APPENDIX P

Greenhouse Gas Emissions Technical Report for the JVR Energy Park Project

Greenhouse Gas Emissions Technical Report
for the
JVR Energy Park Project

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ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Definition
°C	degrees Celsius
°F	degrees Fahrenheit
AB	Assembly Bill
CalEEMod	California Emissions Estimator Model
CALGreen	California Green Building Standards Code
CalRecycle	California Department of Resources Recycling and Recovery
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCAR	California Climate Action Registry
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CFC	Chlorofluorocarbons
CH_4	Methane
CNRA	California Natural Resources Agency
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
County	County of San Diego
CPUC	California Public Utilities Commission
EIR	environmental impact report
EO	Executive Order
EPA	U.S. Environmental Protection Agency
EPIC	Energy Policy Initiative Center
EV	electric vehicle
GHG	greenhouse gas
GWP	global warming potential
HCFC	Hydrochlorofluorocarbon
HFC	Hydrofluorocarbon
HVAC	heating, ventilation, and air conditioning
IPCC	Intergovernmental Panel on Climate Change
kW	Kilowatt
LCFS	Low Carbon Fuel Standard
MT	metric ton
MMT	million metric tons
MOU	Memorandum of Understanding
N/A	not applicable
N_2O	nitrous oxide
NF_3	nitrogen trifluoride
NHTSA	National Highway Traffic Safety Administration

Acronym/Abbreviation	Definition
O_2	Oxygen
O_3	Ozone
OPR	Governor's Office of Planning and Research
PDS	Planning & Development Services Department
PFC	Perfluorocarbon
Proposed Project	JVR Energy Park Project
RPS	Renewables Portfolio Standard
RTP	Regional Transportation Plan
SANDAG	San Diego Association of Governments
SB	Senate Bill
SCS	Sustainable Communities Strategy
SDAPCD	San Diego Air Pollution Control District
SDG&E	San Diego Gas & Electric
SF_6	sulfur hexafluoride
SLCP	short-lived climate pollutants
VMT	vehicle miles traveled
ZEV	zero emissions vehicle

EXECUTIVE SUMMARY

Project Overview

The JVR Energy Park Project (Proposed Project) would be located on a privately owned 1,356-acre site in southeastern San Diego County. The Project site is located south of Interstate 8, east of the unincorporated community of Jacumba Hot Springs, and immediately north of the U.S./Mexico border. The proposed solar facilities would be located within an approximately 643-acre fenced area.

The solar facility would use approximately 300,000 photovoltaic (PV) single-axis solar trackers to produce a rated capacity of up to 90 megawatt (MW) of alternating current (AC) generating capacity. Additionally, the Proposed Project would include an on-site substation, switchyard, and up to 90 MW battery energy storage facility. Eventual decommissioning of all Proposed Project components, except the switchyard, would occur at the end of the Proposed Project's useful life cycle.

Impact Analysis Summary

This greenhouse gas (GHG) emissions analysis evaluates the potential for the Proposed Project to generate GHG emissions during construction and operation that may have a significant impact on the environment, and the potential for the Proposed Project to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. Principal GHGs regulated under state and federal law include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). GHG emissions are measured in metric tons (MT) of CO_2 equivalent (CO_2e), which accounts for the weighted global warming potential factors for CH_4 and N_2O. Estimated annual emissions generated by the Proposed Project at full buildout in 2022 from area, energy, mobile, stationary, and water emissions sources; sequestered carbon; and amortized Proposed Project construction emissions were calculated using the California Emissions Estimator Model (CalEEMod) Version 2016.3.2 (CAPCOA 2017), consistent with the San Diego Air Pollution Control District guidance.[1]

The significance criteria used to evaluate the Proposed Project's GHG emissions impacts are based on the recommendations provided in Appendix G of the California Environmental Quality Act Guidelines:

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

[1] CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform to calculate construction and operational emissions from land use development projects.

- Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

Based on the 2017 Scoping Plan, this report compares the Proposed Project's emissions to the existing site to determine whether the Proposed Project would generate GHG emissions that may have a significant impact on the environment. This report also examines the Proposed Project's consistency with the County of San Diego's General Plan, Senate Bill 350, SB 100, and the County's Strategic Energy Plan.

The Proposed Project's operational emissions were shown to result in a net avoidance of GHG emissions due to the production of renewable energy and offset of use of fossil fuels. The Proposed Project is also consistent with applicable plans, policies, and regulations adopted to reduce GHG emissions, including Senate Bill X1 2, Senate Bill 350, and Senate Bill 100, and County General Plan Strategy A-3. The Proposed Project also supports the County's Strategic Energy Plan and its community energy strategy goal of minimizing GHG emissions for healthier and more sustainable communities. It would also support the key focus area of promoting renewable energy.

Therefore, the Proposed Project would make a **less than significant** contribution to significant cumulative climate change impacts.

1 INTRODUCTION

1.1 Purpose of the Report

The purpose of this report is to estimate and evaluate the potential greenhouse gas (GHG) emissions impacts associated with construction and operation of the proposed JVR Energy Park Project (Proposed Project) located within San Diego County.

This introductory section provides a description of the Proposed Project. Section 2, Existing Conditions, describes the local environment and identifies relevant federal, state, and local regulations and policies regarding GHG emissions. Section 3, Significance Criteria and Analysis Methodologies, includes the thresholds of significance applied herein. Section 4, Analysis of Project Effects and Determination as to Significance, provides an analysis of the Proposed Project's disclosure of emissions estimates. Section 5, References, includes a list of the references cited. Section 6, List of Preparers, includes a list of those who prepared this technical report.

1.2 Project Location and Description

1.2.1 Overview and Background

The Project site totals approximately 1,356 acres in southeastern San Diego County, within the County of San Diego's (County) Mountain Empire Subregional Plan area (see Figure 1, Project Location). The Proposed Project would be located to the south of Interstate (I) 8, immediately east of the community of Jacumba Hot Springs, and immediately north of the U.S./Mexico international border. The Project site is located entirely on private land and consists of 24 parcels. The Project site includes right-of-way (ROW) easements for Old Highway 80, San Diego Gas & Electric (SDG&E) easements, and an easement for the San Diego and Arizona Eastern Railway. The proposed solar facility and would cover approximately 643 acres within the Project site. Access to the Project site would be provided off of Old Highway 80 and Carrizo Gorge Road.

The Proposed Project is a solar energy generation and storage facility that would produce a rated capacity of up to 90 megawatts (MW) of alternating current (AC) generating capacity. The power produced by the proposed solar facility would be delivered to an existing SDG&E 138-kilovolt (KV) transmission line that transects the Project site. Proposed Project components are listed below and discussed in greater detail in Chapter 1 of the Environmental Impact Report (EIR) for the JVR Energy Park. In the EIR, construction and operation of the Proposed Project are described in Chapter 1.

The Proposed Project would include the following primary components:

- Approximately 300,000 photovoltaic (PV) modules mounted on support structures (single-axis solar trackers)

- A 1,000- to 1,500-volt direct current (DC) underground collection system linking the modules to the inverters
- 25 inverter/transformer platforms, located throughout the solar facility, to convert the power generated by the modules into a compatible form for use with the transmission network
- Approximately 5,000 feet of 34.5-kilovolt (kV) underground AC collection system and 50 feet of overhead AC feeders, approximately 30 feet tall linking the inverters to the on-site collector substation
- An on-site collector substation located within an approximately 27,360-square-foot area (152 feet by 180 feet)
- A 138 kV switchyard adjacent to the on-site collector substation to transfer power from the on-site collector substation to the existing SDG&E 138 kV transmission line
- A 138 kV, 220-foot-long 65-foot-high overhead slack span transmission line to connect the on-site collector substation to the switchyard
- Two 138 kV, 1,860 feet long and 70- to 115-foot-high overhead transmission lines (gen-tie) to loop the switchyard into the existing SDG&E Boulevard – East County 138 kV transmission line
- A battery energy storage system of up to 90 MW (or 180 MWh) composed of battery storage containers located adjacent to the inverter/transformer pads (up to 3 containers at each location for a total of 75 containers on site)
- Fiber-optic line
- Control system
- Five meteorological weather stations
- Site access driveways
- Internal access
- Improvements within SDG&E Transmission Corridor, including two easement crossings and one easement encroachment
- Security fencing and signage
- Lighting
- Water tanks (fire protection)
- Fuel modification zones (FMZs)
- Landscaping

The Proposed Project's collector substation and the switchyard would be sized to accommodate the full 90 MW (AC) solar facility and the proposed 90 MW energy storage system. The Proposed Project would be located entirely on private lands within unincorporated San Diego County. Upon completion, the Proposed Project would be monitored and operated from an off-site supervisory control and data acquisition system.

Switchyard

The proposed switchyard would be transferred to and operated by SDG&E. The proposed 138 kV switchyard would be located adjacent to the proposed collector substation. The size of the switchyard would be approximately 150,000 square feet. The proposed switchyard may include circuit breakers, overhead electrical bus work, switches and controls, and a control enclosure, and the entire switchyard area will be enclosed inside a security fence. SDG&E requires a 30-foot-wide, asphalt paved access road for switchyard operations. Therefore, the access route leading from Carrizo Gorge Road to the switchyard would be a 30-foot-wide paved asphalt road.

Decommissioning Activities

This section described the anticipated lifespan of the solar facility, dismantling, recycling, and removal surety. The JVR Energy Park would operate, at a minimum, for the life of a long-term Power Purchase Agreement. The initial term of the Power Purchase Agreement for the proposed solar facility is anticipated to be 20 years, with additional terms possible. The lifespan of the solar facility equipment is estimated to be 35 years. Due to the establishment of Proposed Project infrastructure (both physical and contractual), the continued operation of JVR Energy Park beyond the initial Power Purchase Agreement term is very likely. It is possible that the Proposed Project will be repowered through the installation of new solar facility equipment at the end of its useful life span, although it is not reasonably foreseeable whether a decision to repower or decommission the Proposed Project will be made at that time. Accordingly, the analysis assumes a conservative 35-year life span.

<u>Dismantling and Site Preparation</u>

Dismantling the solar facility would entail disassembly of the solar facilities and substantive site preparation. Impacts associated with closure and decommissioning of the Project site would be temporary and would involve the following steps to dismantle the Project site and return it back to a conforming use:

1. The aboveground (detachable) equipment and structures would be disassembled and removed from the site. Detachable elements include all panels, inverters, transformers, and associated controllers and transformers. Removal of the aboveground conductors on the transmission line

would also be implemented. Most of these materials can be recycled or reclaimed. Remaining materials that cannot be recycled or reclaimed would be limited and would be contained and disposed of offsite, consistent with the County of San Diego Construction Demolition and Debris Management Plan (County Ordinance 68.508-68.518).

2. Underground collector and transmission components would be removed.
3. The use of the land would have to return to a use that is consistent with the County of San Diego Zoning Ordinance at the time of dismantling.
4. If a new use is not proposed, the decommissioning would include preparing the site with a compatible hydroseed mix.

It is estimated that the amount of water necessary to dismantle the Proposed Project would be less than that required for construction, because there would be no need to use water for concrete mixing or to hydrate and compact on-site fills. The activities associated with decommissioning would not include grading. Water demand for decommissioning dust abatement would be approximately 40 acre-feet of water. Additional equipment washing and modest compaction needs, if necessary, would require a further approximately 10 acre-feet. The water for equipment washing and modest compaction would be used over approximately 3 months. The total water demand estimated for decommissioning is approximately 50 acre-feet.

Recycling

The majority of the components of the solar installation are made of materials that can be readily recycled because the panels' components can be broken down. If the panels can no longer be used in a solar array, the aluminum can be resold, and the glass can be recycled. Hazardous components of the PV panels would be removed and properly disposed of offsite prior to recycling, in accordance with County regulations. Other components of the solar installation, such as the rack structures and mechanical assemblies, can be recycled as they are made from galvanized steel. Equipment such as inverters, transformers, and switchgear can be either reused or their components recycled. The equipment pads are made from concrete that can be crushed and recycled. Underground conduit and wire can be removed by uncovering trenches and backfilling when done. The electrical wiring is made from copper and/or aluminum and can be reused or recycled as well.

Removal Surety

The final decommissioning plan(s) that would be provided within 1 year of issuance of the building permits for the Proposed Project would comply with Section 6954.b.3(d) of the County of San Diego Zoning Ordinance for removal surety as follows:

> The operator shall provide a security in the form and amount determined by the Director to ensure removal of the Solar Energy System. The security shall be

> provided to PDS [Planning and Development Services] prior to building permit issuance. Once the Solar Energy System has been removed from the property pursuant to a demolition permit to the satisfaction of the Director, the security may be released to the operator of the Solar Energy System.

Financial responsibility for decommissioning would be an obligation of the owner of the solar facility.

1.2.2 Existing and Surrounding Land Uses

The arid high desert environment supports a range of habitats, including sensitive vegetation communities, as described below. The Project site was previously dairy and agricultural operations. Currently, there are no agricultural operations on the site.

The general topography of the Project site is level and gently rolling, with steeper slopes to the west. The elevation range within the study area is from 2,720 feet to 3,360 feet above mean sea level.

Regional access to the Project site is provided by I-8, located to the north, and by Old Highway 80 which traverses the southern portion of the Project site. Both I-8 and Old Highway 80 are designated as County Scenic Highways within this area. The Jacumba airport is located immediately to the east of the southern portion of the Project site. The southern boundary of the Project site is located along the U.S./Mexico border. Public land in the surrounding area includes Anza-Borrego Desert State Park and federal Bureau of Land Management lands.

The Project site is located within the Jacumba Subregional Group Area of the County's Mountain Empire Subregional Plan Area. The unincorporated community of Jacumba Hot Springs is located adjacent to the southwestern portion of the Project site. Jacumba Hot Springs is designated as a Rural Village by the County; the 2010 census population was 561. The community includes residential and commercial uses, including a hot springs resort. Jacumba Hot Springs and the surrounding area are totally dependent on groundwater for supply. The Jacumba Community Services District provides groundwater to the village area. The Sunrise Powerlink and Southwest Powerlink, each of which consists of a 500 kV electric transmission line supported by 150-foot-tall steel lattice structures, transect the Project site.

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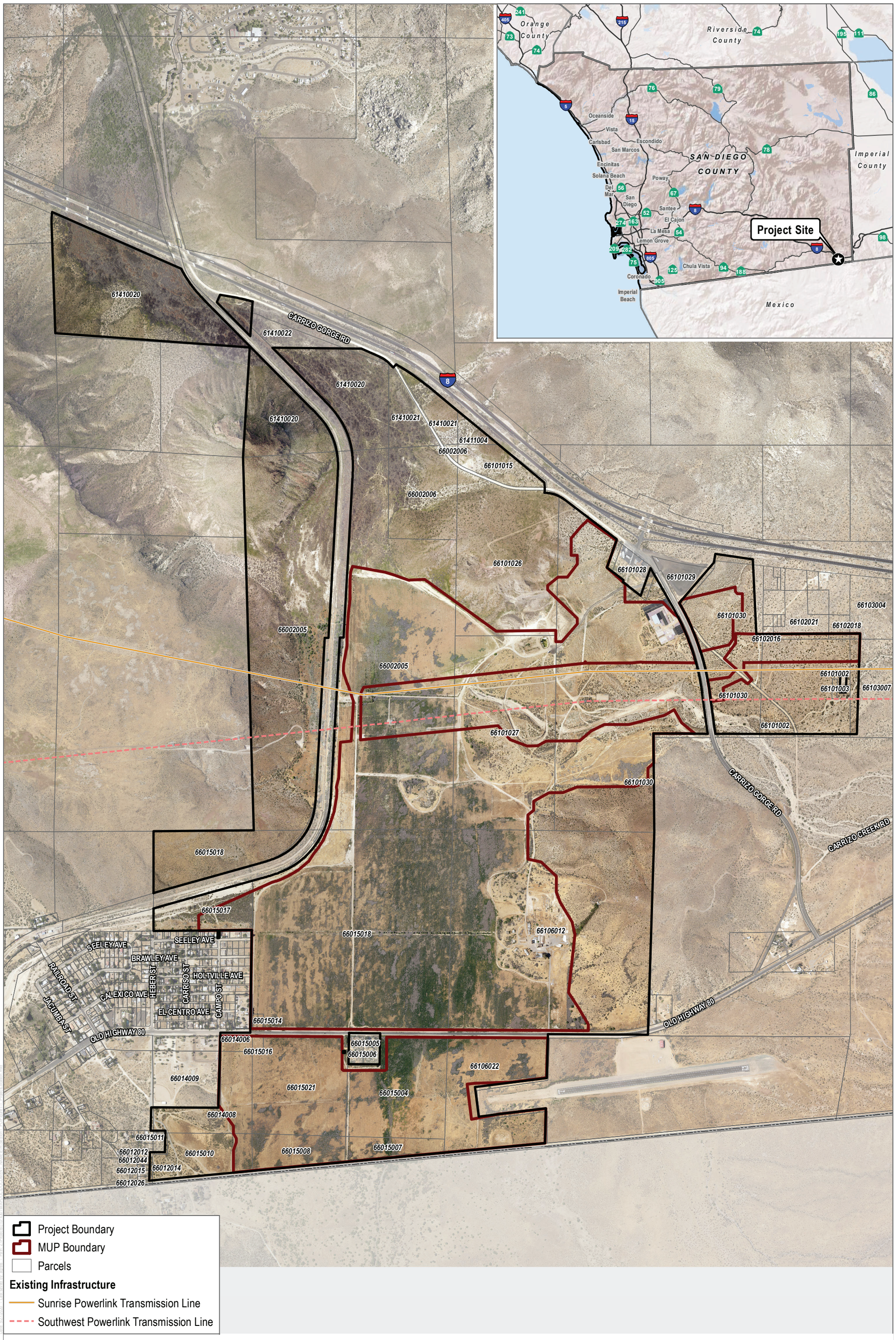

SOURCE: Kimley-Horn 2020; SANGIS 2017, 2020

DUDEK

0 500 1,000 Feet

FIGURE 1

Project Location

JVR Energy Park Project

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2 EXISTING CONDITIONS

2.1 Existing Setting

2.1.1 Climate Change Overview

Climate change refers to any significant change in measures of climate, such as temperature, precipitation, or wind patterns, lasting for an extended period of time (decades or longer). Earth's temperature depends on the balance between energy entering and leaving the planet's system. Many factors, both natural and human, can cause changes in Earth's energy balance, including variations in the sun's energy reaching Earth, changes in the reflectivity of Earth's atmosphere and surface, and changes in the greenhouse effect, which affects the amount of heat retained by Earth's atmosphere (EPA 2017a).

