTrips	CW_TL	14.70	75.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	WD_TR	6.97	0.00
tblWater	IndoorWaterUseRate	34,249,050,000.00	0.00

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					
2019	2.7826	27.8372	18.7435	0.0532	18.6202	1.0901	19.7104	3.2193	1.0036	4.2229	0.0000	4,855.7108	4,855.7108	0.8131	0.0000	4,876.0379
2020	5.9202	44.5083	47.4563	0.1470	50.0892	1.7017	51.7909	6.5489	1.5755	8.1244	0.0000	13,229.9481	13,229.9481	1.9321	0.0000	13,278.2504
2021	5.4228	39.3506	45.0807	0.1442	50.0036	1.4768	51.4804	6.5351	1.3670	7.9021	0.0000	12,974.4842	12,974.4842	1.9041	0.0000	13,022.0871
2022	5.1075	33.6819	44.8250	0.1439	49.9804	1.2930	51.2734	6.5681	1.1996	7.7677	0.0000	12,940.8630	12,940.8630	1.8049	0.0000	12,985.9859
Maximum	**5.9202**	**44.5083**	**47.4563**	**0.1470**	**50.0892**	**1.7017**	**51.7909**	**6.5681**	**1.5755**	**8.1244**	**0.0000**	**13,229.9481**	**13,229.9481**	**1.9321**	**0.0000**	**13,278.2504**

2.1 Overall Construction

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					
2019	1.0277	5.4031	19.2965	0.0532	4.8548	0.0686	4.9234	1.2420	0.0672	1.3092	0.0000	4,855.7080	4,855.7080	0.8131	0.0000	4,876.0351
2020	3.3577	12.0891	55.8628	0.1470	12.3866	0.1668	12.5534	2.6296	0.1627	2.7923	0.0000	13,229.9416	13,229.9416	1.9321	0.0000	13,278.2439
2021	3.1647	11.0740	53.8257	0.1442	12.3549	0.1573	12.5122	2.6218	0.1535	2.7754	0.0000	12,974.4777	12,974.4777	1.9041	0.0000	13,022.0806
2022	3.1079	10.3350	53.0946	0.1439	12.7238	0.1514	12.8752	2.7149	0.1477	2.8626	0.0000	12,940.8567	12,940.8567	1.8049	0.0000	12,985.9795
Maximum	**3.3577**	**12.0891**	**55.8628**	**0.1470**	**12.7238**	**0.1668**	**12.8752**	**2.7149**	**0.1627**	**2.8626**	**0.0000**	**13,229.9416**	**13,229.9416**	**1.9321**	**0.0000**	**13,278.2439**

	ROG	NOx	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	**44.58**	**73.24**	**-16.64**	**0.00**	**74.91**	**90.22**	**75.40**	**59.74**	**89.68**	**65.24**	**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	7-1-2019	9-30-2019	15.1678	3.1256
2	10-1-2019	12-31-2019	15.2274	3.1853
3	1-1-2020	3-31-2020	12.5141	3.8355
4	4-1-2020	6-30-2020	12.4376	3.7590
5	7-1-2020	9-30-2020	12.5743	3.8003
6	10-1-2020	12-31-2020	12.6516	3.8776
7	1-1-2021	3-31-2021	11.0345	3.5136
8	4-1-2021	6-30-2021	11.0893	3.4849

9	**7-1-2021**	**9-30-2021**	11.2111	3.5232
10	**10-1-2021**	**12-31-2021**	11.2797	3.5917
11	**1-1-2022**	**3-31-2022**	11.0964	3.8545
12	**4-1-2022**	**6-30-2022**	11.1837	3.8350
13	**7-1-2022**	**9-30-2022**	11.3066	3.8771
		Highest	15.2274	3.8776

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	1.8429	0.0125	1.3630	1.0000e-004		4.8700e-003	4.8700e-003		4.8700e-003	4.8700e-003	0.0000	2.6464	2.6464	6.9800e-003	0.0000	2.8209
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Offroad	0.0238	0.2298	0.2770	3.7000e-004		0.0138	0.0138		0.0127	0.0127	0.0000	32.8936	32.8936	0.0106	0.0000	33.1596
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.8667**	**0.2422**	**1.6401**	**4.7000e-004**	**0.0000**	**0.0187**	**0.0187**	**0.0000**	**0.0176**	**0.0176**	**0.0000**	**35.5400**	**35.5400**	**0.0176**	**0.0000**	**35.9805**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.8429	0.0125	1.3630	1.0000e-004		4.8700e-003	4.8700e-003		4.8700e-003	4.8700e-003	0.0000	2.6464	2.6464	6.9800e-003	0.0000	2.8209
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Offroad	0.0238	0.2298	0.2770	3.7000e-004		0.0138	0.0138		0.0127	0.0127	0.0000	32.8936	32.8936	0.0106	0.0000	33.1596
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.8667**	**0.2422**	**1.6401**	**4.7000e-004**	**0.0000**	**0.0187**	**0.0187**	**0.0000**	**0.0176**	**0.0176**	**0.0000**	**35.5400**	**35.5400**	**0.0176**	**0.0000**	**35.9805**

	ROG	NOx	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**

2.3 Vegetation

Vegetation

	CO2e
Category	MT
Vegetation Land Change	-14,654.0000
Total	**-14,654.0000**

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	7/1/2019	12/31/2019	5	132	1 site prep
2	Throughout Constr	Grading	7/1/2019	11/11/2022	5	880	4 throughout cons
3	PV Panels	Trenching	1/1/2020	11/11/2022	5	748	2 pv panels
4	Electrical	Building Construction	1/3/2022	11/4/2022	5	220	3 electrical

Acres of Grading (Site Preparation Phase): 1650

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 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	12	6.70	187	0.41
Site Preparation	Rubber Tired Dozers	6	6.70	247	0.40
Site Preparation	Scrapers	9	6.70	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	4	6.70	97	0.37
Throughout Constr	Excavators	2	6.00	158	0.38
Throughout Constr	Forklifts	22	6.00	89	0.20
Throughout Constr	Graders	1	6.00	187	0.41
Throughout Constr	Rubber Tired Dozers	1	6.00	247	0.40
Throughout Constr	Rubber Tired Loaders	10	6.00	203	0.36
Throughout Constr	Scrapers	2	6.00	367	0.48
Throughout Constr	Tractors/Loaders/Backhoes	18	6.00	97	0.37
PV Panels	Bore/Drill Rigs	30	6.00	221	0.50
PV Panels	Cranes	8	4.00	231	0.29
PV Panels	Generator Sets	4	6.00	84	0.74
PV Panels	Other Construction Equipment	4	4.00	172	0.42
PV Panels	Tractors/Loaders/Backhoes	20	6.00	97	0.37
PV Panels	Welders	4	6.00	46	0.45
Electrical	Cranes	1	8.00	231	0.29
Electrical	Excavators	1	8.00	158	0.38
Electrical	Forklifts	3	8.00	89	0.20
Electrical	Generator Sets	2	8.00	84	0.74
Electrical	Rollers	7	6.00	80	0.38
Electrical	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Electrical	Trenchers	2	8.00	78	0.50
Electrical	Welders	2	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	31	200.00	0.00	4,440.00	75.00	7.00	150.00	LD_Mix	HDT_Mix	HHDT
Throughout Constr	56	200.00	124.00	400.00	75.00	7.00	150.00	LD_Mix	HDT_Mix	HHDT
PV Panels	70	660.00	0.00	24,900.00	75.00	7.00	150.00	LD_Mix	HDT_Mix	HHDT
Electrical	21	200.00	0.00	1,704.00	75.00	7.00	150.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 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					
Fugitive Dust					3.0134	0.0000	3.0134	1.2137	0.0000	1.2137	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.2805	15.3098	7.1595	0.0155		0.6215	0.6215		0.5718	0.5718	0.0000	1,388.6351	1,388.6351	0.4394	0.0000	1,399.6188
Total	**1.2805**	**15.3098**	**7.1595**	**0.0155**	**3.0134**	**0.6215**	**3.6349**	**1.2137**	**0.5718**	**1.7855**	**0.0000**	**1,388.6351**	**1,388.6351**	**0.4394**	**0.0000**	**1,399.6188**

3.2 Site Preparation - 2019

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	0.0596	2.4105	0.3339	0.0107	4.7694	0.0115	4.7809	0.5258	0.0110	0.5368	0.0000	1,013.7019	1,013.7019	0.0146	0.0000	1,014.0672
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.3090	0.3116	2.7018	7.1200e-003	0.7384	4.6100e-003	0.7430	0.1960	4.2500e-003	0.2003	0.0000	643.2568	643.2568	0.0222	0.0000	643.8129
Total	**0.3685**	**2.7221**	**3.0357**	**0.0178**	**5.5077**	**0.0161**	**5.5238**	**0.7218**	**0.0153**	**0.7371**	**0.0000**	**1,656.9587**	**1,656.9587**	**0.0369**	**0.0000**	**1,657.8801**

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					1.2882	0.0000	1.2882	0.5189	0.0000	0.5189	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1896	0.8217	7.1628	0.0155		0.0253	0.0253		0.0253	0.0253	0.0000	1,388.6334	1,388.6334	0.4394	0.0000	1,399.6172
Total	**0.1896**	**0.8217**	**7.1628**	**0.0155**	**1.2882**	**0.0253**	**1.3135**	**0.5189**	**0.0253**	**0.5441**	**0.0000**	**1,388.6334**	**1,388.6334**	**0.4394**	**0.0000**	**1,399.6172**