The greenhouse effect is the trapping and build-up of heat in the atmosphere (troposphere) near Earth's surface. The greenhouse effect traps heat in the troposphere through a threefold process as follows: Short-wave radiation emitted by the Sun is absorbed by Earth; Earth emits a portion of this energy in the form of long-wave radiation; and GHGs in the upper atmosphere absorb this long-wave radiation and emit it into space and toward Earth. The greenhouse effect is a natural process that contributes to regulating Earth's temperature and creates a pleasant, livable environment on Earth. Human activities that emit additional GHGs to the atmosphere increase the amount of infrared radiation that gets absorbed before escaping into space, enhancing the greenhouse effect and causing Earth's surface temperature to rise.

The scientific record of Earth's climate shows that the climate system varies naturally over a wide range of time scales and that, in general, climate changes prior to the Industrial Revolution in the 1700s can be explained by natural causes, such as changes in solar energy, volcanic eruptions, and natural changes in GHG concentrations. Recent climate changes, in particular the warming observed over the past century, however, cannot be explained by natural causes alone. Rather, it is extremely likely that human activities have been the dominant cause of that warming since the mid-twentieth century and are the most significant driver of observed climate change (EPA 2017a; IPCC 2013). Human influence on the climate system is evident from the increasing GHG concentrations in the atmosphere, positive radiative forcing, observed warming, and improved understanding of the climate system (IPCC 2013). The atmospheric concentrations of GHGs have increased to levels unprecedented in the last 800,000 years, primarily from fossil fuel emissions and secondarily from emissions associated with land use changes (IPCC 2013). Continued emissions of GHGs will cause further warming and changes in all components of the climate system, which is discussed further in Section 2.1.6, Potential Effects of Climate Change.

2.1.2 Greenhouse Gases and other Climate Forcing Substances

A GHG is any gas that absorbs infrared radiation in the atmosphere; in other words, GHGs trap heat in the atmosphere. GHGs include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), ozone (O_3), water vapor, hydrofluorocarbons (HFCs), hydrochlorofluorocarbons (HCFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).[2] Some GHGs, such as CO_2, CH_4, and N_2O, occur naturally and are emitted to the atmosphere through natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Manufactured GHGs, which have a much greater heat-absorption potential than CO_2, include fluorinated gases, such as HFCs, HCFCs, PFCs, and SF_6, which are associated with certain industrial products and processes. A summary of the most common GHGs and their sources is included in the following text.[3] Also included is a discussion of other climate forcing substances.

Carbon Dioxide (CO_2). CO_2 is a naturally occurring gas and a by-product of human activities and is the principal anthropogenic GHG that affects Earth's radiative balance. Natural sources of CO_2 include respiration of bacteria, plants, animals, and fungus; evaporation from oceans; volcanic out-gassing; and decomposition of dead organic matter. Human activities that generate CO_2 are from the combustion of fuels such as coal, oil, natural gas, and wood and changes in land use.

Methane (CH_4). CH_4 is produced through both natural and human activities. CH_4 is a flammable gas and is the main component of natural gas. Methane is produced through anaerobic (without oxygen) decomposition of waste in landfills, flooded rice fields, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, and incomplete fossil fuel combustion.

Nitrous Oxide (N_2O). N_2O is produced through natural and human activities, mainly through agricultural activities and natural biological processes, although fuel burning and other processes also create N_2O. Sources of N_2O include soil cultivation practices (microbial processes in soil and water), especially the use of commercial and organic fertilizers, manure management, industrial processes (such as in nitric acid production, nylon production, and fossil-fuel-fired power plants), vehicle emissions, and using N_2O as a propellant (such as in rockets, racecars, and aerosol sprays).

Fluorinated Gases. Fluorinated gases (also referred to as F-gases) are synthetic powerful GHGs emitted from many industrial processes. Fluorinated gases are commonly used as substitutes for

[2] California Health and Safety Code, Section 38505, identifies seven GHGs that the California Air Resources Board (CARB) is responsible to monitor and regulate to reduce emissions: CO_2, CH_4, N_2O, SF_6, HFCs, PFCs, and NF_3.

[3] The descriptions of GHGs are summarized from IPCC Second Assessment Report (IPCC 1995), IPCC Fourth Assessment Report (IPCC 2007), CARB's Glossary of Terms Used in GHG Inventories (CARB 2015a), and EPA's Glossary of Climate Change Terms (EPA 2016).

stratospheric ozone-depleting substances (e.g., CFCs, HCFCs, and halons). The most prevalent fluorinated gases include the following:

- **Hydrofluorocarbons (HFCs):** HFCs are compounds containing only hydrogen, fluorine, and carbon atoms. HFCs are synthetic chemicals used as alternatives to ozone-depleting substances in serving many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are used in manufacturing.
- **Perfluorocarbons (PFCs):** PFCs are a group of human-made chemicals composed of carbon and fluorine only. These chemicals were introduced as alternatives, with HFCs, to the ozone depleting substances. The two main sources of PFCs are primary aluminum production and semiconductor manufacturing. Since PFCs have stable molecular structures and do not break down through the chemical processes in the lower atmosphere, these chemicals have long lifetimes, ranging between 10,000 and 50,000 years.
- **Sulfur Hexafluoride (SF_6):** SF_6 is a colorless gas soluble in alcohol and ether and slightly soluble in water. SF_6 is a potent greenhouse gas. Over a 100-year period, SF_6 is 23,900 times more effective at trapping infrared radiation than an equivalent amount of carbon dioxide. SF_6 is also very stable chemical, with an atmospheric lifetime of 3,200 years.

  The most common use for SF_6 is as an electrical insulator in high-voltage equipment that transmits and distributes electricity. Since the 1950s, the U.S. electric power industry has used SF_6 widely in circuit breakers, gas-insulated substations, and other switchgear used in the transmission system to manage the high voltages carried between generation stations and customer load centers. Fugitive emissions of SF_6 can escape from gas insulated substations and switchgear through seals and can also be released during equipment installation and when equipment is opened for servicing. Several factors affect SF_6 emissions from electric power systems, such as the type and age of the equipment (e.g., older circuit breakers can contain up to 2,000 pounds of SF_6, while modern breakers usually contain less than 100 pounds) and the handling and maintenance procedures practiced by the utilities.
- **Nitrogen Trifluoride (NF_3):** NF_3 is used in the manufacture of a variety of electronics, including semiconductors and flat panel displays.

Chlorofluorocarbons (CFCs). CFCs are synthetic chemicals that have been used as cleaning solvents, refrigerants, and aerosol propellants. CFCs are chemically unreactive in the lower atmosphere (troposphere), and the production of CFCs was prohibited in 1987 due to the chemical destruction of stratospheric O_3.

Hydrochlorofluorocarbons (HCFCs). HCFCs are a large group of compounds, whose structure is very close to that of CFCs—containing hydrogen, fluorine, chlorine, and carbon atoms—but

including one or more hydrogen atoms. Like HFCs, HCFCs are used in refrigerants and propellants. HCFCs were also used in place of CFCs for some applications; however, their use in general is being phased out.

Black Carbon. Black carbon is a component of fine particulate matter, which has been identified as a leading environmental risk factor for premature death. It is produced from the incomplete combustion of fossil fuels and biomass burning, particularly from older diesel engines and forest fires. Black carbon warms the atmosphere by absorbing solar radiation, influences cloud formation, and darkens the surface of snow and ice, which accelerates heat absorption and melting. Black carbon is a short-lived species that varies spatially, which makes it difficult to quantify the global warming potential. Diesel particulate matter emissions are a major source of black carbon and are toxic air contaminants that have been regulated and controlled in California for several decades to protect public health. In relation to declining diesel particulate matter from the California Air Resources Board's (CARB) regulations pertaining to diesel engines, diesel fuels, and burning activities, CARB estimates that annual black carbon emissions in California have reduced by 70% between 1990 and 2010, with 95% control expected by 2020 (CARB 2014).

Water Vapor. The primary source of water vapor is evaporation from the ocean, with additional vapor generated by sublimation (change from solid to gas) from ice and snow, evaporation from other water bodies, and transpiration from plant leaves. Water vapor is the most important, abundant, and variable GHG in the atmosphere and maintains a climate necessary for life.

Ozone (O_3). Tropospheric O_3, which is created by photochemical reactions involving gases from both natural sources and human activities, acts as a GHG. Stratospheric O_3, which is created by the interaction between solar ultraviolet radiation and molecular oxygen (O_2), plays a decisive role in the stratospheric radiative balance. Depletion of stratospheric O_3, due to chemical reactions that may be enhanced by climate change, results in an increased ground-level flux of ultraviolet-B radiation.

Aerosols. Aerosols are suspensions of particulate matter in a gas emitted into the air through burning biomass (plant material) and fossil fuels. Aerosols can warm the atmosphere by absorbing and emitting heat and can cool the atmosphere by reflecting light.

2.1.3 Global Warming Potential

Gases in the atmosphere can contribute to climate change both directly and indirectly. Direct effects occur when the gas itself absorbs radiation. Indirect radiative forcing occurs when chemical transformations of the substance produce other GHGs, when a gas influences the atmospheric lifetimes of other gases, and/or when a gas affects atmospheric processes that alter the radiative balance of the Earth (e.g., affect cloud formation or albedo) (EPA 2017b). IPCC developed global warming potential (GWP) values to compare the ability of each GHG to trap heat in the atmosphere

relative to another gas. The GWP of a GHG is defined as the ratio of the time-integrated radiative forcing from the instantaneous release of 1 kilogram of a trace substance relative to that of 1 kilogram of a reference gas (IPCC 2014). The reference gas used is CO_2; therefore, GWP-weighted emissions are measured in metric tons of carbon dioxide equivalent (MT CO_2e).

California Emissions Estimator Model (CalEEMod) Version 2016.3.2 assumes that the GWP for CH_4 is 25 (so emissions of 1 MT of CH_4 are equivalent to emissions of 25 MT of CO_2), and the GWP for N_2O is 298 based on the IPCC Fourth Assessment Report (IPCC 2007). The GWP values identified in CalEEMod were applied to the Proposed Project.

2.1.4 Sources of Greenhouse Gas Emissions

Global Inventory

Anthropogenic GHG emissions worldwide in 2014 (the most recent year for which data is available) totaled approximately 45,741 million metric tons (MMT) CO_2e, excluding land use change and forestry (WRI 2015). Six countries—China, the United States, the Russian Federation, India, Japan, and Brazil—and the European community accounted for approximately 65% of the total global emissions, approximately 29,920 MMT CO_2e (WRI 2015). Table 1 presents the top GHG-emissions-producing countries.

Table 1
Six Top Greenhouse Gas Producer Countries and the European Union

Emitting Countries	2014 GHG Emissions (MMT CO_2e)
China	11,911
United States	6,371
European Union	4,054
India	3,080
Russian Federation	2,138
Japan	1,315
Brazil	1,051
Total	**29,920**

Source: WRI 2015.
Notes: MMT CO_2e = million metric tons of carbon dioxide equivalent
Column may not add due to rounding.
GHG emissions do not include land use change and forestry related GHG emissions.

National and State Inventories

Per the EPA's Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2016, total United States GHG emissions were approximately 6,511 MMT CO_2e in 2016 (EPA 2018). The primary

GHG emitted by human activities in the United States was CO_2, which represented approximately 81% of total GHG emissions (5,313 MMT CO_2e). The largest source of CO_2, and of overall GHG emissions, was fossil-fuel combustion, which accounted for approximately 94% of CO_2 emissions in 2016 (4,966 MMT CO_2e). Relative to 1990, gross United States GHG emissions in 2016 are higher by 5%; down from a high of 16% above 1990 levels in 2007. GHG emissions decreased from 2015 to 2016 by 2% (83 MMT CO_2e), and overall, net emissions in 2016 were 12% below 2005 levels (EPA 2018).

According to California's 2000–2016 GHG emissions inventory (2018 edition), California emitted 429 MMT CO_2e in 2016, including emissions resulting from out-of-state electrical generation (CARB 2017a). The sources of GHG emissions in California include transportation, industry, electric power production from both in-state and out-of-state sources, residential and commercial activities, agriculture, high GWP substances, and recycling and waste. The California GHG emission source categories and their relative contributions in 2016 are presented in Table 2, Greenhouse Gas Emissions Sources in California.

Table 2
Greenhouse Gas Emissions Sources in California

Source Category	Annual GHG Emissions (MMT CO_2e)	Percent of Total*
Transportation	176.1	41%
Industrial	98.8	23%
Electricity (in state)	42.9	10%
Electricity (imports)	25.8	6%
Agriculture	34.4	8%
Residential	30.1	7%
Commercial	21.5	5%
Total	**429.4**	**100%**

Source: CARB 2017a
MMT CO_2e = million metric tons of carbon dioxide equivalent per year
* Column may not add due to rounding.

Between 2000 and 2016, per-capita GHG emissions in California have dropped from a peak of 14.0 MT per person in 2001 to 10.8 MT per person in 2016, representing a 23% decrease. In addition, total GHG emissions in 2015 were approximately 12 MMT CO_2e less than 2015 emissions (CARB 2017a).

According to the GHG inventory data compiled by the Energy Policy Initiative Center (EPIC), in 2010, the County emitted 35 MMT CO_2e (EPIC 2013). As outlined in Table 3, San Diego County Greenhouse Gas Emissions by Sectors, 42% of these emissions. Similar to emissions were

generated by on-road transportation sources. Similar to emission trends statewide, electricity generation is the second biggest emitter.

Table 3
San Diego County Greenhouse Gas Emissions by Sectors

Source Category	Annual GHG Emissions (MMT CO_2e)	Percent of Total*
On-road transportation	14	42%
Electricity generation	8	24%
Natural gas end uses	3	8%
Off-road equipment and vehicles	1	4%
Civil aviation	2	5%
Industrial processes and products	2	5%
Waste	<1	2%
Waterborne navigation	<1	<1%
Rail	<1	<1%
Other fuels	2	5%
Agriculture (livestock)	<1	<1%
Wildfires	<1	<1%
Development (loss of vegetation)	<1	<1%
Sequestration from land cover	<1	2%
Total	**35**	**100%**

Source: EPIC 2013.
MMT CO_2e = million metric tons of carbon dioxide equivalent per year.
* Column may not add due to rounding.

2.1.5 Carbon Sequestration

Carbon sequestration is the process by which CO_2 is removed from the atmosphere and deposited into a carbon reservoir (e.g., vegetation). Trees and vegetation take in CO_2 from the atmosphere during photosynthesis, break down the CO_2, store the carbon within plant parts, and release the oxygen back into the atmosphere (CARB 2015b). A development that removes or disturbs existing vegetation results in potential release of sequestered carbon to the atmosphere as CO_2, which would not have been released had there been no land-type change. The planting of new trees and vegetation would store new carbon as their wood mass increases through normal growth. This GHG analysis estimates the loss of sequestered carbon associated with the proposed land use change.

2.1.6 Potential Effects of Climate Change

Globally, climate change has the potential to affect numerous environmental resources through uncertain impacts related to future air temperatures and precipitation patterns. The 2014 IPCC Synthesis Report indicated that warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. Signs that global

climate change has occurred include warming of the atmosphere and ocean, diminished amounts of snow and ice, and rising sea levels (IPCC 2014).

In California, climate change impacts have the potential to affect sea-level rise, agriculture, snowpack and water supply, forestry, wildfire risk, public health, and electricity demand and supply (CCCC 2006). The primary effect of global climate change has been a 0.2°C rise in average global tropospheric temperature per decade, determined from meteorological measurements worldwide between 1990 and 2005. Scientific modeling predicts that continued emissions of GHGs at or above current rates would induce more extreme climate changes during the twenty-first century than were observed during the twentieth century. A warming of about 0.2°C (0.36°F) per decade is projected, and there are identifiable signs that global warming could be taking place.

Although climate change is driven by global atmospheric conditions, climate change impacts are felt locally. A scientific consensus confirms that climate change is already affecting California. The average temperatures in California have increased, leading to more extreme hot days and fewer cold nights; shifts in the water cycle have been observed, with less winter precipitation falling as snow, and both snowmelt and rainwater running off earlier in the year; sea levels have risen; and wildland fires are becoming more frequent and intense due to dry seasons that start earlier and end later (CAT 2010).

An increase in annual average temperature is a reasonably foreseeable effect of climate change. Observed changes over the last several decades across the western United States reveal clear signals of climate change. Statewide average temperatures increased by about 1.7°F from 1895 to 2011, and warming has been greatest in the Sierra Nevada (CCCC 2012). By 2050, California is projected to warm by approximately 2.7°F above 2000 averages, a threefold increase in the rate of warming over the last century. By 2100, average temperatures could increase by 4.1°F to 8.6°F, depending on emissions levels. Springtime warming—a critical influence on snowmelt—will be particularly pronounced. Summer temperatures will rise more than winter temperatures, and the increases will be greater in inland California, compared to the coast. Heat waves will be more frequent, hotter, and longer. There will be fewer extremely cold nights (CCCC 2012). A decline of Sierra Nevada snowpack, which accounts for approximately half of the surface water storage in California and much of the state's water supply, by 30% to as much as 90% is predicted over the next 100 years (CAT 2006).