3.2 Site Preparation - 2019

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	0.0596	2.4105	0.3339	0.0107	0.7242	0.0115	0.7357	0.1221	0.0110	0.1331	0.0000	1,013.7019	1,013.7019	0.0146	0.0000	1,014.0672
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.3090	0.3116	2.7018	7.1200e-003	0.7384	4.6100e-003	0.7430	0.1960	4.2500e-003	0.2003	0.0000	643.2568	643.2568	0.0222	0.0000	643.8129
Total	**0.3685**	**2.7221**	**3.0357**	**0.0178**	**1.4625**	**0.0161**	**1.4787**	**0.3181**	**0.0153**	**0.3334**	**0.0000**	**1,656.9587**	**1,656.9587**	**0.0369**	**0.0000**	**1,657.8801**

3.3 Throughout Constr - 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					
Fugitive Dust					1.1730	0.0000	1.1730	0.2583	0.0000	0.2583	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.7905	8.4944	5.6073	0.0103		0.4421	0.4421		0.4068	0.4068	0.0000	924.0591	924.0591	0.2924	0.0000	931.3682
Total	**0.7905**	**8.4944**	**5.6073**	**0.0103**	**1.1730**	**0.4421**	**1.6151**	**0.2583**	**0.4068**	**0.6651**	**0.0000**	**924.0591**	**924.0591**	**0.2924**	**0.0000**	**931.3682**

3.3 Throughout Constr - 2019

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	8.0000e-004	0.0326	4.5100e-003	1.4000e-004	0.4242	1.6000e-004	0.4244	0.0454	1.5000e-004	0.0455	0.0000	13.6987	13.6987	2.0000e-004	0.0000	13.7036
Vendor	0.0333	0.9667	0.2347	2.4200e-003	7.7636	5.5900e-003	7.7692	0.7841	5.3500e-003	0.7894	0.0000	229.1024	229.1024	0.0221	0.0000	229.6543
Worker	0.3090	0.3116	2.7018	7.1200e-003	0.7384	4.6100e-003	0.7430	0.1960	4.2500e-003	0.2003	0.0000	643.2568	643.2568	0.0222	0.0000	643.8129
Total	**0.3430**	**1.3108**	**2.9410**	**9.6800e-003**	**8.9262**	**0.0104**	**8.9365**	**1.0255**	**9.7500e-003**	**1.0352**	**0.0000**	**886.0579**	**886.0579**	**0.0445**	**0.0000**	**887.1708**

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					0.5015	0.0000	0.5015	0.1104	0.0000	0.1104	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1266	0.5485	6.1569	0.0103		0.0169	0.0169		0.0169	0.0169	0.0000	924.0580	924.0580	0.2924	0.0000	931.3671
Total	**0.1266**	**0.5485**	**6.1569**	**0.0103**	**0.5015**	**0.0169**	**0.5183**	**0.1104**	**0.0169**	**0.1273**	**0.0000**	**924.0580**	**924.0580**	**0.2924**	**0.0000**	**931.3671**

3.3 Throughout Constr - 2019

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	8.0000e-004	0.0326	4.5100e-003	1.4000e-004	0.0598	1.6000e-004	0.0599	9.0100e-003	1.5000e-004	9.1600e-003	0.0000	13.6987	13.6987	2.0000e-004	0.0000	13.7036
Vendor	0.0333	0.9667	0.2347	2.4200e-003	0.8045	5.5900e-003	0.8101	0.0895	5.3500e-003	0.0949	0.0000	229.1024	229.1024	0.0221	0.0000	229.6543
Worker	0.3090	0.3116	2.7018	7.1200e-003	0.7384	4.6100e-003	0.7430	0.1960	4.2500e-003	0.2003	0.0000	643.2568	643.2568	0.0222	0.0000	643.8129
Total	**0.3430**	**1.3108**	**2.9410**	**9.6800e-003**	**1.6026**	**0.0104**	**1.6129**	**0.2946**	**9.7500e-003**	**0.3043**	**0.0000**	**886.0579**	**886.0579**	**0.0445**	**0.0000**	**887.1708**

3.3 Throughout Constr - 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					
Fugitive Dust					1.4666	0.0000	1.4666	0.4197	0.0000	0.4197	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.4454	15.3782	10.8815	0.0204		0.7756	0.7756		0.7136	0.7136	0.0000	1,793.8876	1,793.8876	0.5802	0.0000	1,808.3921
Total	**1.4454**	**15.3782**	**10.8815**	**0.0204**	**1.4666**	**0.7756**	**2.2422**	**0.4197**	**0.7136**	**1.1333**	**0.0000**	**1,793.8876**	**1,793.8876**	**0.5802**	**0.0000**	**1,808.3921**

3.3 Throughout Constr - 2020

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	1.4900e-003	0.0583	8.4900e-003	2.8000e-004	0.4251	2.6000e-004	0.4254	0.0457	2.5000e-004	0.0460	0.0000	26.8536	26.8536	3.8000e-004	0.0000	26.8631
Vendor	0.0568	1.7529	0.4084	4.7600e-003	15.4096	7.4700e-003	15.4171	1.5563	7.1500e-003	1.5634	0.0000	451.0432	451.0432	0.0423	0.0000	452.1014
Worker	0.5626	0.5470	4.7870	0.0137	1.4655	8.8600e-003	1.4744	0.3891	8.1700e-003	0.3972	0.0000	1,236.8756	1,236.8756	0.0386	0.0000	1,237.8400
Total	**0.6209**	**2.3581**	**5.2039**	**0.0187**	**17.3003**	**0.0166**	**17.3169**	**1.9911**	**0.0156**	**2.0066**	**0.0000**	**1,714.7725**	**1,714.7725**	**0.0813**	**0.0000**	**1,716.8045**

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					0.6270	0.0000	0.6270	0.1794	0.0000	0.1794	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2512	1.0886	12.2206	0.0204		0.0335	0.0335		0.0335	0.0335	0.0000	1,793.8855	1,793.8855	0.5802	0.0000	1,808.3900
Total	**0.2512**	**1.0886**	**12.2206**	**0.0204**	**0.6270**	**0.0335**	**0.6605**	**0.1794**	**0.0335**	**0.2129**	**0.0000**	**1,793.8855**	**1,793.8855**	**0.5802**	**0.0000**	**1,808.3900**

3.3 Throughout Constr - 2020

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	1.4900e-003	0.0583	8.4900e-003	2.8000e-004	0.0607	2.6000e-004	0.0610	9.3600e-003	2.5000e-004	9.6100e-003	0.0000	26.8536	26.8536	3.8000e-004	0.0000	26.8631
Vendor	0.0568	1.7529	0.4084	4.7600e-003	1.5968	7.4700e-003	1.6042	0.1777	7.1500e-003	0.1849	0.0000	451.0432	451.0432	0.0423	0.0000	452.1014
Worker	0.5626	0.5470	4.7870	0.0137	1.4655	8.8600e-003	1.4744	0.3891	8.1700e-003	0.3972	0.0000	1,236.8756	1,236.8756	0.0386	0.0000	1,237.8400
Total	**0.6209**	**2.3581**	**5.2039**	**0.0187**	**3.1230**	**0.0166**	**3.1396**	**0.5761**	**0.0156**	**0.5917**	**0.0000**	**1,714.7725**	**1,714.7725**	**0.0813**	**0.0000**	**1,716.8045**

3.3 Throughout Constr - 2021

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					1.4643	0.0000	1.4643	0.4185	0.0000	0.4185	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.3177	13.8308	10.6411	0.0203		0.6757	0.6757		0.6216	0.6216	0.0000	1,787.3911	1,787.3911	0.5781	0.0000	1,801.8431
Total	**1.3177**	**13.8308**	**10.6411**	**0.0203**	**1.4643**	**0.6757**	**2.1400**	**0.4185**	**0.6216**	**1.0401**	**0.0000**	**1,787.3911**	**1,787.3911**	**0.5781**	**0.0000**	**1,801.8431**

3.3 Throughout Constr - 2021

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	1.3900e-003	0.0505	8.0900e-003	2.8000e-004	0.4251	2.3000e-004	0.4254	0.0457	2.2000e-004	0.0459	0.0000	26.4482	26.4482	3.6000e-004	0.0000	26.4572
Vendor	0.0486	1.5847	0.3565	4.7100e-003	15.3508	2.4300e-003	15.3532	1.5503	2.3200e-003	1.5527	0.0000	445.9741	445.9741	0.0403	0.0000	446.9816
Worker	0.5220	0.4869	4.3626	0.0132	1.4599	8.5500e-003	1.4685	0.3876	7.8800e-003	0.3955	0.0000	1,188.9849	1,188.9849	0.0344	0.0000	1,189.8455
Total	**0.5721**	**2.1221**	**4.7272**	**0.0181**	**17.2359**	**0.0112**	**17.2471**	**1.9836**	**0.0104**	**1.9941**	**0.0000**	**1,661.4072**	**1,661.4072**	**0.0751**	**0.0000**	**1,663.2843**