Model projections for precipitation over California continue to show the Mediterranean pattern of wet winters and dry summers with seasonal, year-to-year, and decade-to-decade variability. For the first time, however, several of the improved climate models shift toward drier conditions by the mid-to-late twenty-first century in central and, most notably, Southern California. By late-

century, all projections show drying, and half of them suggest 30-year average precipitation will decline by more than 10% below the historical average (CCCC 2012).

A summary of current and future climate change impacts to resource areas in California, as discussed in the California Natural Resources Agency's (CNRA) Safeguarding California: Reducing Climate Risk (CNRA 2014), is provided below.

Agriculture. The impacts of climate change on the agricultural sector are far more severe than the typical variability in weather and precipitation patterns that occur year to year. The agriculture sector and farmers face some specific challenges that include more drastic and unpredictable precipitation and weather patterns; extreme weather events that range from severe flooding to extreme drought, to destructive storm events; significant shifts in water availably and water quality; changes in pollinator lifecycles; temperature fluctuations, including extreme heat stress and decreased chill hours; increased risks from invasive species and weeds, agricultural pests and plant diseases; and disruptions to the transportation and energy infrastructure supporting agricultural production. These challenges and associated short-term and long-term impacts can have both positive and negative effects on agricultural production. Nonetheless, it is predicted that current crop and livestock production will suffer long-term negative effects resulting in a substantial decrease in the agricultural sector if not managed or mitigated.

Biodiversity and Habitat. The state's extensive biodiversity stems from its varied climate and assorted landscapes, which have resulted in numerous habitats where species have evolved and adapted over time. Specific climate change challenges to biodiversity and habitat include species migration in response to climatic changes, range shift, and novel combinations of species; pathogens, parasites, and disease; invasive species; extinction risks; changes in the timing of seasonal life-cycle events; food web disruptions; and threshold effects (i.e., a change in the ecosystem that results in a "tipping point" beyond which irreversible damage or loss occurs). Habitat restoration, conservation, and resource management across California and through collaborative efforts among public, private, and nonprofit agencies has assisted in the effort to fight climate change impacts on biodiversity and habitat. One of the key measures in these efforts is ensuring species' ability to relocate as temperature and water availability fluctuate as a result of climate change, based on geographic region.

Energy. The energy sector provides California residents with a supply of reliable and affordable energy through a complex integrated system. Specific climate change challenges for the energy sector include temperature, fluctuating precipitation patterns, increasing extreme weather events and sea-level rise. Increasing temperatures and reduced snowpack negatively impact the availability of a steady flow of snowmelt to hydroelectric reservoirs. Higher temperatures also reduce the capacity of thermal power plants since power plant cooling is less efficient at higher

ambient temperatures. Increased temperatures will also increase electricity demand associated with air conditioning. Natural gas infrastructure in coastal California is threatened by sea-level rise and extreme storm events.

Forestry. Forests occupy approximately 33% of California's 100 million acres and provide key benefits such as wildlife habitat, absorption of CO_2, renewable energy and building materials. The most significant climate change related risk to forests is accelerated risk of wildfire and more frequent and severe droughts. Droughts have resulted in more large-scale mortalities and combined with increasing temperatures have led to an overall increase in wildfire risks. Increased wildfire intensity subsequently increases public safety risks, property damage, fire suppression and emergency response costs, watershed and water quality impacts and vegetation conversions. These factors contribute to decreased forest growth, geographic shifts in tree distribution, loss of fish and wildlife habitat, and decreased carbon absorption. Climate change may result in increased establishment of non-native species, particularly in rangelands where invasive species are already a problem. Invasive species may be able to exploit temperature or precipitation changes or quickly occupy areas denuded by fire, insect mortality, or other climate change effects on vegetation.

Ocean and Coastal Ecosystems and Resources. Sea-level rise, changing ocean conditions, and other climate change stressors are likely to exacerbate long-standing challenges related to ocean and coastal ecosystems, in addition to threatening people and infrastructure located along the California coastline and in coastal communities. Sea-level rise in addition to more frequent and severe coastal storms and erosion are threatening vital infrastructure such as roads, bridges, power plants, ports and airports, gasoline pipes, and emergency facilities, as well as negatively impacting the coastal recreational assets such as beaches and tidal wetlands. Water quality and ocean acidification threaten the abundance of seafood and other plant and wildlife habitats throughout California and globally.

Public Health. Climate change can impact public health through various environmental changes and is the largest threat to human health in the twenty-first century. Changes in precipitation patterns affect public health primarily through potential for altered water supplies, and extreme events such as heat, floods, droughts, and wildfires. Increased frequency, intensity, and duration of extreme heat and heat waves is likely to increase the risk of mortality due to heat-related illness and exacerbation of existing chronic health conditions. Other extreme weather events are likely to negatively impact air quality and increase or intensify respiratory illness such as asthma and allergies. Additional health impacts that may be impacted by climate change include cardiovascular disease, vector-borne diseases, mental health impacts, and malnutrition injuries. Increased frequency of these ailments is likely to subsequently increase the direct risk of injury and/or mortality.

Transportation. Residents of California rely on airports, seaports, public transportation, and an extensive roadway network to gain access to destinations, goods, and services. While the transportation industry is a source of GHG emissions, it is also vulnerable to climate change risks. Particularly, sea-level rise and erosion threaten many coastal California roadways, airports, seaports, transit systems, bridge supports, and energy and fueling infrastructure. Increasing temperatures and extended periods of extreme heat threaten the integrity of the roadways and rail lines. High temperatures cause the road surfaces to expand, which leads to increased pressure and pavement buckling. High temperatures can also cause rail breakages, which could lead to train derailment. Other forms of extreme weather events, such as extreme storm events, can negatively impact infrastructure, which can impair movement of peoples and goods, or potentially block evacuation routes and emergency access roads. Increased wildfires, flooding, erosion risks, landslides, mudslides, and rockslides can all profoundly impact the transportation system and pose a serious risk to public safety.

Water. Water resources in California support residences, plants, wildlife, farmland, landscapes, and ecosystems, and bring trillions of dollars in economic activity. Climate change could seriously impact the timing, form, amount of precipitation, runoff patterns, and frequency and severity of precipitation events. Higher temperatures reduce the amount of snowpack and lead to earlier snowmelt, which can impact water supply availability, natural ecosystems, and winter recreation. Water supply availability during the intense dry summer months is heavily dependent on the snowpack accumulated during the winter time. Increased risk of flooding has a variety of public health concerns including water quality, public safety, property damage, displacement, and post-disaster mental health problems. Prolonged and intensified droughts can also negatively affect groundwater reserves and result in increased overdraft and subsidence. Droughts can also negatively impact agriculture and farmland throughout the state. The higher risk of wildfires can lead to increased erosion, which can negatively impact watersheds and result in poor water quality. Water temperatures are also prone to increase, which can negatively impact wildlife that rely on a specific range of temperatures for suitable habitat.

In March 2016, the CNRA released Safeguarding California: Implementation Action Plans, a document that shows how California is acting to convert the recommendations contained in the 2014 Safeguarding California plan into action (CNRA 2016). Additionally, in May 2017, CNRA released the draft Safeguarding California Plan: 2017 Update, which is a survey of current programmatic responses for climate change and contains recommendations for further actions (CNRA 2017).

The CNRA released Safeguarding California Plan: 2018 Update in January 2018, which provides a roadmap for state agencies to protect communities, infrastructure, services, and the natural environment from climate change impacts. The 2018 Safeguarding California Plan includes 69

recommendations across 11 sectors and more than 1,000 ongoing actions and next steps developed by scientific and policy experts across 38 state agencies (CNRA 2018). As with previous state adaptation plans, the 2018 Update addresses the following: acceleration of warming across the state; more intense and frequent heat waves; greater riverine flows; accelerating sea-level rise; more intense and frequent drought; more severe and frequent wildfires; more severe storms and extreme weather events; shrinking snowpack and less overall precipitation; and ocean acidification, hypoxia, and warming.

2.2 Regulatory Setting

2.2.1 Federal Activities

Massachusetts v. EPA. In *Massachusetts v. EPA* (April 2007), the U.S. Supreme Court directed the EPA administrator to determine whether GHG emissions from new motor vehicles cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In December 2009, the administrator signed a final rule with the following two distinct findings regarding GHGs under Section 202(a) of the federal Clean Air Act:

- The Administrator found that elevated concentrations of GHGs—CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6—in the atmosphere threaten the public health and welfare of current and future generations. This is the "endangerment finding."
- The Administrator further found the combined emissions of GHGs—CO_2, CH_4, N_2O, and HFCs—from new motor vehicles and new motor vehicle engines contribute to the GHG air pollution that endangers public health and welfare. This is the "cause or contribute finding."

These two findings were necessary to establish the foundation for regulation of GHGs from new motor vehicles as air pollutants under the Clean Air Act.

Energy Independence and Security Act. The Energy Independence and Security Act of 2007 (December 2007), among other key measures, would do the following, which would aid in the reduction of national GHG emissions (EPA 2007):

- Increase the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel in 2022.
- Set a target of 35 miles per gallon for the combined fleet of cars and light trucks by model year 2020 and direct National Highway Traffic Safety Administration (NHTSA) to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for work trucks.

- Prescribe or revise standards affecting regional efficiency for heating and cooling products and procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.

Federal Vehicle Standards. In response to the U.S. Supreme Court ruling discussed above, the Bush Administration issued Executive Order (EO) 13432 in 2007 directing the EPA, the Department of Transportation, and the Department of Energy to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. In 2009, the NHTSA issued a final rule regulating fuel efficiency and GHG emissions from cars and light-duty trucks for model year 2011; and in 2010, the EPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012–2016 (75 FR 25324–25728).

In 2010, President Obama issued a memorandum directing the Department of Transportation, Department of Energy, EPA, and NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, the EPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017–2025 light-duty vehicles. The proposed standards projected to achieve 163 grams per mile of CO_2 in model year 2025, on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon if this level were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017–2021 (77 FR 62624–63200). On April 2, 2018, the Administrator signed the Mid-Term Evaluation Final Determination, which found that the model year 2022–2025 GHG standards are not appropriate in light of the record before EPA and, therefore, should be revised (EPA 2018).

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011, the EPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014–2018 (76 FR 57106–57513). The standards for CO_2 emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the EPA, this regulatory program will reduce GHG emissions and fuel consumption for the affected vehicles by 6% to 23% over the 2010 baselines.

In August 2016, the EPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program will apply to vehicles with model year 2018 through 2027 for certain trailers, and model years 2021 through 2027 for semi-trucks, large pickup trucks, vans, and all types of sizes of buses and work trucks. The final standards are expected to lower CO_2 emissions by approximately 1.1 billion MT and reduce oil consumption by up to two billion barrels over the lifetime of the vehicles sold under the program (EPA and NHTSA 2016).

The Current Administration. President Trump and the EPA have stated their intent to halt various federal regulatory activities to reduce GHG emission. California and other states have stated their intent to challenge federal actions that would delay or eliminate GHG reduction measures and have committed to cooperating with other countries to implement global climate change initiatives. The timing and consequences of these types of federal decisions and potential responses from California and other states are speculative at this time.

2.2.2 State of California

The statewide GHG emissions regulatory framework is summarized below by category: state climate change targets, building energy, renewable energy and energy procurement, mobile sources, solid waste, water, and other state regulations and goals. The following text describes executive orders, legislation, regulations, and other plans and policies that would directly or indirectly reduce GHG emissions and/or address climate change issues.

State Climate Change Targets

Executive Order S-3-05. EO S-3-05 (June 2005) established the following statewide goals: GHG emissions should be reduced to 2000 levels by 2010, GHG emissions should be reduced to 1990 levels by 2020, and GHG emissions should be reduced to 80% below 1990 levels by 2050.

Assembly Bill 32 and CARB's Climate Change Scoping Plan. In furtherance of the goals established in EO S-3-05, the Legislature enacted Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006. AB 32 requires California to reduce its GHG emissions to 1990 levels by 2020.

Under AB 32, CARB is responsible for and is recognized as having the expertise to carry out and develop the programs and requirements necessary to achieve the GHG emissions reduction mandate of AB 32. Under AB 32, CARB must adopt regulations requiring the reporting and verification of statewide GHG emissions from specified sources. This program is used to monitor and enforce compliance with established standards. CARB also is required to adopt rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 relatedly authorized CARB to adopt market-based compliance mechanisms to meet the specified requirements. Finally, CARB is ultimately responsible for monitoring compliance and enforcing any rule, regulation, order, emission limitation, emission reduction measure, or market-based compliance mechanism adopted.

In 2007, CARB approved a limit on the statewide GHG emissions level for year 2020 consistent with the determined 1990 baseline (427 MMT CO_2e). CARB's adoption of this limit is in accordance with Health and Safety Code, Section 38550.

Further, in 2008, CARB adopted the Climate Change Scoping Plan: A Framework for Change (Scoping Plan) in accordance with Health and Safety Code, Section 38561. The Scoping Plan establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions for various emission sources/sectors to 1990 levels by 2020. The Scoping Plan evaluates opportunities for sector-specific reductions, integrates all CARB and Climate Action Team early actions and additional GHG reduction features by both entities, identifies additional measures to be pursued as regulations, and outlines the role of a cap-and-trade program. The key elements of the Scoping Plan include the following (CARB 2008):

1. Expanding and strengthening existing energy efficiency programs as well as building and appliance standards.
2. Achieving a statewide renewable energy mix of 33%.
3. Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85% of California's GHG emissions.
4. Establishing targets for transportation-related GHG emissions for regions throughout California and pursuing policies and incentives to achieve those targets.
5. Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard (LCFS).
6. Creating targeted fees, including a public goods charge on water use, fees on high GWP gases, and a fee to fund the administrative costs of the State of California's long-term commitment to AB 32 implementation.

In the Scoping Plan, CARB determined that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of approximately 29% from the otherwise projected 2020 emissions level; i.e., those emissions that would occur in 2020, absent GHG-reducing laws and regulations (referred to as "business-as-usual"). For purposes of calculating this percent reduction, CARB assumed that all new electricity generation would be supplied by natural gas plants, no further regulatory action would impact vehicle fuel efficiency, and building energy efficiency codes would be held at 2005 standards.

In the 2011 Final Supplement to the Scoping Plan's Functional Equivalent Document, CARB revised its estimates of the projected 2020 emissions level in light of the economic recession and the availability of updated information about GHG reduction regulations. Based on the new economic data, CARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of 22% (down from 29%) from the business-as-usual conditions. When the 2020

emissions level projection was updated to account for newly implemented regulatory measures, including Pavley I (model years 2009–2016) and the Renewables Portfolio Standard (RPS) (12% to 20%), CARB determined that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of 16% (down from 29%) from the business-as-usual conditions.

In 2014, CARB adopted the First Update to the Climate Change Scoping Plan: Building on the Framework (First Update). The stated purpose of the First Update is to "highlight California's success to date in reducing its GHG emissions and lay the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80% below 1990 levels by 2050" (CARB 2014). The First Update found that California is on track to meet the 2020 emissions reduction mandate established by AB 32, and noted that California could reduce emissions further by 2030 to levels squarely in line with those needed to stay on track to reduce emissions to 80% below 1990 levels by 2050 if the state realizes the expected benefits of existing policy goals.

In conjunction with the First Update, CARB identified "six key focus areas comprising major components of the state's economy to evaluate and describe the larger transformative actions that will be needed to meet the state's more expansive emission reduction needs by 2050." Those six areas are energy, transportation (e.g., vehicles/equipment, sustainable communities, housing, fuels, infrastructure), agriculture, water, waste management, and natural and working lands. The First Update identifies key recommended actions for each sector that will facilitate achievement of EO S-3-05's 2050 reduction goal (CARB 2014).

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

As part of the First Update, CARB recalculated the state's 1990 emissions level using more recent global warming potentials identified by the IPCC. Using the recalculated 1990 emissions level (431 MMT CO_2e) and the revised 2020 emissions level projection identified in the 2011 Final Supplement, CARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of approximately 15% (instead of 29% or 16%) from the business-as-usual conditions (CARB 2014).

On January 20, 2017, CARB released The 2017 Climate Change Scoping Plan Update (Second Update) for public review and comment (CARB 2017b). This update proposes CARB's strategy for achieving the state's 2030 GHG target as established in Senate Bill (SB) 32 (discussed below), including continuing the Cap-and-Trade Program through 2030. The Second Update incorporates

approaches to cutting short-lived climate pollutants (SLCPs) under the Short-Lived Climate Pollutant Reduction Strategy (a planning document that was adopted by CARB in March 2017), and acknowledges the need for reducing emissions in agriculture and highlights the work underway to ensure that California's natural and working lands increasingly sequester carbon. During development of the Second Update, CARB held a number of public workshops in the Natural and Working Lands, Agriculture, Energy, and Transportation sectors to inform development of the 2030 Scoping Plan Update (CARB 2016). When discussing project-level GHG emissions reduction actions and thresholds, the Second Update states, "Achieving net zero increases in GHG emissions, resulting in no contribution to GHG impacts, may not be feasible or appropriate for every project, however, and the inability of a project to mitigate its GHG emissions to net zero does not imply the project results in a substantial contribution to the cumulatively significant environmental impact of climate change under CEQA" (CARB 2017b). The Second Update was approved by CARB's Governing Board on December 14, 2017.

EO B-30-15. EO B-30-15 (April 2015) identified an interim GHG reduction target in support of targets previously identified under EO S-3-05 and AB 32. EO B-30-15 set an interim target goal of reducing statewide GHG emissions to 40% below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing statewide GHG emissions to 80% below 1990 levels by 2050 as set forth in EO S-3-05. To facilitate achievement of this goal, EO B-30-15 calls for an update to CARB's Scoping Plan to express the 2030 target in terms of MMT CO_2e. The EO also calls for state agencies to continue to develop and implement GHG emission reduction programs in support of the reduction targets. EO B-30-15 does not require local agencies to take any action to meet the new interim GHG reduction target.

SB 32, AB 197, and EO B-55-18. SB 32 and AB 197 (enacted in 2016) are companion bills that set a new statewide GHG reduction targets; make changes to CARB's membership and increase legislative oversight of CARB's climate change-based activities; and expand dissemination of GHG and other air-quality-related emissions data to enhance transparency and accountability. More specifically, SB 32 codified the 2030 emissions reduction goal of EO B-30-15 by requiring CARB to ensure that statewide GHG emissions are reduced to 40% below 1990 levels by 2030. AB 197 established the Joint Legislative Committee on Climate Change Policies, consisting of at least three members of the Senate and three members of the Assembly, in order to provide ongoing oversight over implementation of the state's climate policies. AB 197 also adds two members of the Legislature to CARB as nonvoting members; requires CARB to make available and update (at least annually through its website) emissions data for GHGs, criteria air pollutants, and toxic air contaminants from reporting facilities; and requires CARB to identify specific information for GHG emissions reduction measures when updating the Scoping Plan. EO B-55-18 (September 2018) establishes a new statewide goal "to achieve carbon neutrality as soon as possible, and no

later than 2045, and achieve and maintain net negative emissions thereafter." This executive order directs CARB to "work with relevant state agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal."

SB 605 and SB 1383. SB 605 (2014) requires CARB to complete a comprehensive strategy to reduce emissions of SLCPs in the state; SB 1383 (2016) required CARB to approve and implement the SLCP reduction strategy. SB 1383 also establishes specific targets for the reduction of SLCPs (40% below 2013 levels by 2030 for methane and HFCs, and 50% below 2013 levels by 2030 for anthropogenic black carbon), and provides direction for reductions from dairy and livestock operations and landfills. Accordingly, and as mentioned above, CARB adopted its Short-Lived Climate Pollutant Reduction Strategy (SLCP Reduction Strategy) in March 2017. The SLCP Reduction Strategy establishes a framework for the statewide reduction of emissions of black carbon, methane, and fluorinated gases.

Building Energy

Title 24, Part 6. Title 24 of the California Code of Regulations (CCR) was established in 1978 and serves to enhance and regulate California's building standards. While not initially promulgated to reduce GHG emissions, Part 6 of Title 24 specifically establishes Building Energy Efficiency Standards that are designed to ensure new and existing buildings in California achieve energy efficiency and preserve outdoor and indoor environmental quality. These energy efficiency standards are reviewed every few years by the Building Standards Commission and the California Energy Commission (CEC) (and revised if necessary) (California Public Resources Code, Section 25402[b][1]). The regulations receive input from members of industry, as well as the public, with the goal of "reducing of wasteful, uneconomic, inefficient, or unnecessary consumption of energy" (California Public Resources Code, Section 25402). These regulations are carefully scrutinized and analyzed for technological and economic feasibility (California Public Resources Code, Section 25402[d]), and cost effectiveness (California Public Resources Code, Sections 25402[b][2] and [b][3]). These standards are updated to consider and incorporate new energy efficient technologies and construction methods. As a result, these standards save energy, increase electricity supply reliability, increase indoor comfort, avoid the need to construct new power plants, and help preserve the environment. The 2016 Title 24 standards are the current applicable building energy efficiency standards, and became effective on January 1, 2017. The 2019 Standards will continue to improve upon the 2016 Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. The 2019 Standards will go into effect on January 1, 2020.

Title 24, Part 11. In addition to the California Energy Commission's efforts, in 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11 of Title 24) is commonly referred to as CALGreen, and establishes minimum mandatory standards as well as voluntary standards pertaining to the

planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality. The CALGreen standards took effect in January 2011 and instituted mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential, and state-owned buildings, schools, and hospitals. The CALGreen 2016 standards became effective on January 1, 2017 (CALGreen 2016). The CALGreen 2019 standards will continue to improve upon the 2016 CALGreen standards for new construction of, and additions and alterations to, residential and nonresidential buildings. The CALGreen 2019 standards went into effect on January 1, 2020.

Title 20. Title 20 of the California Code of Regulations requires manufacturers of appliances to meet state and federal standards for energy and water efficiency. Performance of appliances must be certified through the CEC to demonstrate compliance with standards. New appliances regulated under Title 20 include refrigerators, refrigerator-freezers, and freezers; room air conditioners and room air-conditioning heat pumps; central air conditioners; spot air conditioners; vented gas space heaters; gas pool heaters; plumbing fittings and plumbing fixtures; fluorescent lamp ballasts; lamps; emergency lighting; traffic signal modules; dishwashers; clothes washers and dryers; cooking products; electric motors; low voltage dry-type distribution transformers; power supplies; televisions and consumer audio and video equipment; and battery charger systems. Title 20 presents protocols for testing for each type of appliance covered under the regulations, and appliances must meet the standards for energy performance, energy design, water performance and water design. Title 20 contains three types of standards for appliances: federal and state standards for federally regulated appliances, state standards for federally regulated appliances, and state standards for non-federally regulated appliances.

AB 1109. Enacted in 2007, AB 1109 required the CEC to adopt minimum energy efficiency standards for general purpose lighting, to reduce electricity consumption 50% for indoor residential lighting and 25% for indoor commercial lighting.

Renewable Energy and Energy Procurement

SB 1078. SB 1078 (2002) established the RPS program, which requires an annual increase in renewable generation by the utilities equivalent to at least 1% of sales, with an aggregate goal of 20% by 2017. This goal was subsequently accelerated, requiring utilities to obtain 20% of their power from renewable sources by 2010.

SB 1368. SB 1368 (2006) requires the CEC to develop and adopt regulations for GHG emission performance standards for the long-term procurement of electricity by local publicly owned utilities. These standards must be consistent with the standards adopted by the CPUC. This effort

will help protect energy customers from financial risks associated with investments in carbon-intensive generation by allowing new capital investments in power plants whose GHG emissions are as low as or lower than new combined-cycle natural gas plants by requiring imported electricity to meet GHG performance standards in California and by requiring that the standards be developed and adopted in a public process.

SB X1 2. SB X1 2 (2011) expanded the RPS by establishing that 20% of the total electricity sold to retail customers in California per year by December 31, 2013, and 33% by December 31, 2020, and in subsequent years be secured from qualifying renewable energy sources. Under the bill, a renewable electrical generation facility is one that uses biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation of 30 megawatts or less, digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current, and that meets other specified requirements with respect to its location. In addition to the retail sellers previously covered by the RPS, SB X1 2 added local, publicly owned electric utilities to the RPS.

SB 350. SB 350 (2015) further expanded the RPS by establishing that 50% of the total electricity sold to retail customers in California per year by December 31, 2030, be secured from qualifying renewable energy sources. In addition, SB 350 includes the goal to double the energy efficiency savings in electricity and natural gas final end uses (such as heating, cooling, lighting, or class of energy uses on which an energy efficiency program is focused) of retail customers through energy conservation and efficiency. The bill also requires the CPUC, in consultation with the CEC, to establish efficiency targets for electrical and gas corporations consistent with this goal.

SB 100. SB 100 (2018) increased the standards set forth in SB 350 establishing that 44% of the total electricity sold to retail customers in California per year by December 31, 2024, 52% by December 31, 2027, and 60% by December 31, 2030 be secured from qualifying renewable energy sources. SB 100 states that it is the policy of the State that eligible renewable energy resources and zero-carbon resources supply 100% of the retail sales of electricity to California. This bill requires that the achievement of 100% zero-carbon electricity resources do not increase the carbon emissions elsewhere in the western grid and that the achievement not be achieved through resource shuffling.

Mobile Sources

AB 1493. In a response to the transportation sector accounting for more than half of California's CO_2 emissions, AB 1493 was enacted in July 2002. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by the state board to be vehicles that are primarily used for noncommercial personal transportation in the state. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009

and all subsequent model years. CARB adopted the standards in September 2004. When fully phased in, the near-term (2009–2012) standards will result in a reduction of about 22% in GHG emissions compared to the emissions from the 2002 fleet, and the mid-term (2013–2016) standards will result in a reduction of about 30%.

EO S-1-07. Issued on January 18, 2007, EO S-1-07 sets a declining LCFS for GHG emissions measured in CO_2e grams per unit of fuel energy sold in California. The target of the LCFS is to reduce the carbon intensity of California passenger vehicle fuels by at least 10% by 2020. The carbon intensity measures the amount of GHG emissions in the lifecycle of a fuel, including extraction/feedstock production, processing, transportation, and final consumption, per unit of energy delivered. CARB adopted the implementing regulation in April 2009. The regulation is expected to increase the production of biofuels, including those from alternative sources, such as algae, wood, and agricultural waste.

SB 375. SB 375 (2008) addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. SB 375 required CARB to adopt regional GHG reduction targets for the automobile and light-truck sector for 2020 and 2035. Regional metropolitan planning organizations are then responsible for preparing a Sustainable Communities Strategy (SCS) within their Regional Transportation Plan (RTP). The goal of the SCS is to establish a forecasted development pattern for the region that, after considering transportation measures and policies, will achieve, if feasible, the GHG reduction targets. If a SCS is unable to achieve the GHG reduction target, a metropolitan planning organization must prepare an Alternative Planning Strategy demonstrating how the GHG reduction target would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies.

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

In 2010, CARB adopted the SB 375 targets for the regional metropolitan planning organizations. The targets for SANDAG are a 7% reduction in emissions per capita by 2020 and a 13% reduction by 2035.

SANDAG completed and adopted its 2050 RTP/SCS in October 2011 (SANDAG 2011). In November 2011, CARB, by resolution, accepted SANDAG's GHG emissions quantification analysis and determination that, if implemented, the SCS would achieve CARB's 2020 and 2035 GHG emissions reduction targets for the region.

After SANDAG's 2050 RTP/SCS was adopted, a lawsuit was filed by the Cleveland National Forest Foundation and others. In July 2017, the California Supreme Court held that SANDAG's EIR did not have to use EO S-3-05's 2050 goal of an 80% reduction in GHG emissions from 1990 levels as a threshold because the EIR sufficiently informed the public of the potential impacts.

Although the EIR for SANDAG's 2050 RTP/SCS was pending before the California Supreme Court, in 2015, SANDAG adopted the next iteration of its RTP/SCS in accordance with statutorily mandated timelines, and no subsequent litigation challenge was filed. More specifically, in October 2015, SANDAG adopted San Diego Forward: The Regional Plan. Like the 2050 RTP/SCS, this planning document meets CARB's 2020 and 2035 reduction targets for the region (SANDAG 2015). In December 2015, CARB, by resolution, accepted SANDAG's GHG emissions quantification analysis and determination that, if implemented, the SCS would achieve CARB's 2020 and 2035 GHG emissions reduction targets for the region.

Advanced Clean Cars Program. In January 2012, CARB approved the Advanced Clean Cars program, a new emissions-control program for model years 2015 through 2025. The program combines the control of smog- and soot-causing pollutants and GHG emissions into a single coordinated package. The package includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars (CARB 2011). To improve air quality, CARB has implemented new emission standards to reduce smog-forming emissions beginning with 2015 model year vehicles. It is estimated that in 2025 cars will emit 75% less smog-forming pollution than the average new car sold before 2012. To reduce GHG emissions, CARB, in conjunction with the EPA and the NHTSA, has adopted new GHG standards for model year 2017 to 2025 vehicles; the new standards are estimated to reduce GHG emissions by 34% in 2025. The zero emissions vehicle (ZEV) program will act as the focused technology of the Advanced Clean Cars program by requiring manufacturers to produce increasing numbers of ZEVs and plug-in hybrid EVs in the 2018 to 2025 model years.

President Trump and the EPA have stated their intent to halt various federal regulatory activities to reduce GHG emissions. California and other states have stated their intent to challenge federal actions that would delay or eliminate GHG reduction measures and have committed to cooperating with other countries to eliminate global climate change initiatives. The timing and consequences of these types of federal decisions and potential responses from California and other states are speculative at this time.

In August 2019, the U.S. Environmental Protection Agency (EPA) and National Highway Traffic Safety Administration (NHTSA) jointly published a notice of proposed rulemaking for Part One of the Safer Affordable Fuel-Efficient Vehicle Rule (SAFE Rule). The SAFE Rule proposed new and amended CO_2, Corporate Average Fuel Economy (CAFE), and GHG emissions standards for

passenger cars and light trucks. Further, Part One of this rule proposed to withdraw the State of California's waiver, afforded under the Clean Air Act (CAA) to set GHG and ZEV standards separate from the federal government. Part One of the SAFE Rule became effective in November 2019. CARB has provided adjustment factors for pollutants, including NO_2, PM_{10}, $PM_{2.5}$, and CO, from light-duty vehicle exhaust to account for Part One of the SAFE Rule.

However, corresponding adjustment factors for GHG emissions are not available at this time. In March 2020, EPA and NHTSA announced Part Two of the SAFE Rule, which would set amended fuel economy and CO_2 standards for passenger cars and light trucks for model years 2021–2026. Part Two would become effective 60 days after publication in the Federal Register. The impact of Parts One and Two of the SAFE Rule on GHG emissions factors in California has not been quantified by CARB in the Emissions Factor model (EMFAC) or related modeling tools. These modeling tools would need to be amended, or corresponding adjustment factors published, to quantitatively assess the impact on GHG emissions. Therefore, the quantitative methodology used to project GHG emissions for the Proposed Project does not include the impact of the SAFE Rule. At the time of this writing, the methodology represents current guidance and best available data from CARB.

EO B-16-12. EO B-16-12 (2012) directs state entities under the Governor's direction and control to support and facilitate development and distribution ZEVs. This EO also sets a long-term target of reaching 1.5 million ZEVs on California's roadways by 2025. On a statewide basis, EO B-16-12 also establishes a GHG emissions reduction target from the transportation sector equaling 80% less than 1990 levels by 2050. In furtherance of this EO, the Governor convened an Interagency Working Group on ZEVs that has published multiple reports regarding the progress made on the penetration of ZEVs in the statewide vehicle fleet.

AB 1236. AB 1236 (2015) as enacted in California's Planning and Zoning Law, requires local land use jurisdictions to approve applications for the installation of EV charging stations, as defined, through the issuance of specified permits unless there is substantial evidence in the record that the proposed installation would have a specific, adverse impact upon the public health or safety, and there is no feasible method to satisfactorily mitigate or avoid the specific, adverse impact. The bill provides for appeal of that decision to the planning commission, as specified. The bill requires local land use jurisdictions with a population of 200,000 or more residents to adopt an ordinance, by September 30, 2016, that creates an expedited and streamlined permitting process for EV charging stations, as specified. Prior to this statutory deadline, in August 2016, the County Board of Supervisors adopted Ordinance No. 10437 (N.S.) adding a section to its County Code related to the expedited processing of EV charging stations permits consistent with AB 1236.

SB 350. In 2015, SB 350—the Clean Energy and Pollution Reduction Act—was enacted into law. As one of its elements, SB 350 establishes a statewide policy for widespread electrification of the

transportation sector, recognizing that such electrification is required for achievement of the state's 2030 and 2050 reduction targets (see Public Utilities Code, Section 740.12).

EO B-48-18. EO B-48-18 (2018) launches an 8-year initiative to accelerate the sale of EVs through a mix of rebate programs and infrastructure improvements. The order also sets a new EV target of five million EVs in California by 2030. EO B-48-18 includes funding for multiple state agencies including the CEC to increase EV charging infrastructure and CARB to provide rebates for the purchase of new EVs and purchase incentives for low-income customers.

Solid Waste

AB 939 and AB 341. In 1989, AB 939, known as the Integrated Waste Management Act (Public Resources Code, Sections 40000 et seq.), was passed because of the increase in waste stream and the decrease in landfill capacity. The statute established the California Integrated Waste Management Board, which oversees a disposal reporting system. AB 939 mandated a reduction of waste being disposed where jurisdictions were required to meet diversion goals of all solid waste through source reduction, recycling, and composting activities of 25% by 1995 and 50% by the year 2000.

AB 341 (2011) amended the California Integrated Waste Management Act of 1989 to include a provision declaring that it is the policy goal of the state that not less than 75% of solid waste generated be source-reduced, recycled, or composted by the year 2020, and annually thereafter. In addition, AB 341 required the California Department of Resources Recycling and Recovery (CalRecycle) to develop strategies to achieve the state's policy goal. CalRecycle has conducted multiple workshops and published documents that identify priority strategies that CalRecycle believes would assist the state in reaching the 75% goal by 2020 (CalRecycle 2015).

Water

EO B-29-15. In response to the ongoing drought in California, EO B-29-15 (April 2015) set a goal of achieving a statewide reduction in potable urban water usage of 25% relative to water use in 2013. The term of the EO extended through February 28, 2016, although many of the directives have since become permanent water-efficiency standards and requirements. The EO includes specific directives that set strict limits on water usage in the state. In response to EO B-29-15, the California Department of Water Resources has modified and adopted a revised version of the Model Water Efficient Landscape Ordinance that, among other changes, significantly increases the requirements for landscape water use efficiency and broadens its applicability to include new development projects with smaller landscape areas.