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					0.6260	0.0000	0.6260	0.1789	0.0000	0.1789	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2503	1.0845	12.1740	0.0203		0.0334	0.0334		0.0334	0.0334	0.0000	1,787.3890	1,787.3890	0.5781	0.0000	1,801.8409
Total	**0.2503**	**1.0845**	**12.1740**	**0.0203**	**0.6260**	**0.0334**	**0.6594**	**0.1789**	**0.0334**	**0.2123**	**0.0000**	**1,787.3890**	**1,787.3890**	**0.5781**	**0.0000**	**1,801.8409**

3.3 Throughout Constr - 2021

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	1.3900e-003	0.0505	8.0900e-003	2.8000e-004	0.0607	2.3000e-004	0.0609	9.3500e-003	2.2000e-004	9.5700e-003	0.0000	26.4482	26.4482	3.6000e-004	0.0000	26.4572
Vendor	0.0486	1.5847	0.3565	4.7100e-003	1.5907	2.4300e-003	1.5931	0.1770	2.3200e-003	0.1794	0.0000	445.9741	445.9741	0.0403	0.0000	446.9816
Worker	0.5220	0.4869	4.3626	0.0132	1.4599	8.5500e-003	1.4685	0.3876	7.8800e-003	0.3955	0.0000	1,188.9849	1,188.9849	0.0344	0.0000	1,189.8455
Total	**0.5721**	**2.1221**	**4.7272**	**0.0181**	**3.1113**	**0.0112**	**3.1225**	**0.5740**	**0.0104**	**0.5844**	**0.0000**	**1,661.4072**	**1,661.4072**	**0.0751**	**0.0000**	**1,663.2843**

3.3 Throughout Constr - 2022

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					1.3830	0.0000	1.3830	0.3738	0.0000	0.3738	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.9849	10.0500	8.9052	0.0176		0.4749	0.4749		0.4369	0.4369	0.0000	1,541.9390	1,541.9390	0.4987	0.0000	1,554.4064
Total	**0.9849**	**10.0500**	**8.9052**	**0.0176**	**1.3830**	**0.4749**	**1.8580**	**0.3738**	**0.4369**	**0.8107**	**0.0000**	**1,541.9390**	**1,541.9390**	**0.4987**	**0.0000**	**1,554.4064**

3.3 Throughout Constr - 2022

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	1.1200e-003	0.0371	6.6700e-003	2.4000e-004	0.4249	1.6000e-004	0.4250	0.0456	1.5000e-004	0.0458	0.0000	22.5165	22.5165	3.0000e-004	0.0000	22.5239
Vendor	0.0388	1.2867	0.2792	4.0300e-003	13.2334	1.7100e-003	13.2351	1.3365	1.6300e-003	1.3381	0.0000	381.5362	381.5362	0.0329	0.0000	382.3586
Worker	0.4209	0.3765	3.4297	0.0109	1.2586	7.1300e-003	1.2657	0.3341	6.5700e-003	0.3407	0.0000	987.9482	987.9482	0.0265	0.0000	988.6106
Total	**0.4608**	**1.7004**	**3.7155**	**0.0152**	**14.9169**	**9.0000e-003**	**14.9259**	**1.7162**	**8.3500e-003**	**1.7246**	**0.0000**	**1,392.0009**	**1,392.0009**	**0.0597**	**0.0000**	**1,393.4931**

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					0.5912	0.0000	0.5912	0.1598	0.0000	0.1598	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2157	0.9349	10.4948	0.0176		0.0288	0.0288		0.0288	0.0288	0.0000	1,541.9372	1,541.9372	0.4987	0.0000	1,554.4045
Total	**0.2157**	**0.9349**	**10.4948**	**0.0176**	**0.5912**	**0.0288**	**0.6200**	**0.1598**	**0.0288**	**0.1886**	**0.0000**	**1,541.9372**	**1,541.9372**	**0.4987**	**0.0000**	**1,554.4045**

3.3 Throughout Constr - 2022

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	1.1200e-003	0.0371	6.6700e-003	2.4000e-004	0.0604	1.6000e-004	0.0606	9.2600e-003	1.5000e-004	9.4100e-003	0.0000	22.5165	22.5165	3.0000e-004	0.0000	22.5239
Vendor	0.0388	1.2867	0.2792	4.0300e-003	1.3713	1.7100e-003	1.3730	0.1526	1.6300e-003	0.1543	0.0000	381.5362	381.5362	0.0329	0.0000	382.3586
Worker	0.4209	0.3765	3.4297	0.0109	1.2586	7.1300e-003	1.2657	0.3341	6.5700e-003	0.3407	0.0000	987.9482	987.9482	0.0265	0.0000	988.6106
Total	**0.4608**	**1.7004**	**3.7155**	**0.0152**	**2.6902**	**9.0000e-003**	**2.6992**	**0.4960**	**8.3500e-003**	**0.5044**	**0.0000**	**1,392.0009**	**1,392.0009**	**0.0597**	**0.0000**	**1,393.4931**

3.4 PV Panels - 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	1.8879	20.7009	14.9518	0.0421		0.8609	0.8609		0.8009	0.8009	0.0000	3,672.9639	3,672.9639	1.1156	0.0000	3,700.8536
Total	**1.8879**	**20.7009**	**14.9518**	**0.0421**		**0.8609**	**0.8609**		**0.8009**	**0.8009**	**0.0000**	**3,672.9639**	**3,672.9639**	**1.1156**	**0.0000**	**3,700.8536**

3.4 PV Panels - 2020

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	0.1093	4.2662	0.6220	0.0207	26.4862	0.0194	26.5056	2.8542	0.0185	2.8728	0.0000	1,966.6346	1,966.6346	0.0277	0.0000	1,967.3280
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8567	1.8050	15.7971	0.0452	4.8362	0.0293	4.8654	1.2839	0.0270	1.3109	0.0000	4,081.6896	4,081.6896	0.1273	0.0000	4,084.8721
Total	**1.9660**	**6.0712**	**16.4191**	**0.0658**	**31.3224**	**0.0486**	**31.3710**	**4.1382**	**0.0455**	**4.1836**	**0.0000**	**6,048.3241**	**6,048.3241**	**0.1550**	**0.0000**	**6,052.2002**

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	0.5195	2.5713	22.0193	0.0421		0.0681	0.0681		0.0681	0.0681	0.0000	3,672.9595	3,672.9595	1.1156	0.0000	3,700.8492
Total	**0.5195**	**2.5713**	**22.0193**	**0.0421**		**0.0681**	**0.0681**		**0.0681**	**0.0681**	**0.0000**	**3,672.9595**	**3,672.9595**	**1.1156**	**0.0000**	**3,700.8492**

3.4 PV Panels - 2020

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	0.1093	4.2662	0.6220	0.0207	3.8005	0.0194	3.8198	0.5901	0.0185	0.6087	0.0000	1,966.6346	1,966.6346	0.0277	0.0000	1,967.3280
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8567	1.8050	15.7971	0.0452	4.8362	0.0293	4.8654	1.2839	0.0270	1.3109	0.0000	4,081.6896	4,081.6896	0.1273	0.0000	4,084.8721
Total	**1.9660**	**6.0712**	**16.4191**	**0.0658**	**8.6367**	**0.0486**	**8.6853**	**1.8741**	**0.0455**	**1.9195**	**0.0000**	**6,048.3241**	**6,048.3241**	**0.1550**	**0.0000**	**6,052.2002**

3.4 PV Panels - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.7082	18.0917	14.7230	0.0420		0.7451	0.7451		0.6931	0.6931	0.0000	3,665.0964	3,665.0964	1.1109	0.0000	3,692.8678
Total	**1.7082**	**18.0917**	**14.7230**	**0.0420**		**0.7451**	**0.7451**		**0.6931**	**0.6931**	**0.0000**	**3,665.0964**	**3,665.0964**	**1.1109**	**0.0000**	**3,692.8678**

3.4 PV Panels - 2021

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	0.1022	3.6991	0.5928	0.0204	26.4857	0.0166	26.5023	2.8540	0.0159	2.8699	0.0000	1,936.9392	1,936.9392	0.0265	0.0000	1,937.6016
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7227	1.6069	14.3966	0.0434	4.8177	0.0282	4.8460	1.2790	0.0260	1.3050	0.0000	3,923.6503	3,923.6503	0.1136	0.0000	3,926.4903
Total	**1.8249**	**5.3059**	**14.9894**	**0.0638**	**31.3034**	**0.0448**	**31.3482**	**4.1331**	**0.0419**	**4.1749**	**0.0000**	**5,860.5895**	**5,860.5895**	**0.1401**	**0.0000**	**5,864.0919**

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	0.5176	2.5615	21.9352	0.0420		0.0679	0.0679		0.0679	0.0679	0.0000	3,665.0921	3,665.0921	1.1109	0.0000	3,692.8634
Total	**0.5176**	**2.5615**	**21.9352**	**0.0420**		**0.0679**	**0.0679**		**0.0679**	**0.0679**	**0.0000**	**3,665.0921**	**3,665.0921**	**1.1109**	**0.0000**	**3,692.8634**