Other State Regulations and Goals

SB 97. SB 97 (Dutton) (August 2007) directed the Governor's Office of Planning and Research (OPR) to develop guidelines under CEQA for the mitigation of GHG emissions. In 2008, OPR issued a technical advisory as interim guidance regarding the analysis of GHG emissions in CEQA documents. The advisory indicated that the lead agency should identify and estimate a project's GHG emissions, including those associated with vehicular traffic, energy consumption, water usage, and construction activities (OPR 2008). The advisory further recommended that the lead agency determine significance of the impacts and impose all mitigation measures necessary to reduce GHG emissions to a level that is less than significant. The CNRA adopted the CEQA Guidelines amendments in December 2009, which became effective in March 2010.

Under the amended CEQA Guidelines, a lead agency has the discretion to determine whether to use a quantitative or qualitative analysis or apply performance standards to determine the significance of GHG emissions resulting from a particular project (14 CCR 15064.4[a]). The CEQA Guidelines require a lead agency to consider the extent to which a project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4[b]). The CEQA Guidelines also allow a lead agency to consider feasible means of mitigating the significant effects of GHG emissions, including reductions in emissions through the implementation of project features or off-site measures. The adopted amendments do not establish a GHG emission threshold, instead allowing a lead agency to develop, adopt, and apply its own thresholds of significance or those developed by other agencies or experts. The CNRA also acknowledges that a lead agency may consider compliance with regulations or requirements implementing AB 32 in determining the significance of a project's GHG emissions (CNRA 2009a).

With respect to GHG emissions, the CEQA Guidelines, Section 15064.4(a), state that lead agencies should "make a good faith effort, to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions. The CEQA Guidelines note that an agency may identify emissions by either selecting a "model or methodology" to quantify the emissions or by relying on "qualitative analysis or other performance based standards" (14 CCR 15064.4[a]). Section 15064.4(b) states that the lead agency should consider the following when assessing the significance of impacts from GHG emissions on the environment: (1) the extent a project may increase or reduce GHG emissions as compared to the existing environmental setting; (2) whether project emissions exceed a threshold of significance that the lead agency determines applies to the project; and (3) the extent to which a project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4[b]).

EO S-13-08. EO S-13-08 (November 2008) is intended to hasten California's response to the impacts of global climate change, particularly sea-level rise. Therefore, the EO directs state agencies to take specified actions to assess and plan for such impacts. The final 2009 California Climate Adaptation Strategy report was issued in December 2009 (CNRA 2009a), and an update, Safeguarding California: Reducing Climate Risk, followed in July 2014 (CNRA 2014). To assess the state's vulnerability, the report summarizes key climate change impacts to the state for the following areas: Agriculture, Biodiversity and Habitat, Emergency Management, Energy, Forestry, Ocean and Coastal Ecosystems and Resources, Public Health, Transportation, and Water. Issuance of the Safeguarding California: Implementation Action Plans followed in March 2016 (CNRA 2016). In January 2018, the CNRA released the Safeguarding California Plan: 2018 Update, which communicates current and needed actions that state government should take to build climate change resiliency (CNRA 2018).

Biological Diversity v. California Department of Fish and Wildlife. In its decision in *Center for Biological Diversity v. California Dep't of Fish and Wildlife* (*Newhal*l) 62 Cal.4th 204 (2015), the California Supreme Court set forth several options that lead agencies may consider for evaluating the cumulative significance of a project's GHG emissions:

1. A calculation of emissions reductions compared to a "business as usual" (BAU) scenario based upon the emissions reductions in CARB's Scoping Plan, including examination of the data to determine what level of reduction from BAU a new land use development at the proposed location must contribute in order to comply with statewide goals.
2. A lead agency might assess consistency with AB 32's goals by looking to compliance with regulatory programs designed to reduce GHG emissions from particular activities.
3. Use of geographically specific GHG emission reduction plans to provide a basis for tiering and streamlining of project-level CEQA analysis.
4. A lead agency may rely on existing numerical thresholds of significance for GHG emissions, though use of such thresholds is not required.

The Newhall decision specifically found that use of a numerical threshold is not required.

2.2.3 Local Regulations

San Diego Air Pollution Control District

The SDAPCD does not have established GHG rules, regulations, or policies.

County of San Diego

Climate Action Plan

The County developed a Climate Action Plan (CAP) as a comprehensive strategy to reduce GHG emissions in the unincorporated communities of the County. The GHG emissions reduction targets for the CAP were established consistent with the most recent guidance provided by CARB to achieve 2% below 2014 levels by 2020; 40% below 2014 levels by 2030; and 77% below 2014 levels by 2050. A draft CAP was released on August 10, 2017, for public review. The CAP includes six chapters: (1) Introduction; (2) Greenhouse Gas Emissions Inventory, Projections, and Reductions Targets; (3) Greenhouse Gas Reduction Strategies and Measures; (4) Climate Change Vulnerability, Resiliency, and Adaptation; (5) Implementation and Monitoring; and (6) Public Outreach and Engagement. Concurrent with the release of the Draft CAP, the County published implementation tools for the County to use when conducting CEQA analysis. This included a General Plan Land Use Conformity Determination and Checklist. In January 2018, Planning Commission recommended adoption of the final CAP to the County Board of Supervisors. On February 14, 2018, the County Board of Supervisors adopted the CAP that was prepared following CEQA Guidelines, Section 15183.5.

A lawsuit was then filed challenging the CAP and the County's related approvals (San Diego Superior Court Case No. 37-2018-00014081-CU-TT-CTL). On January 16, 2019, the County of San Diego Superior Court entered judgment in the suit (San Diego Superior Court Case No. 37-2018-00014081-CU-TT-CTL). The judgment, among other things, issued a writ of mandate directing the County to set aside the approval of the CAP and the Final Supplemental Environmental Impact Report to the 2011 General Plan Update Program Environmental Impact Report and declared that the CAP and the "certification of the Final SEIR to the 2011 General Plan Update Program EIR are legally inadequate and may not be used to provide the basis for CEQA review of GHG impacts of development proposals in the unincorporated County." The County subsequently appealed the Superior Court's judgment, to the Fourth Appellate District, Division One (Case No. D075478). On June 12, 2020, the appellate court affirmed the trial court's order with respect to the CAP and the Final Supplemental EIR. Accordingly, the County remains enjoined from using the CAP as the basis for CEQA review of GHG impacts of development proposals in the County.

County of San Diego General Plan

The County's General Plan (County of San Diego 2011) includes smart growth and land use planning principles designed to reduce vehicle miles traveled (VMT) and result in a reduction in GHG emissions. As discussed in the General Plan, climate change and GHG reduction policies are addressed

in plans and programs in multiple elements of the General Plan. In 2018, the County implemented publicly and privately initiated General Plan Amendments which addressed the following areas: Local Coastal Program Update, Active Transportation Plan, Lake Jennings Marketplace, Harmony Grove Village South, Valiano, Otay 250 Sunroad East Otay Mesa Business Park, and Newland Sierra (County of San Diego 2020).

The strategies for reduction of GHG emissions in the County's General Plan are as follows (County of San Diego 2011):

- **Strategy A-1:** Reduce vehicle trips generated, gasoline/energy consumption, and GHG emissions.
- **Strategy A-2:** Reduce non-renewable electrical and natural gas energy consumption and generation (energy efficiency).
- **Strategy A-3:** Increase generation and use of renewable energy sources.
- **Strategy A-4:** Reduce water consumption.
- **Strategy A-5:** Reduce and maximize reuse of solid wastes.
- **Strategy A-6:** Promote carbon dioxide consuming landscapes.
- **Strategy A-7:** Maximize preservation of open spaces, natural areas, and agricultural lands.

The County's General Plan also includes climate adaptation strategies to deal with potential adverse effects of climate change. The climate adaptation strategies include the following (County of San Diego 2011):

- **Strategy B-1:** Reduce risk from wildfire, flooding, and other hazards resulting from climate change.
- **Strategy B-2:** Conserve and improve water supply due to shortages from climate change.
- **Strategy B-3:** Promote agricultural lands for local food production.
- **Strategy B-4:** Provide education and leadership.

The County has also implemented a number of outreach programs such as the Green Building Program, lawn mower trade-in program, and reduction of solid waste by recycling to reduce air quality impacts and GHG emissions.

The County General Plan's Conservation and Open Space Element includes goals and policies that are designed to reduce the emissions of criteria air pollutants, emissions of GHGs, and energy use in buildings and infrastructure, while promoting the use of renewable energy sources, conservation, and other methods of efficiency, as follows (County of San Diego 2011):

- **Goal COS-14, Sustainable Land Development.** Land use development techniques and patterns that reduce emissions of criteria pollutants and GHGs through minimized transportation and energy demands, while protecting public health and contributing to a more sustainable environment.
    - **Policy COS-14.1 Land Use Development Form.** Require that development be located and designed to reduce vehicular trips (and associated air pollution) by utilizing compact regional and community-level development patterns while maintaining community character.
    - **Policy COS-14.2 Villages and Rural Villages.** Incorporate a mixture of uses within Villages and Rural Villages that encourage people to walk, bicycle, or use public transit to reduce air pollution and GHG emissions.
    - **Policy COS-14.3 Sustainable Development.** Require design of residential subdivisions and non-residential development through "green" and sustainable land development practices to conserve energy, water, open space, and natural resources.
    - **Policy COS-14.4 Sustainable Technology and Projects.** Require technologies and projects that contribute to the conservation of resources in a sustainable manner, that are compatible with community character, and that increase the self-sufficiency of individual communities, residents, and businesses.
    - **Policy COS-14.5 Building Siting and Orientation in Subdivisions.** Require that buildings be located and oriented in new subdivisions and multi-structure non-residential projects to maximize passive solar heating during cool seasons, minimize heat gains during hot periods, enhance natural ventilation, and promote the effective use of daylight.
    - **Policy COS-14.6 Solar Access for Infill Development.** Require that property setbacks and building massing of new construction located within existing developed areas maintain an envelope that maximizes solar access to the extent feasible.
    - **Policy COS-14.7 Alternative Energy Sources for Development Projects.** Encourage development projects that use energy recovery, photovoltaic, and wind energy.
    - **Policy COS-14.8 Minimize Air Pollution.** Minimize land use conflicts that expose people to significant amounts of air pollutants.

- **Policy COS-14.9 Significant Producers of Air Pollutants.** Require projects that generate potentially significant levels of air pollutants and/or GHGs such as quarries, landfill operations, or large land development projects to incorporate renewable energy, and the best available control technologies and practices into the project design.
- **Policy COS-14.10 Low-Emission Construction Vehicles and Equipment.** Require County contractors and encourage other developers to use low-emission construction vehicles and equipment to improve air quality and reduce GHG emissions.
- **Policy COS-14.11 Native Vegetation.** Require development to minimize the vegetation management of native vegetation while ensuring sufficient clearing is provided for fire control.
- **Policy COS-14.12 Heat Island Effect.** Require that development be located and designed to minimize the "heat island" effect as appropriate to the location and density of development, incorporating such elements as cool roofs, cool pavements, and strategically placed shade trees.
- **Policy COS-14.13 Incentives for Sustainable and Low GHG Development.** Provide incentives such as expedited project review and entitlement processing for developers that maximize use of sustainable and low GHG land development practices in exceedance of state and local standards.

- **Goal COS-15, Sustainable Architecture and Buildings.** Building design and construction techniques that reduce emissions of criteria pollutants and GHGs, while protecting public health and contributing to a more sustainable environment.
  - **Policy COS-15.1 Design and Construction of New Buildings.** Require that new buildings be designed and constructed in accordance with "green building" programs that incorporate techniques and materials that maximize energy efficiency, incorporate the use of sustainable resources and recycled materials, and reduce emissions of GHGs and toxic air contaminants.
  - **Policy COS-15.2 Upgrade of Existing Buildings.** Promote and, as appropriate, develop standards for the retrofit of existing buildings to incorporate design elements, heating and cooling, water, energy, and other elements that improve their environmental sustainability and reduce GHG.
  - **Policy COS-15.3 Green Building Programs.** Require all new County facilities and the renovation and expansion of existing County buildings to meet identified "green building" programs that demonstrate energy efficiency, energy conservation, and renewable technologies.

- **Policy COS-15.4 Title 24 Energy Standards.** Require development to minimize energy impacts from new buildings in accordance with or exceeding Title 24 energy standards.
- **Policy COS-15.5 Energy Efficiency Audits.** Encourage energy conservation and efficiency in existing development through energy efficiency audits and adoption of energy saving measures resulting from the audits.
- **Policy COS-15.6 Design and Construction Methods.** Require development design and construction methods to minimize impacts to air quality.

- **Goal COS-16, Sustainable Mobility.** Transportation and mobility systems that contribute to environmental and human sustainability and minimize GHG and other air pollutant emissions.
  - **Policy COS-16.1 Alternative Transportation Modes.** Work with SANDAG and local transportation agencies to expand opportunities for transit use. Support the development of alternative transportation modes, as provided by Mobility Element policies.
  - **Policy COS-16.2 Single-Occupancy Vehicles.** Support transportation management programs that reduce the use of single-occupancy vehicles.
  - **Policy COS-16.3 Low-Emissions Vehicles and Equipment.** Require County operations and encourage private development to provide incentives (such as priority parking) for the use of low- and zero-emission vehicles and equipment to improve air quality and reduce GHG emissions.
  - **Policy COS-16.4 Alternative Fuel Sources.** Explore the potential of developing alternative fuel stations at maintenance yards and other County facilities for the municipal fleet and general public.
  - **Policy COS-16.5 Transit-Center Development.** Encourage compact development patterns along major transit routes.
- **Goal COS-17, Sustainable Solid Waste Management.** Perform solid waste management in a manner that protects natural resources from pollutants while providing sufficient, long term capacity through vigorous reduction, reuse, recycling, and composting programs.
  - **Policy COS-17.1 Reduction of Solid Waste Materials.** Reduce GHG emissions and future landfill capacity needs through reduction, reuse, or recycling of all types of solid waste that is generated. Divert solid waste from landfills in compliance with state law.
  - **Policy COS-17.2 Construction and Demolition Waste.** Require recycling, reduction, and reuse of construction and demolition debris.

- **Policy COS-17.3 Landfill Waste Management.** Require landfills to use waste management and disposal techniques and practices to meet all applicable environmental standards.
- **Policy COS-17.4 Composting.** Encourage composting throughout the County and minimize the amount of organic materials disposed at landfills.
- **Policy COS-17.5 Methane Recapture.** Promote efficient methods for methane recapture in landfills and the use of composting facilities and anaerobic digesters and other sustainable strategies to reduce the release of GHG emissions from waste disposal or management sites and to generate additional energy such as electricity.
- **Policy COS-17.6 Recycling Containers.** Require that all new land development projects include space for recycling containers.
- **Policy COS-17.7 Material Recovery Program.** Improve the County's rate of recycling by expanding solid waste recycling programs for residential and non-residential uses.
- **Policy COS-17.8 Education.** Continue programs to educate industry and the public regarding the need and methods for waste reduction, recycling, and reuse.

- **Goal COS-18, Sustainable Energy.** Energy systems that reduce consumption of non-renewable resources and reduce GHG and other air pollutant emissions while minimizing impacts to natural resources and communities.
  - **Policy COS-18.1 Alternate Energy Systems Design.** Work with San Diego Gas & Electric (SDG&E) and non-utility developers to facilitate the development of alternative energy systems that are located and designed to maintain the character of their setting.
  - **Policy COS-18.2 Energy Generation from Waste.** Encourage use of methane sequestration and other sustainable strategies to produce energy and/or reduce GHG emissions from waste disposal or management sites.
  - **Policy COS-18.3 Alternate Energy Systems Impacts.** Require alternative energy system operators to properly design and maintain these systems to minimize adverse impacts to the environment.
- **Goal COS-19, Sustainable Water Supply.** Conservation of limited water supply supporting all uses including urban, rural, commercial, industrial, and agricultural uses.
  - **Policy COS-19.1 Sustainable Development Practices.** Require land development, building design, landscaping, and operational practices that minimize water consumption.

- **Policy COS-19.2 Recycled Water in New Development.** Require the use of recycled water in development wherever feasible. Restrict the use of recycled water when it increases salt loading in reservoirs.

- **Goal COS-20, Governance and Administration.** Reduction of local GHG emissions contributing to climate change that meet or exceed requirements of the Global Warming Solutions Act of 2006.
  - **Policy COS-20.1 Climate Change Action Plan.** Prepare, maintain, and implement a climate change action plan with a baseline inventory of GHG emissions from all sources, GHG emissions reduction targets and deadlines, and enforceable GHG emissions reduction measures.
  - **Policy COS-20.2 GHG Monitoring and Implementation.** Establish and maintain a program to monitor GHG emissions attributable to development, transportation, infrastructure, and municipal operations and periodically review the effectiveness of and revise existing programs as necessary to achieve GHG emission reduction objectives.
  - **Policy COS-20.3 Regional Collaboration.** Coordinate air quality planning efforts with federal and state agencies, SANDAG, and other jurisdictions.
  - **Policy COS-20.4 Public Education.** Continue to provide materials and programs that educate and provide technical assistance to the public, development professionals, schools, and other parties regarding the importance and approaches for sustainable development and reduction of GHG emissions.

Strategic Plan to Reduce Waste

The County Strategic Plan to Reduce Waste outlines near, mid-, and long-term programs and policies to increase the County's solid waste diversion rate to meet state targets and support other County initiatives. In April 2017, the County adopted a diversion goal of 75% by 2025 (County of San Diego 2017a).

Renewable Energy Plan

The County's Renewable Energy Plan outlines research and renewable energy options in the County. The planning effort covers the residential, commercial, and industrial sectors of the County, with a particular focus on unincorporated areas, and presents a comprehensive approach to renewable energy and energy efficiency (County of San Diego 2017b).

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3 SIGNIFICANCE CRITERIA AND ANALYSIS METHODOLOGIES

3.1 Significance Criteria

The Proposed Project's potential impacts on GHG's will be assessed using the GHG thresholds set forth in Appendix G, Environmental Checklist Form:

1. Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?
2. Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

The Appendix G thresholds for GHG's do not prescribe specific methodologies for performing an assessment, do not establish specific thresholds of significance, and do not mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance consistent with the manner in which other impact areas are handled in CEQA (CNRA 2009b). Additional guidance regarding assessment of GHG's is discussed below.

The Proposed Project is a solar energy generation and storage facility, which includes a switchyard that would be transferred to SDG&E after construction. For the purposes of this analysis, the switchyard (as described in Chapter 1, Project Description, of the JVR Energy Park EIR) is a component of the Proposed Project and has been analyzed as part of the whole of the action. However, this EIR highlights the specific analysis of the switchyard under each threshold of significance in the event responsible agencies have CEQA obligations related to the switchyard.

CEQA Guidelines

With respect to GHG emissions, the CEQA Guidelines Section 15064.4(a) states that lead agencies "shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions resulting from a project. The CEQA Guidelines note that an agency has the discretion to either quantify a project's greenhouse gas emissions or rely on a "qualitative analysis or other performance based standards" (14 CCR 15064.4[b]). A lead agency may use a "model or methodology" to estimate greenhouse gas emissions and has the discretion to select the model or methodology it considers "most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change" (14 CCR 15064.4[c]). Section 15064.4(b) provides that the lead agency should consider the following when determining the significance of impacts from GHG emissions on the environment (14 CCR 15064.4[b]):

1. The extent a project may increase or reduce GHG emissions as compared to the existing environmental setting.

2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

In addition, Section 15064.7(c) of the CEQA Guidelines specifies that "[w]hen adopting or using thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence" (14 CCR 15064.7[c]).

Office of Planning and Research Guidance

The OPR's Technical Advisory titled CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review states that "public agencies are encouraged but not required to adopt thresholds of significance for environmental impacts. Even in the absence of clearly defined thresholds for GHG emissions, the law requires that such emissions from CEQA projects must be disclosed and mitigated to the extent feasible whenever the lead agency determines that the project contributes to a significant, cumulative climate change impact" (OPR 2008). Furthermore, the advisory document indicates that "in the absence of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a 'significant impact,' individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice" (OPR 2008).

Cumulative Nature of Climate Change

Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHGs. There are currently no established thresholds for assessing whether the GHG emissions of a project in the San Diego Air Basin, such as the Proposed Project, would be considered a cumulatively considerable contribution to global climate change; however, all reasonable efforts should be made to minimize a project's contribution to global climate change.

Although the Proposed Project would result in emissions of GHGs during construction and operation, no local guidance exists to indicate what level of GHG emissions would be considered substantial enough to result in a significant adverse impact on global climate. However, it is generally believed that an individual project is of insufficient magnitude by itself to influence climate change or result in a substantial contribution to the global GHG inventory as scientific uncertainty regarding the significance a project's individual and cumulative effects on global climate change remains.

Thus, GHG impacts are recognized as exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective (CAPCOA 2008). This approach is consistent with that recommended by the CNRA, which noted in its Public Notice for the proposed CEQA amendments (pursuant to SB 97) that the evidence before it indicates that in most cases, the impact of GHG emissions should be considered in the context of a cumulative impact, rather than a project-level impact. Similarly, the Final Statement of Reasons for Regulatory Action on the CEQA Amendments confirm that an EIR or other environmental document must analyze the incremental contribution of a project to GHG levels and determine whether those emissions are cumulatively considerable (CNRA 2009b). Accordingly, further discussion of the Proposed Project's GHG emissions and their impact on global climate is provided in Section 5.

In regards to evaluating the Proposed Project's significance with respect to CEQA Guidelines checklist #1, the Proposed Project's emissions were evaluated against the existing site conditions. The Proposed Project's net GHG emissions and impact will be further assessed to include the benefit of producing zero GHG emission energy and the avoided GHG emissions associated with its use within the regional power grid.

To address the CEQA Guidelines checklist question #2, whether the Proposed Project is consistent with plans, policies, and regulations adopted for the purpose of reducing the emissions of GHGs, the Proposed Project was evaluated against AB 32, SANDAG's RTP/SCS, and EO B-55-18.

3.2 Construction Emissions Methodology

The Proposed Project would include the installation of 300,000 PV modules, a DC underground collection system, on-site collector substation, switchyard, an up to 90 MW battery energy storage system, vehicle access, fencing and landscaping. Approximately 643 acres of the Project site would be graded.

For purposes of estimating Proposed Project emissions, and based on information provided by the applicant, it is assumed that construction of the Proposed Project would commence in December 2020[4] and would last approximately 13 months. The analysis contained herein is based on the following subset area schedule assumptions (duration of phases is approximate). The majority of the phases listed below would occur concurrently and would not occur sequentially in isolation. Detailed construction equipment modeling assumptions are provided in Appendix A, CalEEMod Outputs.

- Site Mobilization: 2 weeks

[4] The analysis assumes a construction start date of December 2020, which represents the earliest date construction would initiate. Assuming the earliest start date for construction represents the worst-case scenario for criteria air pollutant emissions because equipment and vehicle emission factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years.

- Demolition of dairy and ranching structures: 1 month
- Site Prep, Grading, and Stormwater Protections: 3 months
- Fence Installation: 3 months
- Landscaping Installation: 4 months
- Pile Driving: 2 months
- Tracker and Module Installation: 6 months
- DC Electrical: 6 months
- Underground Medium AC Voltage Electrical: 5 months
- Inverter Installation: 2 months
- Battery Energy Storage System Installation: 2 months
- Commissioning: 1 month

Emissions from the construction phase of the Proposed Project were estimated using CalEEMod. Construction scenario assumptions, including phasing, equipment mix, and vehicle trips, were based on information provided by the applicant, CalEEMod defaults, and best engineering judgement.

General construction equipment modeling assumptions are provided in Table 4, Construction Workers, Vendor Trips, and Equipment Use per Day. Default values for equipment mix, horsepower, and load factor provided in CalEEMod were used for all construction equipment. For the analysis, it was generally assumed that heavy-duty construction equipment would be operating at the site 5 days per week. For the purposes of estimating emissions, it was assumed that worker trips and truck trips would be made to the site independently; however, it is likely that workers would drive trucks to and from the site for deliveries rather than driving in a separate vehicle. Therefore, the estimates provides in Table 4 are conservative. Detailed construction equipment modeling assumptions are provided in Appendix A, CalEEMod Outputs.

Table 4
Construction Workers, Vendor Trips, and Equipment Use per Day

Construction Phase	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	*Average Daily Vendor Truck Trips*	*Total Haul Truck Trips*	*Equipment Type*	*Quantity*	*Usage Hours*
Site Mobilization	10	20	0	NA	NA	NA
Demolition of dairy and ranching structures	40	2	40	Excavators	1	8
				Tractors/Loaders/ Backhoes	1	8

Table 4
Construction Workers, Vendor Trips, and Equipment Use per Day

Construction Phase	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	*Average Daily Vendor Truck Trips*	*Total Haul Truck Trips*	*Equipment Type*	*Quantity*	*Usage Hours*
Site Prep, Grading, Stormwater Protection	20	90	33,000	Graders	2	8
				Rubber Tired Loaders	1	8
				Scrapers	4	8
				Tractors/Loaders/ Backhoes	1	8
Fence Installation	40	2	0	Cement and Mortar Mixers	1	8
				Skid Steer Loaders	1	8
Landscape Installation	124	2	0	Skid Steer Loaders	1	8
				Tractors/Loaders/ Backhoes	2	8
Pile Driving	200	0	0	Aerial Lifts	2	8
				Other Construction Equipment	6	8
Tracker and Module Installation	200	70	0	Aerial Lifts	6	8
				Off-Highway Trucks	5	8
DC Electrical	400	0	0	Aerial Lifts	2	8
				Off-Highway Trucks	10	8
Underground Medium AC Voltage Electrical	100	0	0	Excavators	2	8
				Rollers	1	8
				Rubber Tired Loaders	1	8
Inverter Installation	40	2	0	Cranes	1	8
				Forklifts	1	8
Battery Energy Storage System Installation	40	2	0	Cranes	1	8
				Forklifts	1	8
Commissioning	40	0	0	NA	NA	NA

Note: See Appendix A for additional details.

The estimated number of workers (maximum 500), vendor trucks (26,200 total one-way trips), and haul trucks (30,314 total one-way trips) were provided by the applicant. Changes to any standard

default values or assumptions are reported in the CalEEMod output (see Appendix A). Based on data from similar projects in the general vicinity of the Project site, the worker mix was assumed to include 50% coming from San Diego (72 miles from the Project site) and 50% from El Centro (44 miles from the Project site). Because the Proposed Project's grading would be balanced on site, the haul truck trips are only assumed to be driven within the site. The water trucks are assumed to come from the Jacumba Community Services District and the vendor trucks delivering materials to the site come from the Port of San Diego. This is a conservative assumption as the water will primarily come from on-site groundwater wells, which is a less intensive use with respect to GHG emissions.

Loss of Sequestered Carbon

The calculation methodology and default values provided in CalEEMod (CAPCOA 2017) were used to calculate potential CO_2 emissions associated with the one-time change in carbon sequestration capacity of a vegetation land use type. The calculation of the one-time loss of sequestered carbon is the product of the converted acreage value and the carbon content value for each land use type (vegetation community). The mass of sequestered carbon per unit area (expressed in units of MT of CO_2 per acre) is dependent on the specific land use type. Assuming that the sequestered carbon is released as CO_2 after removal of the vegetation, annual CO_2 is calculated by multiplying total biomass (MT of dry matter per acre) from IPCC data by the carbon fraction in plant material, and then converting MT of carbon to MT of CO_2 based on the molecular weights of carbon and CO_2.

It is conservatively assumed that all sequestered carbon from the removed vegetation would be returned to the atmosphere; that is, the wood from the vegetation communities would not be re-used in a solid form or another form that would retain carbon. GHG emissions generated during construction activities, including clearing, vegetation removal, and grading, are estimated in the construction emissions analysis.

CalEEMod calculates GHG emissions resulting from land conversion and uses six[5] general IPCC land use classifications for assigning default carbon content values (in units of MT CO_2 per acre). CalEEMod default carbon content values were assumed to estimate the loss of sequestered carbon (release of CO_2) from the removal of the scrub (14.3 MT CO_2 per acre), forest (111 MT CO_2 per acre), and grassland (4.31 MT CO_2 per acre) vegetation categories, which are based on data and formulas provided in the IPCC reports. The Proposed Project would permanently disturb 643.13 acres with varying carbon content values; however, only 594.62 acres is vegetated land.

[5] Forest land (scrub), forest land (trees), cropland, grassland, wetlands, and other.

Decommissioning

As discussed in Section 1.2.1, Overview and Background, the Proposed Project would be decommissioned after the end of its expected 35-year lifetime. All Proposed Project components would be removed to be reused or recycled.

For purposes of estimating Proposed Project decommissioning emissions, and based on information provided by the applicant, it is assumed that decommissioning of the Proposed Project would commence in January 2057[6] and would last approximately 10 months. However, because CalEEMod relies on the CARB EMFAC 2014 it is only able to estimate mobile source emissions through 2050. Therefore, the emissions for decommissioning were estimated in year 2050. This is conservative as the emissions are likely less in 2057 as vehicles and construction equipment become more efficient. The analysis contained herein is based on the following subset area schedule assumptions (duration of phases is approximate. Detailed construction equipment modeling assumptions are provided in Appendix A, CalEEMod Outputs.

- Perimeter Fence Removal: 1.5 months
- System Disassembly and Removal: 5 months
- Energy Storage System: 2 months
- Site Cleanup & Restoration: 1 month

Emissions from the decommissioning phase of the Proposed Project were estimated using CalEEMod. Construction scenario assumptions, including phasing, equipment mix, and vehicle trips, were based on information provided by the applicant, CalEEMod defaults, and best engineering judgement.

General decommissioning equipment modeling assumptions are provided in Table 5, Decommissioning Workers, Vendor Trips, and Equipment Use per Day. Default values for equipment mix, horsepower, and load factor provided in CalEEMod were used for all construction equipment. For the analysis, it was generally assumed that heavy-duty equipment would be operating at the site 5 days per week. For the purposes of estimating emissions, it was assumed that worker trips and truck trips would be made to the site independently; however, it is likely that workers would drive trucks to and from the site for deliveries rather than driving in a separate

[6] The analysis assumes a construction start date of January 2057, which represents the earliest date construction would initiate. Assuming the earliest start date for construction represents the worst-case scenario for criteria air pollutant emissions because equipment and vehicle emission factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years.

vehicle. Therefore, the estimates provides in Table 5 are conservative. Detailed construction equipment modeling assumptions are provided in Appendix A, CalEEMod Outputs.

Table 5
Decommissioning Workers, Vendor Trips, and Equipment Use per Day

Construction Phase	One-Way Vehicle Trips			Equipment		
	Average Daily Worker Trips	*Average Daily Vendor Truck Trips*	*Total Haul Truck Trips*	*Equipment Type*	*Quantity*	*Usage Hours*
Perimeter Fence Removal	40	0	0	Skid Steer Loaders	1	8
System Disassembly and Removal	700	70	0	Cranes	1	8
				Generator Sets	2	8
				Off-Highway Trucks	20	8
				Other Construction Equipment	4	8
				Rough Terrain Forklifts	8	8
Energy Storage System	300	70	0	Cranes	1	8
				Graders	1	8
				Rough Terrain Forklifts	1	8
Site Cleanup & Restoration	40	0	0	Graders	1	8
				Skid Steer Loaders	1	8
				Scrapers	2	8

Note: See Appendix A for additional details.

The estimated number of workers and vendor trucks were provided by the applicant. Changes to any standard default values or assumptions are reported in the CalEEMod output (see Appendix A). Based on data from similar projects in the general vicinity of the Project site, the worker mix was assumed to include 50% coming from San Diego and 50% from El Centro. The water trucks are assumed to come from the Jacumba Community Services District and the vendor trucks delivering materials to the site come from the Port of San Diego. This is a conservative assumption as the water will primarily come from on-site groundwater wells, which is a less intensive use with respect to GHG emissions.

Switchyard

The switchyard includes two primary components:

- Construction of a new 138 kV electric switchyard
- Construction of a 138kV, 1,860-feet long and 70 to 115-feet high overhead transmission lines (gen-tie) would loop the Proposed Project to an existing SDG&E 138 kV transmission line that is transects the Project site

The switchyard would constructed adjacent to the Proposed Project's proposed collector substation. The switchyard will be connected to both the Proposed Project's collector substation and the existing SDG&E 138 kV transmission line via a short overhead transmission line, approximately 224 feet in length. The size of the switchyard is approximately 141,050 square feet. The switchyard may include circuit breakers, overhead electrical bus work, switches and controls, and a control building, and the entire switchyard area will be enclosed inside a security fence. The switchyard includes a 30-feet wide, asphalt paved access road for switchyard operations that will provide an interconnection to Carrizo Gorge Road.

For purposes of estimating switchyard emissions, and based on information provided by the applicant, it is assumed that construction of the switchyard would commence in March 2021[7] and would last approximately 9 months. The analysis contained herein is based on the following subset area schedule assumptions (duration of phases is approximate). The majority of the phases listed below would occur concurrently and would not occur sequentially in isolation. Detailed construction equipment modeling assumptions are provided in Appendix A, CalEEMod Outputs.

- Site Preparation 1 - Switchyard: 1 month
- Conductor Installation 1: 1 month
- Site Preparation 2 - Switchyard: 1 month
- Trenching - Switchyard: 1 month
- Paving - Switchyard: 2 weeks
- Site Preparation – Transmission Line: 2 weeks
- Operate Air Tools: 4 months
- Structure Installation: 1.5 months
- Conductor Installation 2: 1 month
- Erect Structures: 1 month

Emissions from the construction phase of the switchyard were estimated using CalEEMod. Construction scenario assumptions, including phasing, equipment mix, and vehicle trips, were based on information provided by the applicant, CalEEMod defaults, and best engineering judgement.

[7] The analysis assumes a construction start date of March 2021, which represents the earliest date construction would initiate. Assuming the earliest start date for construction represents the worst-case scenario for criteria air pollutant emissions because equipment and vehicle emission factors for later years would be slightly less due to more stringent standards for in-use off-road equipment and heavy-duty trucks, as well as fleet turnover replacing older equipment and vehicles in later years.

General construction equipment modeling assumptions are provided in Table 6, Construction Workers, Vendor Trips, and Equipment Use per Day – Switchyard. Default values for equipment mix, horsepower, and load factor provided in CalEEMod were used for all construction equipment. For the analysis, it was generally assumed that heavy-duty construction equipment would be operating at the site 5 days per week. For the purposes of estimating emissions, it was assumed that worker trips and truck trips would be made to the site independently; however, it is likely that workers would drive trucks to and from the site for deliveries rather than driving in a separate vehicle. Therefore, the estimates provides in Table 6 are conservative. Detailed construction equipment modeling assumptions are provided in Appendix A, CalEEMod Outputs.