3.4 PV Panels - 2021

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	0.1022	3.6991	0.5928	0.0204	3.7999	0.0166	3.8165	0.5900	0.0159	0.6058	0.0000	1,936.9392	1,936.9392	0.0265	0.0000	1,937.6016
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7227	1.6069	14.3966	0.0434	4.8177	0.0282	4.8460	1.2790	0.0260	1.3050	0.0000	3,923.6503	3,923.6503	0.1136	0.0000	3,926.4903
Total	**1.8249**	**5.3059**	**14.9894**	**0.0638**	**8.6177**	**0.0448**	**8.6625**	**1.8690**	**0.0419**	**1.9108**	**0.0000**	**5,860.5895**	**5,860.5895**	**0.1401**	**0.0000**	**5,864.0919**

3.4 PV Panels - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.3024	12.7879	12.5123	0.0362		0.5303	0.5303		0.4936	0.4936	0.0000	3,163.5234	3,163.5234	0.9576	0.0000	3,187.4627
Total	**1.3024**	**12.7879**	**12.5123**	**0.0362**		**0.5303**	**0.5303**		**0.4936**	**0.4936**	**0.0000**	**3,163.5234**	**3,163.5234**	**0.9576**	**0.0000**	**3,187.4627**

3.4 PV Panels - 2022

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	0.0821	2.7200	0.4883	0.0173	26.4664	0.0115	26.4778	2.8470	0.0110	2.8580	0.0000	1,649.0020	1,649.0020	0.0217	0.0000	1,649.5432
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3891	1.2426	11.3180	0.0361	4.1532	0.0235	4.1768	1.1026	0.0217	1.1243	0.0000	3,260.2292	3,260.2292	0.0874	0.0000	3,262.4150
Total	**1.4712**	**3.9626**	**11.8063**	**0.0534**	**30.6196**	**0.0350**	**30.6546**	**3.9496**	**0.0326**	**3.9823**	**0.0000**	**4,909.2312**	**4,909.2312**	**0.1091**	**0.0000**	**4,911.9582**

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	0.4462	2.2082	18.9097	0.0362		0.0585	0.0585		0.0585	0.0585	0.0000	3,163.5197	3,163.5197	0.9576	0.0000	3,187.4589
Total	**0.4462**	**2.2082**	**18.9097**	**0.0362**		**0.0585**	**0.0585**		**0.0585**	**0.0585**	**0.0000**	**3,163.5197**	**3,163.5197**	**0.9576**	**0.0000**	**3,187.4589**

3.4 PV Panels - 2022

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	0.0821	2.7200	0.4883	0.0173	3.7806	0.0115	3.7921	0.5829	0.0110	0.5939	0.0000	1,649.0020	1,649.0020	0.0217	0.0000	1,649.5432
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3891	1.2426	11.3180	0.0361	4.1532	0.0235	4.1768	1.1026	0.0217	1.1243	0.0000	3,260.2292	3,260.2292	0.0874	0.0000	3,262.4150
Total	**1.4712**	**3.9626**	**11.8063**	**0.0534**	**7.9338**	**0.0350**	**7.9688**	**1.6855**	**0.0326**	**1.7182**	**0.0000**	**4,909.2312**	**4,909.2312**	**0.1091**	**0.0000**	**4,911.9582**

3.5 Electrical - 2022

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	0.4579	4.1940	4.4211	6.8700e-003		0.2341	0.2341		0.2191	0.2191	0.0000	593.0198	593.0198	0.1491	0.0000	596.7461
Total	**0.4579**	**4.1940**	**4.4211**	**6.8700e-003**		**0.2341**	**0.2341**		**0.2191**	**0.2191**	**0.0000**	**593.0198**	**593.0198**	**0.1491**	**0.0000**	**596.7461**

3.5 Electrical - 2022

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	0.0187	0.6188	0.1111	3.9400e-003	1.8304	2.6100e-003	1.8330	0.2018	2.5000e-003	0.2043	0.0000	375.1548	375.1548	4.9300e-003	0.0000	375.2779
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4116	0.3682	3.3535	0.0107	1.2306	6.9700e-003	1.2376	0.3267	6.4200e-003	0.3331	0.0000	965.9938	965.9938	0.0259	0.0000	966.6415
Total	**0.4303**	**0.9870**	**3.4646**	**0.0146**	**3.0610**	**9.5800e-003**	**3.0706**	**0.5285**	**8.9200e-003**	**0.5374**	**0.0000**	**1,341.1486**	**1,341.1486**	**0.0308**	**0.0000**	**1,341.9194**

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	0.0837	0.5420	4.7038	6.8700e-003		0.0105	0.0105		0.0105	0.0105	0.0000	593.0191	593.0191	0.1491	0.0000	596.7454
Total	**0.0837**	**0.5420**	**4.7038**	**6.8700e-003**		**0.0105**	**0.0105**		**0.0105**	**0.0105**	**0.0000**	**593.0191**	**593.0191**	**0.1491**	**0.0000**	**596.7454**

3.5 Electrical - 2022

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	0.0187	0.6188	0.1111	3.9400e-003	0.2779	2.6100e-003	0.2805	0.0469	2.5000e-003	0.0494	0.0000	375.1548	375.1548	4.9300e-003	0.0000	375.2779
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.4116	0.3682	3.3535	0.0107	1.2306	6.9700e-003	1.2376	0.3267	6.4200e-003	0.3331	0.0000	965.9938	965.9938	0.0259	0.0000	966.6415
Total	**0.4303**	**0.9870**	**3.4646**	**0.0146**	**1.5085**	**9.5800e-003**	**1.5181**	**0.3736**	**8.9200e-003**	**0.3825**	**0.0000**	**1,341.1486**	**1,341.1486**	**0.0308**	**0.0000**	**1,341.9194**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	75.00	75.00	75.00	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	0.542331	0.034995	0.171339	0.106016	0.017524	0.005301	0.010354	0.098286	0.001618	0.001995	0.008295	0.000874	0.001071

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	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	0.0000	0.0000	0.0000	0.0000	0.0000
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**

5.2 Energy by Land Use - NaturalGas

Mitigated

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

5.3 Energy by Land Use - Electricity

Mitigated

	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**

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	1.8429	0.0125	1.3630	1.0000e-004		4.8700e-003	4.8700e-003		4.8700e-003	4.8700e-003	0.0000	2.6464	2.6464	6.9800e-003	0.0000	2.8209
Unmitigated	1.8429	0.0125	1.3630	1.0000e-004		4.8700e-003	4.8700e-003		4.8700e-003	4.8700e-003	0.0000	2.6464	2.6464	6.9800e-003	0.0000	2.8209

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	1.7162					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1268	0.0125	1.3630	1.0000e-004		4.8700e-003	4.8700e-003		4.8700e-003	4.8700e-003	0.0000	2.6464	2.6464	6.9800e-003	0.0000	2.8209
Total	**1.8429**	**0.0125**	**1.3630**	**1.0000e-004**		**4.8700e-003**	**4.8700e-003**		**4.8700e-003**	**4.8700e-003**	**0.0000**	**2.6464**	**2.6464**	**6.9800e-003**	**0.0000**	**2.8209**

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	1.7162					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.1268	0.0125	1.3630	1.0000e-004		4.8700e-003	4.8700e-003		4.8700e-003	4.8700e-003	0.0000	2.6464	2.6464	6.9800e-003	0.0000	2.8209
Total	**1.8429**	**0.0125**	**1.3630**	**1.0000e-004**		**4.8700e-003**	**4.8700e-003**		**4.8700e-003**	**4.8700e-003**	**0.0000**	**2.6464**	**2.6464**	**6.9800e-003**	**0.0000**	**2.8209**

7.0 Water Detail

7.1 Mitigation Measures Water

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

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
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
Forklifts	2	8.00	52	89	0.20	Diesel
Other General Industrial Equipment	2	8.00	52	88	0.34	Diesel
Tractors/Loaders/Backhoes	2	8.00	52	97	0.37	Diesel

UnMitigated/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
Equipment Type	tons/yr										MT/yr					
Forklifts	5.9100e-003	0.0549	0.0600	8.0000e-005		3.6300e-003	3.6300e-003		3.3400e-003	3.3400e-003	0.0000	6.9832	6.9832	2.2600e-003	0.0000	7.0396
Other General Industrial Equipment	9.2900e-003	0.0878	0.1007	1.3000e-004		5.4600e-003	5.4600e-003		5.0300e-003	5.0300e-003	0.0000	11.6999	11.6999	3.7800e-003	0.0000	11.7945
Tractors/Loaders/Backhoes	8.5600e-003	0.0871	0.1164	1.6000e-004		4.6900e-003	4.6900e-003		4.3100e-003	4.3100e-003	0.0000	14.2105	14.2105	4.6000e-003	0.0000	14.3254
Total	**0.0238**	**0.2298**	**0.2770**	**3.7000e-004**		**0.0138**	**0.0138**		**0.0127**	**0.0127**	**0.0000**	**32.8936**	**32.8936**	**0.0106**	**0.0000**	**33.1596**

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

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	-14,654.0000	0.0000	0.0000	-14,654.0000

11.1 Vegetation Land Change

Vegetation Type

	Initial/Final	Total CO2	CH4	N2O	CO2e
	Acres	MT			
Grassland	3400 / 0	-14,654.0000	0.0000	0.0000	-14,654.0000
Total		**-14,654.0000**	**0.0000**	**0.0000**	**-14,654.0000**

IP Athos

Mojave Desert Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	148,104.00	1000sqft	3,400.00	148,104,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	31
Climate Zone	10			**Operational Year**	2022
Utility Company					
CO2 Intensity (lb/MWhr)	0	**CH4 Intensity (lb/MWhr)**	0	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - 30-mo construction over 660 work days, w mitigation to avoid overlap and extend to 880 days

Land Use - up to 3400 ac site plus gen-ties

Construction Phase - Overall 30 mo or 660 days of construction -- w mitigation to extend overall to 40 mo or 880 days.
- Extends Ph 1 Site Prep to 6 mo.
- Extends Ph 2 PV Panels to 34 mo.

Off-road Equipment - mix 21 equip ct in Ph 3 - electrical. Equip in Ph 3 ranges from 6 to 8 hr-d.

Off-road Equipment - mix 70 equip ct in Ph 2 - pv panels. Equip in Ph 2 at 4 to 6 hr-d for extending from 20 mo to 34 mo.

Off-road Equipment - mix 31 equip ct in Ph 1 - site prep. Equip in Ph 1 at 6.7 hr-d for extending from 5 mo to 6 mo.

Off-road Equipment - mix 56 equip ct in Ph 4 - throughout construction and restoration. Equip in Ph 4 at 6 hr-d for overall extended to 40 mo or 880 days.

Trips and VMT - 1,060 peak worker commutes and crew, water trucks as vendor class

On-road Fugitive Dust - Water trucks 10% unpaved; HHDT 1% unpaved

Grading - trenching is no net material import or export

Architectural Coating - no coatings needed

Vehicle Trips - TR 0.0004 per 1000sqft per day: fewer than 100 daily operational trips

Road Dust - approx 1% unpaved VMT during ops

Consumer Products - no consumer products

Area Coating - minimal or no coatings needed

Energy Use - energy use not applicable

Water And Wastewater - interior water consumption factors not applicable

Solid Waste - light industrial solid waste factors not applicable

Land Use Change - up to 3400 ac loss of natural carbon uptake

Construction Off-road Equipment Mitigation - Tier 4 offroad; water 2x daily is 55% effective PM10 control per Rule 403; suppressant is 84% effective per Table XI-D; 15 mph

Operational Off-Road Equipment - fleet of 6 equipment ct for occasional routine op-maint activity

Table Name	Column Name	Default Value	New Value
tblAreaCoating	ReapplicationRatePercent	10	0.1
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5

tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	30.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	25.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	13.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	11.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	45.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

IP Athos - Mojave Desert Air Basin, Winter

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	155,000.00	220.00
tblConstructionPhase	NumDays	15,500.00	880.00
tblConstructionPhase	NumDays	6,000.00	132.00
tblConsumerProducts	ROG_EF	2.14E-05	0
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	1,658.25	1,650.00
tblGrading	MaterialExported	0.00	1,005,000.00
tblGrading	MaterialImported	0.00	1,005,000.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	6.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	18.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.70
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.70
tblOnRoadDust	HaulingPercentPave	100.00	99.00

IP Athos - Mojave Desert Air Basin, Winter

tblOnRoadDust	HaulingPercentPave	100.00	99.00
tblOnRoadDust	HaulingPercentPave	100.00	99.00
tblOnRoadDust	HaulingPercentPave	100.00	99.00
tblOnRoadDust	VendorPercentPave	100.00	90.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	52.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	52.00
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	52.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	RoadPercentPave	100	99
tblSolidWaste	SolidWasteGenerationRate	183,648.96	0.00
tblTripsAndVMT	HaulingTripLength	20.00	150.00
tblTripsAndVMT	HaulingTripLength	20.00	150.00
tblTripsAndVMT	HaulingTripLength	20.00	150.00
tblTripsAndVMT	HaulingTripLength	20.00	150.00
tblTripsAndVMT	HaulingTripNumber	125,625.00	4,440.00
tblTripsAndVMT	HaulingTripNumber	0.00	400.00
tblTripsAndVMT	HaulingTripNumber	0.00	24,900.00
tblTripsAndVMT	HaulingTripNumber	0.00	1,704.00
tblTripsAndVMT	VendorTripLength	6.60	7.00
tblTripsAndVMT	VendorTripLength	6.60	7.00
tblTripsAndVMT	VendorTripLength	6.60	7.00
tblTripsAndVMT	VendorTripLength	6.60	7.00
tblTripsAndVMT	VendorTripNumber	0.00	124.00
tblTripsAndVMT	VendorTripNumber	24,274.00	0.00

tblTripsAndVMT	WorkerTripLength	16.80	75.00
tblTripsAndVMT	WorkerTripLength	16.80	75.00
tblTripsAndVMT	WorkerTripLength	16.80	75.00
tblTripsAndVMT	WorkerTripLength	16.80	75.00
tblTripsAndVMT	WorkerTripNumber	78.00	200.00
tblTripsAndVMT	WorkerTripNumber	140.00	200.00
tblTripsAndVMT	WorkerTripNumber	175.00	660.00
tblTripsAndVMT	WorkerTripNumber	62,204.00	200.00
tblVehicleTrips	CC_TL	6.60	75.00
tblVehicleTrips	CNW_TL	6.60	75.00
tblVehicleTrips	CW_TL	14.70	75.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	WD_TR	6.97	0.00
tblWater	IndoorWaterUseRate	34,249,050,000.00	0.00

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					
2019	43.2437	420.1986	278.5001	0.7979	289.0890	16.5181	305.6071	49.4545	15.2065	64.6610	0.0000	80,277.3806	80,277.3806	13.5860	0.0000	80,617.0312
2020	47.3611	337.6887	351.3986	1.1070	407.7419	12.9904	420.7323	52.6488	12.0272	64.6759	0.0000	109,796.2874	109,796.2874	16.2386	0.0000	110,202.2529
2021	43.6035	299.6907	335.5313	1.0901	408.5950	11.3169	419.9119	52.7392	10.4754	63.2145	0.0000	108,113.5830	108,113.5830	16.0709	0.0000	108,515.3564
2022	47.9854	298.4642	388.8932	1.2655	473.8611	11.5428	485.4040	61.5345	10.7093	72.2438	0.0000	125,489.8519	125,489.8519	17.7109	0.0000	125,932.6235
Maximum	**47.9854**	**420.1986**	**388.8932**	**1.2655**	**473.8611**	**16.5181**	**485.4040**	**61.5345**	**15.2065**	**72.2438**	**0.0000**	**125,489.8519**	**125,489.8519**	**17.7109**	**0.0000**	**125,932.6235**

2.1 Overall Construction (Maximum Daily Emission)

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					
2019	16.6545	80.2884	286.8786	0.7979	70.9849	1.0407	72.0257	18.5955	1.0184	19.6140	0.0000	80,277.3806	80,277.3806	13.5860	0.0000	80,617.0312
2020	27.7997	90.2143	415.5709	1.1070	96.5029	1.2739	97.7769	20.4139	1.2421	21.6561	0.0000	109,796.2874	109,796.2874	16.2386	0.0000	110,202.2528
2021	26.3007	83.0116	402.5431	1.0901	96.6193	1.2054	97.8246	20.4308	1.1768	21.6076	0.0000	108,113.5830	108,113.5830	16.0709	0.0000	108,515.3563
2022	30.1358	90.1990	462.4587	1.2655	115.5784	1.3499	116.9283	24.6046	1.3172	25.9218	0.0000	125,489.8518	125,489.8518	17.7109	0.0000	125,932.6234
Maximum	**30.1358**	**90.2143**	**462.4587**	**1.2655**	**115.5784**	**1.3499**	**116.9283**	**24.6046**	**1.3172**	**25.9218**	**0.0000**	**125,489.8518**	**125,489.8518**	**17.7109**	**0.0000**	**125,932.6234**

	ROG	NOx	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	**44.62**	**74.65**	**-15.74**	**0.00**	**75.96**	**90.70**	**76.43**	**61.16**	**90.18**	**66.46**	**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	10.8122	0.1383	15.1449	1.1300e-003		0.0541	0.0541		0.0541	0.0541		32.4129	32.4129	0.0855		34.5505
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Offroad	0.9141	8.8380	10.6548	0.0144		0.5301	0.5301		0.4877	0.4877		1,394.5759	1,394.5759	0.4510		1,405.8517
Total	**11.7262**	**8.9763**	**25.7997**	**0.0155**	**0.0000**	**0.5842**	**0.5842**	**0.0000**	**0.5418**	**0.5418**		**1,426.9888**	**1,426.9888**	**0.5365**	**0.0000**	**1,440.4022**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	10.8122	0.1383	15.1449	1.1300e-003		0.0541	0.0541		0.0541	0.0541		32.4129	32.4129	0.0855		34.5505
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Offroad	0.9141	8.8380	10.6548	0.0144		0.5301	0.5301		0.4877	0.4877		1,394.5759	1,394.5759	0.4510		1,405.8517
Total	**11.7262**	**8.9763**	**25.7997**	**0.0155**	**0.0000**	**0.5842**	**0.5842**	**0.0000**	**0.5418**	**0.5418**		**1,426.9888**	**1,426.9888**	**0.5365**	**0.0000**	**1,440.4022**

	ROG	NOx	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	7/1/2019	12/31/2019	5	132	1 site prep
2	Throughout Constr	Grading	7/1/2019	11/11/2022	5	880	4 throughout cons
3	PV Panels	Trenching	1/1/2020	11/11/2022	5	748	2 pv panels
4	Electrical	Building Construction	1/3/2022	11/4/2022	5	220	3 electrical