Table 6
Construction Workers, Vendor Trips, and Equipment Use per Day – Switchyard

	One-Way Vehicle Trips			Equipment		
Construction Phase	*Average Daily Worker Trips*	*Average Daily Vendor Truck Trips*	*Total Haul Truck Trips*	*Equipment Type*	*Quantity*	*Usage Hours*
Site Preparation 1 – Switchyard	34	10	0	Graders	2	8
				Plate Compactors	2	8
				Rubber Tired Dozers	3	8
				Rubber Tired Loaders	3	8
				Scrapers	2	8
				Tractors/Loaders/Backhoes	1	8
Conductor Installation 1	24	16	0	Aerial Lifts	1	8
Site Preparation 2 - Switchyard	8	8	30	Bore/Drill Rigs	2	8
				Crushing/Proc. Equipment	1	8
Trenching – Switchyard	4	0	0	Trenchers	1	8
Paving – Switchyard	18	0	0	Pavers	2	8
				Paving Equipment	2	8
				Rollers	3	8
Site Preparation – Transmission Line	10	2	0	Trenchers	1	8
				Graders	1	8
				Plate Compactors	1	8
				Rubber Tired Dozers	1	8
				Rubber Tired Loaders	1	8
Operate Air Tools	8	0	0	Air Compressors	1	8
Structure Installation	4	12	0	Plate Compactors	1	8
Conductor Installation 2	4	0	0	Bore/Drill Rigs	1	8
Erect Structures	4	0	0	Cranes	1	4

Note: See Appendix A for additional details.

The estimated number of workers, vendor trucks, and haul trucks were provided by the applicant. Changes to any standard default values or assumptions are reported in the CalEEMod output (see Appendix A). Based on data from similar projects in the general vicinity of the Project site, the worker mix was assumed to include 50% coming from San Diego and 50% from El Centro. Because the Proposed Project's grading would be balanced on site, the haul truck trips are only assumed to be driven within the site. The water trucks are assumed to come from the Jacumba Community Services District and the vendor trucks delivering materials to the site come from the Port of San Diego.

3.3 Operational Emissions Methodology

Proposed Project

CalEEMod was used to estimate potential Proposed-Project-generated operational GHG emissions from area sources (gas insulated switchgear), energy sources (natural gas and electricity), mobile sources, solid waste, and water supply and wastewater treatment. Emissions from each category are discussed in the following text. Operational year 2022 was assumed as the first full year of operation upon construction completion.

Area Sources

Gas-Insulated Switchgear

During operations and maintenance, one of the main sources of GHG emissions would be fugitive emissions from equipment containing SF_6 gas installed at the proposed switchyard. SF_6 has a GWP of 23,900 using CO_2 at a reference value of 1 (CARB 2018). The switchyard would include six 138 kilovolt (kV) breakers that would contain SF_6 gas. It is estimated that the Proposed Project would maintain a total of 124 pounds of SF_6 gas at the substation. Although leakage is unlikely, for the purposes of the Proposed Project's emissions inventory, it was assumed that the breakers would have a maximum annual leak rate of 0.5% in accordance with the Institute of Electrical and Electronics Engineers (IEEE) PC37.122 - Standard for High Voltage Gas-Insulated Substations Rated Above 52 kV (IEEE 2018). Emissions from SF_6 gas are included as part of area source emissions.

Energy Sources

As represented in CalEEMod, energy sources include emissions associated with perimeter lighting. Emissions were calculated by multiplying the energy use by the utility's carbon intensity. Annual electricity emissions were estimated in CalEEMod using the emissions factors for SDG&E, which would be the energy source provider for the Proposed Project. CalEEMod default values were used to estimate GHG emissions from Proposed Project lighting.

Mobile Sources

Mobile sources for the Proposed Project would primarily be motor vehicles (automobiles and light-duty trucks) traveling to and from the Project site. Motor vehicles may be fueled with gasoline, diesel, or alternative fuels. Based on applicant provided data and the traffic impact study for the Proposed Project (Kimley Horn 2020), the Proposed Project is anticipated to generate 8 one-way trips per day by worker vehicles and 4 one-way trips per day by vendor trucks traveling to and from San Diego. This is unlikely as the worker and vendor trips would occur only when maintenance is needed and not on a regular basis. The emissions included within this source category are conservative. CalEEMod default data, including trip characteristics, variable start information, and emissions factors were conservatively used for the model inputs to estimate daily emissions from proposed vehicular sources. Trips were assumed to originate in San Diego, 72 miles from the Project site.

Proposed-Project-related traffic was assumed to include a mixture of vehicles in accordance with the model outputs for traffic. CalEEMod default emissions factors and vehicle fleet mix were conservatively used for the model inputs to estimate daily emissions from proposed vehicular sources.[8] Emission factors representing the vehicle mix and emissions for 2022 were used to estimate emissions associated with full build-out of the Proposed Project.

Stationary Sources

The Proposed Project would include a 1.5 MW diesel emergency generator at the on-site collector substation. The generator was assumed to operate for testing and maintenance approximately 30 minutes each month for a total of up to 52 hours per year, in accordance with SDAPCD Rule 69.4.1. The CalEEMod default emission factors for emergency generators were used to estimate emissions from this source.

Water

Water will be used for panel washing during operation four times per year. It was estimated that up to 10 acre feet of water would be needed for panel washing. The water would be sourced from the Jacumba Community Services District or the on-site wells. CalEEMod default emission factors were assumed. This is a conservative assumption as the water will primarily come from on-site groundwater wells.

[8] Motor vehicles may be fueled with gasoline, diesel, or alternative fuels. The default vehicle mix (vehicle class distribution including automobiles, trucks, buses, motorcycles) provided in CalEEMod 2016.3.2, which is based on CARB's Mobile Source Emissions Inventory model, EMFAC Version 2014, was applied.

Switchyard

CalEEMod was used to estimate potential switchyard -generated operational GHG emissions from area sources (gas insulated switchgear), mobile sources, and off-road equipment. Emissions from each category are discussed in the following text. Operational year 2022 was assumed as the first full year of operation upon construction completion.

Area Sources

Gas-Insulated Switchgear

During operations and maintenance, one of the main sources of GHG emissions would be fugitive emissions from equipment containing SF_6 gas installed at the switchyard. SF_6 has a GWP of 23,900 using CO_2 at a reference value of 1 (CARB 2018). The switchyard would include six 138 kV breakers that would contain SF_6 gas. It is estimated that the switchyard would maintain a total of 124 pounds of SF_6 gas. Although leakage is unlikely, for the purposes of the switchyard's emissions inventory, it was assumed that the breakers would have a maximum annual leak rate of 0.5% in accordance with IEEE PC37.122 – Standard for High Voltage Gas-Insulated Substations Rated Above 52 kV (IEEE 2018). Emissions from SF_6 gas are included as part of area source emissions.

Mobile Sources

Mobile sources for the switchyard would primarily be motor vehicles (automobiles and light-duty trucks) traveling to and from the switchyard. Motor vehicles may be fueled with gasoline, diesel, or alternative fuels. Based on applicant provided data, the switchyard would not have regular vehicle trips but would require vehicle trips during scheduled and un-scheduled maintenance. The emissions included within this source category are conservative. CalEEMod default data, including trip characteristics, variable start information, and emissions factors were conservatively used for the model inputs to estimate daily emissions from proposed vehicular sources.

Switchyard-related traffic was assumed to include a mixture of vehicles in accordance with the model outputs for traffic. CalEEMod default emissions factors and vehicle fleet mix were conservatively used for the model inputs to estimate daily emissions from proposed vehicular sources.[9] Emission factors representing the vehicle mix and emissions for 2022 were used to estimate emissions associated with full build-out of the switchyard.

[9] Motor vehicles may be fueled with gasoline, diesel, or alternative fuels. The default vehicle mix (vehicle class distribution including automobiles, trucks, buses, motorcycles) provided in CalEEMod 2016.3.2, which is based on CARB's Mobile Source Emissions Inventory model, EMFAC Version 2014, was applied.

Off-Road Equipment

The use of various pieces of off-road equipment is necessary for the different maintenance activities occurring for the switchyard, transmission line tie-in, right-of-way repair, pole brushing, and repair or replacement of equipment. The different types of equipment and daily use estimates were provided by the applicant. The CalEEMod defaults were assumed for the off-road equipment horsepower, emission factors, and load factors.

4 ANALYSIS OF PROJECT EFFECTS AND DETERMINATION AS TO SIGNIFICANCE

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

Proposed Project Construction Emissions Estimates

GHG emissions from construction of the Proposed Project were estimated as discussed in Section 3.2, Construction Emissions Methodology. The construction emissions estimated for the Proposed Project are shown in Table 7.

Table 7
Estimated Annual Construction Greenhouse Gas Emissions – Proposed Project

Year	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
2020	267.40	0.03	0.00	268.22
2021	5,485.95	0.39	0.00	5,495.87
Total				**5,764.09**
Amortized Emissions over 35 Years				**164.69**

Notes: CH_4 = methane; CO_2 = carbon dioxide; CO_2e = carbon dioxide equivalent; N_2O = nitrous oxide
Construction emissions include CO_2 emissions from blasting activity.
See Appendix A for complete results.

As shown in Table 8, the estimated total GHG emissions during construction of would be approximately 5,764 MT CO_2e during construction. Estimated Proposed-Project-generated construction emissions amortized over the Project life of 35 years would be approximately 165 MT CO_2e per year.

As shown in Table 8, Vegetation Removal – Estimated Loss of Sequestered Carbon, the estimated total one-time loss of sequestered carbon from land use conversion for the Proposed Project would be 8,503 MT CO_2.

Table 8
Vegetation Removal – Estimated Loss of Sequestered Carbon

Vegetation Type	CalEEMod Vegetation Land Use Category	CO_2 Emissions Factor	Net Loss	Loss of Sequestered Carbon
		(MT CO_2 per acre)	(acres)	*(MT CO_2)*
Forest Land	Scrub	14.3	594.62	8,503.07
Amortized Emissions over 35 Years				**242.94**

Source: CAPCOA 2017.

Notes: MT CO_2 = metric tons carbon dioxide
See Appendix A for complete results.

Proposed Project Decommissioning Emissions Estimates

The decommissioning emissions estimated for the Proposed Project are shown in Table 9.

Table 9
Estimated Annual Decommissioning Greenhouse Gas Emissions – Proposed Project

Year	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
2057	2,402.75	0.08	0.00	2,404.76
Amortized Emissions over 35 Years				**68.71**

Notes: CH_4 = methane; CO_2 = carbon dioxide; CO_2e = carbon dioxide equivalent; N_2O = nitrous oxide
Construction emissions include CO_2 emissions from blasting activity.
See Appendix A for complete results.

As shown in Table 9, the estimated total GHG emissions during decommissioning would be approximately 2,405 MT CO_2e. Estimated Proposed-Project-generated decommissioning emissions amortized over the Project life of 35 years would be approximately 69 MT CO_2e per year.

Proposed Project Operational Emissions

CalEEMod was used to estimate potential Proposed-Project-generated operational GHG emissions from area sources (gas insulated switchgear), energy sources (natural gas and electricity), mobile sources, solid waste, and water supply and wastewater treatment. Emissions from each category are discussed in the following text. Operational year 2022 was assumed as the first full year of operation upon construction completion.

Emissions Estimates

The Proposed Project's estimated operational emissions are shown in Table 10.

Table 10
Estimated Annual Operational Greenhouse Gas Emissions

Emission Source	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
Area[a]	0.00	0.00	0.00	6.73
Energy	0.93	0.00	0.00	0.93
Mobile	217.08	0.01	0.00	217.31
Offroad	4.58	0.00	0.00	4.61

Table 10
Estimated Annual Operational Greenhouse Gas Emissions

Emission Source	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
Stationary	39.80	0.01	0.00	39.94
Water	11.83	0.00	0.00	11.87
			Subtotal	*281.39*
			Amortized Construction Emissions over 35 Years	*164.69*
			Amortized Loss of Sequestered Carbon over 35 Years	*242.94*
			Amortized Decommissioning Emissions over 35 Years	*68.71*
			Total	**757.73**

Notes: CH_4 = methane; CO_2 = carbon dioxide; CO_2e = carbon dioxide equivalent; N_2O = nitrous oxide
See Appendix A for complete results.
[a] Emissions from SF_6 are considered an area source.

As shown in Table 10, Proposed Project GHG emissions generated from operational activities are estimated to be approximately 281 MT CO_2e per year in 2022. Total operational emissions combined with amortized construction, vegetation removal, and decommissioning GHG emissions would be 758 MT CO_2e per year, assuming a 35-year Project life.

Switchyard

The analysis contained within this section evaluates the GHG emissions from the switchyard only. These emissions were included in the overall projects GHG emissions previously discussed.

Switchyard Construction Emissions Estimates

The construction emissions estimated for the switchyard are shown in Table 11.

Table 11
Estimated Annual Construction Greenhouse Gas Emissions – Switchyard

Year	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
2021	335.53	0.05	0.00	336.90
			Amortized Emissions over 35 Years	**9.63**

Notes: CH4 = methane; CO2 = carbon dioxide; CO2e = carbon dioxide equivalent; N2O = nitrous oxide
Construction emissions include CO2 emissions from blasting activity.
See Appendix A for complete results.

As shown in Table 11, the estimated total GHG emissions during construction of the switchyard would be approximately 337 MT CO_2e during construction. Estimated switchyard-generated construction emissions amortized over 35 years would be approximately 10 MT CO_2e per year.

Switchyard Operational Emissions

CalEEMod was used to estimate potential switchyard-generated operational GHG emissions from area sources (gas insulated switchgear), mobile sources, and off-road equipment. Emissions from each category are discussed in the following text. Operational year 2022 was assumed as the first full year of operation upon construction completion.

Switchyard Operational Emissions Estimates

The switchyard's estimated operational emissions are shown in Table 12.

Table 12
Estimated Annual Operational Greenhouse Gas Emissions – Switchyard

Emission Source	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
Area[a]	0.00	0.00	0.00	6.73
Mobile	10.03	0.00	0.00	8.81
Offroad	4.58	0.00	0.00	4.61
			Subtotal	*20.15*
			Amortized Construction Emissions over 35 Years	*9.63*
			Total	**29.78**

Notes: CH_4 = methane; CO_2 = carbon dioxide; CO_2e = carbon dioxide equivalent; N_2O = nitrous oxide
See Appendix A for complete results.
[a] Emissions from SF_6 are considered an area source.

As shown in Table 12, switchyard GHG emissions generated from operational activities are estimated to be approximately 20 MT CO_2e per year in 2022. Total operational emissions combined with amortized construction GHG emissions would be 30 MT CO_2e per year, assuming a 35-year life.

Avoided GHG Emissions

The Proposed Project would provide a source of renewable energy to support statewide RPS targets of 60% by 2030 and 100% by 2045 consistent with the renewable energy targets in the Scoping Plan and required by SB 100 and EO B-55-18. The generation of renewable energy, would offset GHG emissions generated by fossil-fuel power plants. As noted above, the Proposed Project would generate 758 MT CO_2e per year. The Proposed Project is expected to produce an estimated

211,159 megawatt hours of electricity per year (NREL 2019). The default CalEEMod CO_2 emission factor for SDG&E was 720.49 pounds of CO_2 per megawatt-hour (CO_2/MWh) from 2009 (CAPCOA 2017). The renewable content for SDG&E for 2009 was 10%. SDG&E reported that 44% of its power mix was renewable in 2017, which would result in 448.30 pounds CO_2/MWh (CEC 2017) (see Appendix A for more details). Assuming that SDG&E would meet the EO B-55-18 carbon neutrality target in 2045, a linear regression of the SDG&E GHG emission factor was calculated from 2017 to 2044. This would mean that the Proposed Project would avoid less GHG emissions over time. Assuming this, the Proposed Project would avoid a total of 423,254 MT CO_2 from 2022 through 2044. The Proposed Project is expected to be operational through 2057 and thus it would not be avoiding GHG emissions from 2045 through 2057. Table 13 shows the Proposed Project's total emissions and avoided emissions.

Table 13
Estimated Annual Operational and Avoided Greenhouse Gas Emissions

Emission Source	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
Area[a]	0.00	0.00	0.00	6.73
Energy	0.93	0.00	0.00	0.93
Mobile	217.08	0.01	0.00	217.31
Offroad	4.58	0.00	0.00	4.61
Stationary	39.80	0.01	0.00	39.94
			Water	11.83
			Subtotal	*281.39*
			Amortized Construction Emissions over 35 Years	*164.69*
			Amortized Loss of Sequestered Carbon over 35 Years	*242.94*
			Amortized Decommissioning Emissions over 35 Years	*68.71*
			Total Proposed Project Emissions over 35-Year Lifetime	**26,520.55**
			Total Avoided GHG Emissions	**423,253.51**
			Net Avoided GHG Emissions	**396,732.96**

Notes: CH_4 = methane; CO_2 = carbon dioxide; CO_2e = carbon dioxide equivalent; N_2O = nitrous oxide
See Appendix A for complete results.
[a] Emissions from SF_6 are considered an area source.

As noted above, including amortized construction emissions and carbon loss, the Proposed Project would emit 26,521 MT CO_2 over a 35 year lifetime. Thus, after subtracting avoided GHG emissions from the Proposed Project's GHG emissions, the Proposed Project would avoid approximately 396,733 MT CO_2e over its lifetime. Accordingly, the Proposed Project would avoid more GHG emissions than it would generate resulting in a **less than cumulatively considerable** contribution to significant cumulative climate change impacts.

Switchyard

The switchyard is a vital component to the Proposed Project, and the Proposed Project could not operate without the switchyard. Therefore, as discussed above, the emissions from the Proposed Project would result in a net avoidance of emissions. As the switchyard comprises approximately 11% of the Proposed Project's construction and operational GHG emissions, it would also result in a net avoidance of GHG emissions after factoring in the Proposed Project's avoided GHG emissions, and would result in a **less than cumulatively considerable** contribution to significant cumulative climate change impacts.