Acres of Grading (Site Preparation Phase): 1650

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 (Architectural Coating – sqft)

OffRoad Equipment

IP Athos - Mojave Desert Air Basin, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	12	6.70	187	0.41
Site Preparation	Rubber Tired Dozers	6	6.70	247	0.40
Site Preparation	Scrapers	9	6.70	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	4	6.70	97	0.37
Throughout Constr	Excavators	2	6.00	158	0.38
Throughout Constr	Forklifts	22	6.00	89	0.20
Throughout Constr	Graders	1	6.00	187	0.41
Throughout Constr	Rubber Tired Dozers	1	6.00	247	0.40
Throughout Constr	Rubber Tired Loaders	10	6.00	203	0.36
Throughout Constr	Scrapers	2	6.00	367	0.48
Throughout Constr	Tractors/Loaders/Backhoes	18	6.00	97	0.37
PV Panels	Bore/Drill Rigs	30	6.00	221	0.50
PV Panels	Cranes	8	4.00	231	0.29
PV Panels	Generator Sets	4	6.00	84	0.74
PV Panels	Other Construction Equipment	4	4.00	172	0.42
PV Panels	Tractors/Loaders/Backhoes	20	6.00	97	0.37
PV Panels	Welders	4	6.00	46	0.45
Electrical	Cranes	1	8.00	231	0.29
Electrical	Excavators	1	8.00	158	0.38
Electrical	Forklifts	3	8.00	89	0.20
Electrical	Generator Sets	2	8.00	84	0.74
Electrical	Rollers	7	6.00	80	0.38
Electrical	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Electrical	Trenchers	2	8.00	78	0.50
Electrical	Welders	2	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	31	200.00	0.00	4,440.00	75.00	7.00	150.00	LD_Mix	HDT_Mix	HHDT
Throughout Constr	56	200.00	124.00	400.00	75.00	7.00	150.00	LD_Mix	HDT_Mix	HHDT
PV Panels	70	660.00	0.00	24,900.00	75.00	7.00	150.00	LD_Mix	HDT_Mix	HHDT
Electrical	21	200.00	0.00	1,704.00	75.00	7.00	150.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 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					
Fugitive Dust					45.6570	0.0000	45.6570	18.3893	0.0000	18.3893			0.0000			0.0000
Off-Road	19.4022	231.9671	108.4769	0.2342		9.4173	9.4173		8.6639	8.6639		23,192.5479	23,192.5479	7.3379		23,375.9948
Total	**19.4022**	**231.9671**	**108.4769**	**0.2342**	**45.6570**	**9.4173**	**55.0743**	**18.3893**	**8.6639**	**27.0532**		**23,192.5479**	**23,192.5479**	**7.3379**		**23,375.9948**

3.2 Site Preparation - 2019

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	0.9099	35.9230	5.1893	0.1609	78.6394	0.1747	78.8141	8.6135	0.1672	8.7807		16,872.2693	16,872.2693	0.2568		16,878.6901
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	5.2100	4.3989	38.0065	0.1046	11.3977	0.0698	11.4675	3.0217	0.0644	3.0860		10,416.8058	10,416.8058	0.3563		10,425.7135
Total	**6.1198**	**40.3219**	**43.1958**	**0.2655**	**90.0370**	**0.2446**	**90.2816**	**11.6352**	**0.2315**	**11.8667**		**27,289.0750**	**27,289.0750**	**0.6132**		**27,304.4036**

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					19.5184	0.0000	19.5184	7.8614	0.0000	7.8614			0.0000			0.0000
Off-Road	2.8731	12.4501	108.5281	0.2342		0.3831	0.3831		0.3831	0.3831	0.0000	23,192.5479	23,192.5479	7.3379		23,375.9948
Total	**2.8731**	**12.4501**	**108.5281**	**0.2342**	**19.5184**	**0.3831**	**19.9014**	**7.8614**	**0.3831**	**8.2445**	**0.0000**	**23,192.5479**	**23,192.5479**	**7.3379**		**23,375.9948**

3.2 Site Preparation - 2019

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	0.9099	35.9230	5.1893	0.1609	11.6603	0.1747	11.8350	1.9289	0.1672	2.0960		16,872.2693	16,872.2693	0.2568		16,878.6901
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	5.2100	4.3989	38.0065	0.1046	11.3977	0.0698	11.4675	3.0217	0.0644	3.0860		10,416.8058	10,416.8058	0.3563		10,425.7135
Total	**6.1198**	**40.3219**	**43.1958**	**0.2655**	**23.0579**	**0.2446**	**23.3025**	**4.9505**	**0.2315**	**5.1820**		**27,289.0750**	**27,289.0750**	**0.6132**		**27,304.4036**

3.3 Throughout Constr - 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					
Fugitive Dust					6.5050	0.0000	6.5050	2.6974	0.0000	2.6974			0.0000			0.0000
Off-Road	11.9778	128.7033	84.9597	0.1558		6.6988	6.6988		6.1629	6.1629		15,433.3453	15,433.3453	4.8830		15,555.4190
Total	**11.9778**	**128.7033**	**84.9597**	**0.1558**	**6.5050**	**6.6988**	**13.2038**	**2.6974**	**6.1629**	**8.8603**		**15,433.3453**	**15,433.3453**	**4.8830**		**15,555.4190**

3.3 Throughout Constr - 2019

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	0.0123	0.4855	0.0701	2.1700e-003	7.0016	2.3600e-003	7.0039	0.7459	2.2600e-003	0.7481		228.0036	228.0036	3.4700e-003		228.0904
Vendor	0.5216	14.3218	3.7911	0.0356	128.4908	0.0852	128.5760	12.9652	0.0815	13.0467		3,717.6030	3,717.6030	0.3923		3,727.4099
Worker	5.2100	4.3989	38.0065	0.1046	11.3977	0.0698	11.4675	3.0217	0.0644	3.0860		10,416.8058	10,416.8058	0.3563		10,425.7135
Total	**5.7439**	**19.2062**	**41.8677**	**0.1424**	**146.8900**	**0.1574**	**147.0474**	**16.7327**	**0.1481**	**16.8808**		**14,362.4124**	**14,362.4124**	**0.7521**		**14,381.2138**

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					2.7809	0.0000	2.7809	1.1531	0.0000	1.1531			0.0000			0.0000
Off-Road	1.9177	8.3101	93.2871	0.1558		0.2557	0.2557		0.2557	0.2557	0.0000	15,433.3453	15,433.3453	4.8830		15,555.4190
Total	**1.9177**	**8.3101**	**93.2871**	**0.1558**	**2.7809**	**0.2557**	**3.0366**	**1.1531**	**0.2557**	**1.4088**	**0.0000**	**15,433.3453**	**15,433.3453**	**4.8830**		**15,555.4190**

3.3 Throughout Constr - 2019

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	0.0123	0.4855	0.0701	2.1700e-003	0.9674	2.3600e-003	0.9698	0.1436	2.2600e-003	0.1459		228.0036	228.0036	3.4700e-003		228.0904
Vendor	0.5216	14.3218	3.7911	0.0356	13.2627	0.0852	13.3479	1.4652	0.0815	1.5467		3,717.6030	3,717.6030	0.3923		3,727.4099
Worker	5.2100	4.3989	38.0065	0.1046	11.3977	0.0698	11.4675	3.0217	0.0644	3.0860		10,416.8058	10,416.8058	0.3563		10,425.7135
Total	**5.7439**	**19.2062**	**41.8677**	**0.1424**	**25.6278**	**0.1574**	**25.7851**	**4.6305**	**0.1481**	**4.7786**		**14,362.4124**	**14,362.4124**	**0.7521**		**14,381.2138**

3.3 Throughout Constr - 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					
Fugitive Dust					6.5050	0.0000	6.5050	2.6974	0.0000	2.6974			0.0000			0.0000
Off-Road	11.0334	117.3905	83.0652	0.1558		5.9207	5.9207		5.4470	5.4470		15,094.8292	15,094.8292	4.8820		15,216.8785
Total	**11.0334**	**117.3905**	**83.0652**	**0.1558**	**6.5050**	**5.9207**	**12.4257**	**2.6974**	**5.4470**	**8.1444**		**15,094.8292**	**15,094.8292**	**4.8820**		**15,216.8785**

3.3 Throughout Constr - 2020

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	0.0115	0.4374	0.0666	2.1500e-003	3.5348	2.0200e-003	3.5368	0.3784	1.9300e-003	0.3804		225.1776	225.1776	3.3600e-003		225.2616
Vendor	0.4499	13.0838	3.3431	0.0353	128.4908	0.0574	128.5482	12.9652	0.0549	13.0201		3,686.9033	3,686.9033	0.3799		3,696.3995
Worker	4.7937	3.8897	33.9333	0.1013	11.3977	0.0677	11.4653	3.0217	0.0623	3.0840		10,091.1493	10,091.1493	0.3117		10,098.9406
Total	**5.2551**	**17.4108**	**37.3429**	**0.1387**	**143.4232**	**0.1271**	**143.5503**	**16.3653**	**0.1192**	**16.4844**		**14,003.2302**	**14,003.2302**	**0.6949**		**14,020.6017**

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					2.7809	0.0000	2.7809	1.1531	0.0000	1.1531			0.0000			0.0000
Off-Road	1.9177	8.3101	93.2871	0.1558		0.2557	0.2557		0.2557	0.2557	0.0000	15,094.8292	15,094.8292	4.8820		15,216.8785
Total	**1.9177**	**8.3101**	**93.2871**	**0.1558**	**2.7809**	**0.2557**	**3.0366**	**1.1531**	**0.2557**	**1.4088**	**0.0000**	**15,094.8292**	**15,094.8292**	**4.8820**		**15,216.8785**

3.3 Throughout Constr - 2020

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	0.0115	0.4374	0.0666	2.1500e-003	0.4947	2.0200e-003	0.4967	0.0750	1.9300e-003	0.0769		225.1776	225.1776	3.3600e-003		225.2616
Vendor	0.4499	13.0838	3.3431	0.0353	13.2627	0.0574	13.3201	1.4652	0.0549	1.5201		3,686.9033	3,686.9033	0.3799		3,696.3995
Worker	4.7937	3.8897	33.9333	0.1013	11.3977	0.0677	11.4653	3.0217	0.0623	3.0840		10,091.1493	10,091.1493	0.3117		10,098.9406
Total	**5.2551**	**17.4108**	**37.3429**	**0.1387**	**25.1550**	**0.1271**	**25.2821**	**4.5619**	**0.1192**	**4.6810**		**14,003.2302**	**14,003.2302**	**0.6949**		**14,020.6017**

3.3 Throughout Constr - 2021

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					6.5050	0.0000	6.5050	2.6974	0.0000	2.6974			0.0000			0.0000
Off-Road	10.0971	105.9834	81.5413	0.1559		5.1776	5.1776		4.7634	4.7634		15,097.7889	15,097.7889	4.8829		15,219.8621
Total	**10.0971**	**105.9834**	**81.5413**	**0.1559**	**6.5050**	**5.1776**	**11.6826**	**2.6974**	**4.7634**	**7.4608**		**15,097.7889**	**15,097.7889**	**4.8829**		**15,219.8621**

3.3 Throughout Constr - 2021

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	0.0108	0.3806	0.0637	2.1200e-003	3.5483	1.7400e-003	3.5500	0.3798	1.6600e-003	0.3815		222.6205	222.6205	3.2300e-003		222.7012
Vendor	0.3880	11.8733	2.9476	0.0350	128.4908	0.0189	128.5097	12.9652	0.0181	12.9833		3,658.9464	3,658.9464	0.3638		3,668.0412
Worker	4.4718	3.4757	31.0448	0.0977	11.3977	0.0655	11.4632	3.0217	0.0604	3.0820		9,737.6984	9,737.6984	0.2794		9,744.6834
Total	**4.8706**	**15.7296**	**34.0562**	**0.1348**	**143.4367**	**0.0862**	**143.5229**	**16.3667**	**0.0801**	**16.4468**		**13,619.2653**	**13,619.2653**	**0.6464**		**13,635.4258**

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					2.7809	0.0000	2.7809	1.1531	0.0000	1.1531			0.0000			0.0000
Off-Road	1.9177	8.3101	93.2871	0.1559		0.2557	0.2557		0.2557	0.2557	0.0000	15,097.7888	15,097.7888	4.8829		15,219.8621
Total	**1.9177**	**8.3101**	**93.2871**	**0.1559**	**2.7809**	**0.2557**	**3.0366**	**1.1531**	**0.2557**	**1.4088**	**0.0000**	**15,097.7888**	**15,097.7888**	**4.8829**		**15,219.8621**

3.3 Throughout Constr - 2021

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	0.0108	0.3806	0.0637	2.1200e-003	0.4965	1.7400e-003	0.4983	0.0753	1.6600e-003	0.0769		222.6205	222.6205	3.2300e-003		222.7012
Vendor	0.3880	11.8733	2.9476	0.0350	13.2627	0.0189	13.2816	1.4652	0.0181	1.4833		3,658.9464	3,658.9464	0.3638		3,668.0412
Worker	4.4718	3.4757	31.0448	0.0977	11.3977	0.0655	11.4632	3.0217	0.0604	3.0820		9,737.6984	9,737.6984	0.2794		9,744.6834
Total	**4.8706**	**15.7296**	**34.0562**	**0.1348**	**25.1568**	**0.0862**	**25.2430**	**4.5621**	**0.0801**	**4.6422**		**13,619.2653**	**13,619.2653**	**0.6464**		**13,635.4258**

3.3 Throughout Constr - 2022

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					6.5050	0.0000	6.5050	2.6974	0.0000	2.6974			0.0000			0.0000
Off-Road	8.7548	89.3334	79.1575	0.1560		4.2216	4.2216		3.8839	3.8839		15,108.4163	15,108.4163	4.8864		15,230.5755
Total	**8.7548**	**89.3334**	**79.1575**	**0.1560**	**6.5050**	**4.2216**	**10.7266**	**2.6974**	**3.8839**	**6.5813**		**15,108.4163**	**15,108.4163**	**4.8864**		**15,230.5755**

3.3 Throughout Constr - 2022

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	0.0101	0.3246	0.0609	2.1000e-003	4.1137	1.3900e-003	4.1150	0.4398	1.3300e-003	0.4411		219.8395	219.8395	3.0600e-003		219.9160
Vendor	0.3593	11.1844	2.6910	0.0347	128.4908	0.0154	128.5062	12.9652	0.0147	12.9799		3,630.0403	3,630.0403	0.3451		3,638.6683
Worker	4.1913	3.1174	28.3164	0.0941	11.3977	0.0634	11.4610	3.0217	0.0584	3.0800		9,385.9627	9,385.9627	0.2497		9,392.2059
Total	**4.5607**	**14.6264**	**31.0682**	**0.1310**	**144.0021**	**0.0802**	**144.0823**	**16.4266**	**0.0744**	**16.5010**		**13,235.8424**	**13,235.8424**	**0.5979**		**13,250.7903**

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					2.7809	0.0000	2.7809	1.1531	0.0000	1.1531			0.0000			0.0000
Off-Road	1.9177	8.3101	93.2871	0.1560		0.2557	0.2557		0.2557	0.2557	0.0000	15,108.4163	15,108.4163	4.8864		15,230.5755
Total	**1.9177**	**8.3101**	**93.2871**	**0.1560**	**2.7809**	**0.2557**	**3.0366**	**1.1531**	**0.2557**	**1.4088**	**0.0000**	**15,108.4163**	**15,108.4163**	**4.8864**		**15,230.5755**

3.3 Throughout Constr - 2022

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	0.0101	0.3246	0.0609	2.1000e-003	0.5736	1.3900e-003	0.5750	0.0865	1.3300e-003	0.0878		219.8395	219.8395	3.0600e-003		219.9160
Vendor	0.3593	11.1844	2.6910	0.0347	13.2627	0.0154	13.2781	1.4652	0.0147	1.4799		3,630.0403	3,630.0403	0.3451		3,638.6683
Worker	4.1913	3.1174	28.3164	0.0941	11.3977	0.0634	11.4610	3.0217	0.0584	3.0800		9,385.9627	9,385.9627	0.2497		9,392.2059
Total	**4.5607**	**14.6264**	**31.0682**	**0.1310**	**25.2339**	**0.0802**	**25.3141**	**4.5733**	**0.0744**	**4.6478**		**13,235.8424**	**13,235.8424**	**0.5979**		**13,250.7903**

3.4 PV Panels - 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	14.4116	158.0221	114.1357	0.3210		6.5715	6.5715		6.1138	6.1138		30,906.4859	30,906.4859	9.3872		31,141.1664
Total	**14.4116**	**158.0221**	**114.1357**	**0.3210**		**6.5715**	**6.5715**		**6.1138**	**6.1138**		**30,906.4859**	**30,906.4859**	**9.3872**		**31,141.1664**

3.4 PV Panels - 2020

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	0.8417	32.0293	4.8750	0.1573	220.2014	0.1479	220.3493	23.6147	0.1415	23.7562		16,490.9495	16,490.9495	0.2461		16,497.1024
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	15.8193	12.8361	111.9799	0.3342	37.6123	0.2233	37.8356	9.9715	0.2057	10.1772		33,300.7926	33,300.7926	1.0285		33,326.5039
Total	**16.6610**	**44.8654**	**116.8548**	**0.4915**	**257.8136**	**0.3712**	**258.1848**	**33.5861**	**0.3472**	**33.9334**		**49,791.7421**	**49,791.7421**	**1.2746**		**49,823.6063**

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	3.9659	19.6280	168.0861	0.3210		0.5200	0.5200		0.5200	0.5200	0.0000	30,906.4859	30,906.4859	9.3872		31,141.1664
Total	**3.9659**	**19.6280**	**168.0861**	**0.3210**		**0.5200**	**0.5200**		**0.5200**	**0.5200**	**0.0000**	**30,906.4859**	**30,906.4859**	**9.3872**		**31,141.1664**

3.4 PV Panels - 2020

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	0.8417	32.0293	4.8750	0.1573	30.9547	0.1479	31.1026	4.7275	0.1415	4.8690		16,490.9495	16,490.9495	0.2461		16,497.1024
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	15.8193	12.8361	111.9799	0.3342	37.6123	0.2233	37.8356	9.9715	0.2057	10.1772		33,300.7926	33,300.7926	1.0285		33,326.5039
Total	**16.6610**	**44.8654**	**116.8548**	**0.4915**	**68.5670**	**0.3712**	**68.9382**	**14.6989**	**0.3472**	**15.0462**		**49,791.7421**	**49,791.7421**	**1.2746**		**49,823.6063**

3.4 PV Panels - 2021

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	13.0893	138.6338	112.8200	0.3215		5.7096	5.7096		5.3109	5.3109		30,958.4462	30,958.4462	9.3832		31,193.0262
Total	**13.0893**	**138.6338**	**112.8200**	**0.3215**		**5.7096**	**5.7096**		**5.3109**	**5.3109**		**30,958.4462**	**30,958.4462**	**9.3832**		**31,193.0262**

3.4 PV Panels - 2021

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	0.7897	27.8741	4.6659	0.1555	221.0409	0.1273	221.1682	23.7037	0.1218	23.8254		16,303.6780	16,303.6780	0.2364		16,309.5869
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	14.7568	11.4699	102.4478	0.3224	37.6123	0.2162	37.8285	9.9715	0.1992	10.1707		32,134.4048	32,134.4048	0.9220		32,157.4553
Total	**15.5465**	**39.3439**	**107.1137**	**0.4779**	**258.6532**	**0.3435**	**258.9967**	**33.6751**	**0.3210**	**33.9961**		**48,438.0827**	**48,438.0827**	**1.1584**		**48,467.0422**

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	3.9659	19.6280	168.0861	0.3215		0.5200	0.5200		0.5200	0.5200	0.0000	30,958.4461	30,958.4461	9.3832		31,193.0262
Total	**3.9659**	**19.6280**	**168.0861**	**0.3215**		**0.5200**	**0.5200**		**0.5200**	**0.5200**	**0.0000**	**30,958.4461**	**30,958.4461**	**9.3832**		**31,193.0262**

3.4 PV Panels - 2021

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	0.7897	27.8741	4.6659	0.1555	31.0692	0.1273	31.1965	4.7441	0.1218	4.8659		16,303.6780	16,303.6780	0.2364		16,309.5869
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	14.7568	11.4699	102.4478	0.3224	37.6123	0.2162	37.8285	9.9715	0.1992	10.1707		32,134.4048	32,134.4048	0.9220		32,157.4553
Total	**15.5465**	**39.3439**	**107.1137**	**0.4779**	**68.6815**	**0.3435**	**69.0250**	**14.7156**	**0.3210**	**15.0365**		**48,438.0827**	**48,438.0827**	**1.1584**		**48,467.0422**

3.4 PV Panels - 2022

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	11.5770	113.6698	111.2201	0.3220		4.7141	4.7141		4.3876	4.3876		30,997.2236	30,997.2236	9.3826		31,231.7884
Total	**11.5770**	**113.6698**	**111.2201**	**0.3220**		**4.7141**	**4.7141**		**4.3876**	**4.3876**		**30,997.2236**	**30,997.2236**	**9.3826**		**31,231.7884**

3.4 PV Panels - 2022

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	0.7364	23.7714	4.4582	0.1536	256.2358	0.1021	256.3378	27.4339	0.0977	27.5316		16,100.0070	16,100.0070	0.2243		16,105.6153
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	13.8312	10.2875	93.4440	0.3107	37.6123	0.2092	37.8214	9.9715	0.1927	10.1641		30,973.6768	30,973.6768	0.8241		30,994.2795
Total	**14.5676**	**34.0589**	**97.9022**	**0.4642**	**293.8481**	**0.3112**	**294.1593**	**37.4054**	**0.2903**	**37.6957**		**47,073.6838**	**47,073.6838**	**1.0484**		**47,099.8948**

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	3.9659	19.6280	168.0861	0.3220		0.5200	0.5200		0.5200	0.5200	0.0000	30,997.2235	30,997.2235	9.3826		31,231.7884
Total	**3.9659**	**19.6280**	**168.0861**	**0.3220**		**0.5200**	**0.5200**		**0.5200**	**0.5200**	**0.0000**	**30,997.2235**	**30,997.2235**	**9.3826**		**31,231.7884**

3.4 PV Panels - 2022

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	0.7364	23.7714	4.4582	0.1536	35.8686	0.1021	35.9707	5.4409	0.0977	5.5385		16,100.0070	16,100.0070	0.2243		16,105.6153
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	13.8312	10.2875	93.4440	0.3107	37.6123	0.2092	37.8214	9.9715	0.1927	10.1641		30,973.6768	30,973.6768	0.8241		30,994.2795
Total	**14.5676**	**34.0589**	**97.9022**	**0.4642**	**73.4809**	**0.3112**	**73.7921**	**15.4123**	**0.2903**	**15.7026**		**47,073.6838**	**47,073.6838**	**1.0484**		**47,099.8948**

3.5 Electrical - 2022

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	4.1627	38.1271	40.1916	0.0625		2.1286	2.1286		1.9920	1.9920		5,942.6589	5,942.6589	1.4936		5,979.9994
Total	**4.1627**	**38.1271**	**40.1916**	**0.0625**		**2.1286**	**2.1286**		**1.9920**	**1.9920**		**5,942.6589**	**5,942.6589**	**1.4936**		**5,979.9994**

3.5 Electrical - 2022

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	0.1714	5.5310	1.0373	0.0357	18.1083	0.0238	18.1321	1.9834	0.0227	2.0062		3,746.0643	3,746.0643	0.0522		3,747.3692
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	4.1913	3.1174	28.3164	0.0941	11.3977	0.0634	11.4610	3.0217	0.0584	3.0800		9,385.9627	9,385.9627	0.2497		9,392.2059
Total	**4.3626**	**8.6484**	**29.3537**	**0.1299**	**29.5060**	**0.0871**	**29.5931**	**5.0051**	**0.0811**	**5.0862**		**13,132.0270**	**13,132.0270**	**0.3019**		**13,139.5751**

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	0.7612	4.9270	42.7614	0.0625		0.0957	0.0957		0.0957	0.0957	0.0000	5,942.6589	5,942.6589	1.4936		5,979.9994
Total	**0.7612**	**4.9270**	**42.7614**	**0.0625**		**0.0957**	**0.0957**		**0.0957**	**0.0957**	**0.0000**	**5,942.6589**	**5,942.6589**	**1.4936**		**5,979.9994**

3.5 Electrical - 2022

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	0.1714	5.5310	1.0373	0.0357	2.6850	0.0238	2.7088	0.4442	0.0227	0.4669		3,746.0643	3,746.0643	0.0522		3,747.3692
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	4.1913	3.1174	28.3164	0.0941	11.3977	0.0634	11.4610	3.0217	0.0584	3.0800		9,385.9627	9,385.9627	0.2497		9,392.2059
Total	**4.3626**	**8.6484**	**29.3537**	**0.1299**	**14.0827**	**0.0871**	**14.1698**	**3.4658**	**0.0811**	**3.5469**		**13,132.0270**	**13,132.0270**	**0.3019**		**13,139.5751**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	75.00	75.00	75.00	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	0.542331	0.034995	0.171339	0.106016	0.017524	0.005301	0.010354	0.098286	0.001618	0.001995	0.008295	0.000874	0.001071

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	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**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
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	10.8122	0.1383	15.1449	1.1300e-003		0.0541	0.0541		0.0541	0.0541		32.4129	32.4129	0.0855		34.5505
Unmitigated	10.8122	0.1383	15.1449	1.1300e-003		0.0541	0.0541		0.0541	0.0541		32.4129	32.4129	0.0855		34.5505

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	9.4036					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.4086	0.1383	15.1449	1.1300e-003		0.0541	0.0541		0.0541	0.0541		32.4129	32.4129	0.0855		34.5505
Total	**10.8122**	**0.1383**	**15.1449**	**1.1300e-003**		**0.0541**	**0.0541**		**0.0541**	**0.0541**		**32.4129**	**32.4129**	**0.0855**		**34.5505**

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	9.4036					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.4086	0.1383	15.1449	1.1300e-003		0.0541	0.0541		0.0541	0.0541		32.4129	32.4129	0.0855		34.5505
Total	**10.8122**	**0.1383**	**15.1449**	**1.1300e-003**		**0.0541**	**0.0541**		**0.0541**	**0.0541**		**32.4129**	**32.4129**	**0.0855**		**34.5505**

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
Forklifts	2	8.00	52	89	0.20	Diesel
Other General Industrial Equipment	2	8.00	52	88	0.34	Diesel
Tractors/Loaders/Backhoes	2	8.00	52	97	0.37	Diesel

UnMitigated/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
Equipment Type	lb/day										lb/day					
Forklifts	0.2272	2.1098	2.3075	3.0600e-003		0.1398	0.1398		0.1286	0.1286		296.0617	296.0617	0.0958		298.4555
Other General Industrial Equipment	0.3575	3.3769	3.8714	5.1200e-003		0.2101	0.2101		0.1933	0.1933		496.0363	496.0363	0.1604		500.0470
Tractors/Loaders/Backhoes	0.3294	3.3513	4.4759	6.2200e-003		0.1802	0.1802		0.1658	0.1658		602.4779	602.4779	0.1949		607.3492
Total	**0.9141**	**8.8380**	**10.6548**	**0.0144**		**0.5301**	**0.5301**		**0.4877**	**0.4877**		**1,394.5759**	**1,394.5759**	**0.4510**		**1,405.8517**

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