4.2 Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

Consistency with CARB's Scoping Plan

As discussed in Section 2.1.6, Potential Effects of Climate Change, the Scoping Plan (approved by CARB in 2008 and updated in 2014 and 2017) provides a framework for actions to reduce California's GHG emissions and requires CARB and other state agencies to adopt regulations and other initiatives to reduce GHGs. The Scoping Plan is not directly applicable to specific projects, nor is it intended to be used for project-level evaluations.[10] Under the Scoping Plan, however, there are several state regulatory measures aimed at the identification and reduction of GHG emissions. CARB and other state agencies have adopted many of the measures identified in the Scoping Plan. Most of these measures focus on area source emissions (e.g., energy usage, high-GWP GHGs in consumer products) and changes to the vehicle fleet (i.e., hybrid, electric, and more fuel-efficient vehicles) and associated fuels (e.g., LCFS), among others.

The Scoping Plan recommends strategies for implementation at the statewide level to meet the goals of AB 32 and establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions. Table 14 highlights measures that have been, or will be, developed under the Scoping Plan and the Proposed Project's consistency with Scoping Plan measures. To the extent that these regulations are applicable to the Proposed Project, its inhabitants, or uses, the Proposed Project would comply will all regulations adopted in furtherance of the Scoping Plan to the extent required by law.

[10] The Final Statement of Reasons for the amendments to the CEQA Guidelines reiterates the statement in the Initial Statement of Reasons that "[t]he Scoping Plan may not be appropriate for use in determining the significance of individual projects because it is conceptual at this stage and relies on the future development of regulations to implement the strategies identified in the Scoping Plan" (CNRA 2009b).

Table 14
Proposed Project Consistency with Scoping Plan GHG Emission Reduction Strategies

Scoping Plan Measure	Measure Number	Proposed Project Consistency
Transportation Sector		
Advanced Clean Cars	T-1	**Consistent**. The Proposed Project's employees would purchase vehicles in compliance with CARB vehicle standards that are in effect at the time of vehicle purchase.
Low-Carbon Fuel Standard	T-2	**Consistent**. Motor vehicles driven by the Proposed Project's employees would use compliant fuels.
Regional Transportation-Related GHG Targets	T-3	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.
Advanced Clean Transit	N/A	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.
Last-Mile Delivery	N/A	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.
Reduction in VMT	N/A	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.
Vehicle Efficiency Measures 1. Tire Pressure 2. Fuel Efficiency Tire Program 3. Low-Friction Oil 4. Solar-Reflective Automotive Paint and Window Glazing	T-4	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.
Ship Electrification at Ports (Shore Power)	T-5	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.
Goods Movement Efficiency Measures 1. Port Drayage Trucks 2. Transport Refrigeration Units Cold Storage Prohibition 3. Cargo Handling Equipment, Anti-Idling, Hybrid, Electrification 4. Goods Movement Systemwide Efficiency Improvements 5. Commercial Harbor Craft Maintenance and Design Efficiency 6. Clean Ships 7. Vessel Speed Reduction	T-6	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.
Heavy-Duty Vehicle GHG Emission Reduction 1. Tractor-Trailer GHG Regulation 2. Heavy-Duty Greenhouse Gas Standards for New Vehicle and Engines (Phase I)	T-7	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.
Medium- and Heavy-Duty Vehicle Hybridization Voucher Incentive Proposed Project	T-8	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.

Table 14
Proposed Project Consistency with Scoping Plan GHG Emission Reduction Strategies

Scoping Plan Measure	Measure Number	Proposed Project Consistency
Medium and Heavy-Duty GHG Phase 2	N/A	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.
High-Speed Rail	T-9	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.
Electricity and Natural Gas Sector		
Energy Efficiency Measures (Electricity)	E-1	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.
Energy Efficiency (Natural Gas)	CR-1	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.
Solar Water Heating (California Solar Initiative Thermal Program)	CR-2	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.
Combined Heat and Power	E-2	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.
Renewables Portfolio Standard (33% by 2020)	E-3	**Consistent.** The Proposed Project would generate 90 MW of solar energy to support the Renewables Portfolio Standard.
Renewables Portfolio Standard (50% by 2050)	N/A	**Consistent.** The Proposed Project would generate 90 MW of solar energy to support the Renewables Portfolio Standard.
SB 1 Million Solar Roofs (California Solar Initiative, New Solar Home Partnership, Public Utility Programs) and Earlier Solar Programs	E-4	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.
Water Sector		
Water Use Efficiency	W-1	**Consistent**. The Proposed Project would use water for dust suppression during construction and panel rinsing during operation. The water used would be sourced from on-site non-potable water wells.
Water Recycling	W-2	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.
Water System Energy Efficiency	W-3	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.
Reuse Urban Runoff	W-4	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.
Renewable Energy Production	W-5	**Not applicable**. This measure applies to renewable energy within the water sector. The Proposed Project would not prevent CARB from implementing this measure.
Green Buildings		
1. State Green Building Initiative: Leading the Way with State Buildings (Greening New and Existing State Buildings)	GB-1	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.
2. Green Building Standards Code (Greening New Public Schools, Residential and Commercial Buildings)	GB-1	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.

Table 14
Proposed Project Consistency with Scoping Plan GHG Emission Reduction Strategies

Scoping Plan Measure	Measure Number	Proposed Project Consistency
3. Beyond Code: Voluntary Programs at the Local Level (Greening New Public Schools, Residential and Commercial Buildings)	GB-1	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.
4. Greening Existing Buildings (Greening Existing Homes and Commercial Buildings)	GB-1	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.
Industry Sector		
Energy Efficiency and Co-Benefits Audits for Large Industrial Sources	I-1	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.
Oil and Gas Extraction GHG Emission Reduction	I-2	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.
Reduce GHG Emissions by 20% in Oil Refinery Sector	N/A	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.
GHG Emissions Reduction from Natural Gas Transmission and Distribution	I-3	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.
Refinery Flare Recovery Process Improvements	I-4	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.
Work with the local air districts to evaluate amendments to their existing leak detection and repair rules for industrial facilities to include methane leaks	I-5	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.
Recycling and Waste Management Sector		
Landfill Methane Control Measure	RW-1	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.
Increasing the Efficiency of Landfill Methane Capture	RW-2	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.
Mandatory Commercial Recycling	RW-3	**Consistent**. The Proposed Project would recycle the maximum extent that is feasible in accordance with state and local regulations.
Increase Production and Markets for Compost and Other Organics	RW-3	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.
Anaerobic/Aerobic Digestion	RW-3	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.
Extended Producer Responsibility	RW-3	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.
Environmentally Preferable Purchasing	RW-3	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.
Forests Sector		
Sustainable Forest Target	F-1	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.

Table 14
Proposed Project Consistency with Scoping Plan GHG Emission Reduction Strategies

Scoping Plan Measure	Measure Number	Proposed Project Consistency
High GWP Gases Sector		
Motor Vehicle Air Conditioning Systems: Reduction of Refrigerant Emissions from Non-Professional Servicing	H-1	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.
SF_6 Limits in Non-Utility and Non-Semiconductor Applications	H-2	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.
Reduction of Perfluorocarbons (PFCs in Semiconductor Manufacturing	H-3	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.
Limit High GWP Use in Consumer Products	H-4	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.
Air Conditioning Refrigerant Leak Test During Vehicle Smog Check	H-5	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.
Stationary Equipment Refrigerant Management Program – Refrigerant Tracking/Reporting/Repair Program	H-6	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.
Stationary Equipment Refrigerant Management Program – Specifications for Commercial and Industrial Refrigeration	H-6	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.
SF_6 Leak Reduction Gas Insulated Switchgear	H-6	**Consistent**. The Proposed Project would use gas insulated switchgear that would be subject to CARB regulations and meet the leak rate mandates.
40% reduction in methane and hydrofluorocarbon (HFC) emissions	N/A	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.
50% reduction in black carbon emissions	N/A	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.
Agriculture Sector		
Methane Capture at Large Dairies	A-1	**Not applicable**. The Proposed Project would not prevent CARB from implementing this measure.

Source: CARB 2008, 2017a.
Notes: GHG = greenhouse gas; CARB = California Air Resources Board; N/A = not applicable; VMT = vehicle miles traveled; SF_6 = sulfur hexafluoride; PFC = perfluorocarbon; GWP = global warming potential.

Based on the analysis in Table 14, the Proposed Project would be consistent with the applicable strategies and measures in the Scoping Plan.

The Proposed Project would not impede and may help the attainment of the GHG reduction goals for 2030 or 2050 identified in EO S-3-05, B-55-18, and SB 32. As discussed in Section 2.2, Regulatory Setting, EO S-3-05 establishes the following goals: GHG emissions should be reduced to 2000 levels by 2010, to 1990 levels by 2020, and to 80% below 1990 levels by 2050. SB 32 establishes for a statewide GHG emissions reduction target whereby CARB, in adopting rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions

reductions, shall ensure that statewide GHG emissions are reduced to at least 40% below 1990 levels by December 31, 2030. While there are no established protocols or thresholds of significance for that future year analysis, CARB forecasts that compliance with the current Scoping Plan puts the state on a trajectory of meeting these long-term GHG goals, although the specific path to compliance is unknown (CARB 2014). EO B-55-18 established the goal to achieve carbon neutrality by 2045.

To begin, CARB has expressed optimism with regard to both the 2030 and 2050 goals. It states in the First Update to the Climate Change Scoping Plan that "California is on track to meet the near-term 2020 GHG emissions limit and is well positioned to maintain and continue reductions beyond 2020 as required by AB 32" (CARB 2014). With regard to the 2050 target for reducing GHG emissions to 80% below 1990 levels, the First Update to the Climate Change Scoping Plan states the following (CARB 2014):

> This level of reduction is achievable in California. In fact, if California realizes the expected benefits of existing policy goals (such as 12,000 megawatts of renewable distributed generation by 2020, net zero energy homes after 2020, existing building retrofits under AB 758, and others) it could reduce emissions by 2030 to levels squarely in line with those needed in the developed world and to stay on track to reduce emissions to 80% below 1990 levels by 2050. Additional measures, including locally driven measures and those necessary to meet federal air quality standards in 2032, could lead to even greater emission reductions.

In other words, CARB believes that the state is on a trajectory to meet the 2030 and 2050 GHG reduction targets set forth in AB 32, SB 32, and EO S-3-05. This is confirmed in the Second Update (CARB 2017b), which states the following:

> The Proposed Plan builds upon the successful framework established by the Initial Scoping Plan and First Update, while also identifying new, technologically feasibility and cost-effective strategies to ensure that California meets its GHG reduction targets in a way that promotes and rewards innovation, continues to foster economic growth, and delivers improvements to the environment and public health, including in disadvantaged communities. The Proposed Plan is developed to be consistent with requirements set forth in AB 32, SB 32, and AB 197.

In addition, as discussed previously, the Proposed Project is consistent with the GHG emission reduction measures in the Scoping Plan and would not conflict with the state's trajectory toward future GHG reductions. Since the specific path to compliance for the state in regards to the long-term goals will likely require development of technology or other changes that are not currently

known or available, specific additional mitigation measures for the Proposed Project would be speculative and cannot be identified at this time. The Proposed Project's consistency would assist in meeting the County's contribution to GHG emission reduction targets in California. With respect to future GHG targets under SB 32 and EO S-3-05, CARB has also made clear its legal interpretation is that it has the requisite authority to adopt whatever regulations are necessary, beyond the AB 32 horizon year of 2020, to meet SB 32's 40% reduction target by 2030 and EO S-3-05's 80% reduction target by 2050; this legal interpretation by an expert agency provides evidence that future regulations will be adopted to continue the state on its trajectory toward meeting these future GHG targets. The Proposed Project would increase renewable energy production and thus would support the goals within SB 32, EO S-3-05, and EO B-55-18. Based on the considerations previously outlined, the Proposed Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs, and no mitigation is required. This impact would be less than significant.

Consistency with SANDAG's San Diego Forward: the Regional Plan

Table 15 illustrates the Proposed Project's consistency with all applicable goals and policies of San Diego Forward: The Regional Plan (SANDAG 2015).

Table 15
San Diego Forward: The Regional Plan Consistency Analysis

Category	Policy Objective or Strategy	Consistency Analysis
The Regional Plan – Policy Objectives		
Mobility Choices	Provide safe, secure, healthy, affordable, and convenient travel choices between the places where people live, work, and play.	**Not applicable.** The Proposed Project would not impair the ability of SANDAG to provide safe, secure, healthy, affordable, and convenient travel choices between the places where people live, work, and play.
Mobility Choices	Take advantage of new technologies to make the transportation system more efficient and environmentally friendly.	**Not applicable**. The Proposed Project would not impair the ability of SANDAG to take advantage of new technologies to make the transportation system more efficient and environmentally friendly.
Habitat and Open Space Preservation	Focus growth in areas that are already urbanized, allowing the region to set aside and restore more open space in our less developed areas.	**Consistent.** The Proposed Project would be located on currently disturbed land used mainly for agriculture. The Proposed Project would not impair existing open space.
Habitat and Open Space Preservation	Protect and restore our region's urban canyons, coastlines, beaches, and water resources.	**Consistent.** The Proposed Project would primarily be located on currently disturbed land used mainly for agriculture. The Proposed Project would not impair existing open space.

Table 15
San Diego Forward: The Regional Plan Consistency Analysis

Category	Policy Objective or Strategy	Consistency Analysis
Regional Economic Prosperity	Invest in transportation projects that provide access for all communities to a variety of jobs with competitive wages.	**Not applicable**. The Proposed Project would not impair the ability of SANDAG to invest in transportation projects available to all members of the Community.
Regional Economic Prosperity	Build infrastructure that makes the movement of freight in our community more efficient and environmentally friendly.	**Not applicable**. The Proposed Project does not propose regional freight movement, nor would it impair SANDAG's ability to preserve and expand options for regional freight movement.
Partnerships/Collaboration	Collaborate with Native American tribes, Mexico, military bases, neighboring counties, infrastructure providers, the private sector, and local communities to design a transportation system that connects to the mega-region and national network, works for everyone, and fosters a high quality of life for all.	**Not applicable**. The Proposed Project would not impair the ability of SANDAG to provide transportation choices to better connect the San Diego region with Mexico, neighboring counties, and tribal nations.
Partnerships/Collaboration	As we plan for our region, recognize the vital economic, environmental, cultural, and community linkages between the San Diego region and Baja California.	**Not applicable**. The Proposed Project would not impair the ability of SANDAG to provide transportation choices to better connect the San Diego region with Mexico.
Healthy and Complete Communities	Create great places for everyone to live, work, and play.	**Not applicable.** The Proposed Project would not impair the ability of SANDAG to create great places for everyone to live, work, and play.
Healthy and Complete Communities	Connect communities through a variety of transportation choices that promote healthy lifestyles, including walking and biking.	**Not applicable.** The Proposed Project would not impair the ability of SANDAG to connect communities through a variety of transportation choices that promote healthy lifestyles, including walking and biking.
Environmental Stewardship	Make transportation investments that result in cleaner air, environmental protection, conservation, efficiency, and sustainable living.	**Consistent.** The Proposed Project would support the goal of producing clean energy for sustainable living.
Environmental Stewardship	Support energy programs that promote sustainability.	**Consistent.** The Proposed Project would support the goal of producing clean energy for sustainable living.
Sustainable Communities Strategy – Strategies		
Strategy #1	Focus housing and job growth in urbanized areas where there is existing and planned transportation infrastructure, including transit.	**Not applicable.** The Proposed Project would not include housing or substantial job growth, only short-term construction jobs.
Strategy #2	Protect the environment and help ensure the success of smart growth land use policies by preserving sensitive habitat, open space, cultural resources, and farmland.	**Consistent.** The Proposed Project would primarily be located on currently disturbed land used mainly for agriculture. The Proposed Project would not impair existing open space.

Table 15
San Diego Forward: The Regional Plan Consistency Analysis

Category	Policy Objective or Strategy	Consistency Analysis
Strategy #3	Invest in a transportation network that gives people transportation choices and reduces greenhouse gas emissions.	**Consistent**. The Proposed Project would help reduce greenhouse gas emissions through the production of clean renewable energy.
Strategy #4	Address the housing needs of all economic segments of the population.	**Not applicable**. The Proposed Project would not impair the ability of SANDAG to address the housing needs of all economic segments of the population.
Strategy #5	Implement the Regional Plan through incentives and collaboration.	**Not applicable**. The Proposed Project would not impair the ability of SANDAG to implement the Regional Transportation Plan through incentives and collaborations.

Source: SANDAG 2015
SANDAG = San Diego Association of Governments.

As shown in Table 15, the Proposed Project is consistent with all applicable Regional Plan Policy Objectives or Strategies. Impacts would be less than significant.

The Proposed Project would provide a potential reduction in GHG emissions each year of operation if the electricity generated by the solar facility were to be used instead of electricity generated by fossil-fuel sources. Specifically, the Proposed Project would directly aid the state in achieving statewide GHG emission reductions through the increased production of renewable energy as called for under Senate Bill X1 2, Senate Bill 350, and Senate Bill 100, and discussed in the Scoping Plan. The latest of these bills, Senate Bill 100, requires utilities to provide an energy mix containing at least 60% renewables by 2030. The Proposed Project would aid in meeting that target.

Therefore, because the Proposed Project would assist in the attainment of the state's goals by providing a new renewable source of energy that could displace electricity generated by fossil-fuel-fired power plants, the Proposed Project would be consistent with the regulations, plans, goals and objectives of the state and the County adopted to reduce GHG emissions, and would make a **less than cumulatively considerable contribution** to significant cumulative climate change impacts.

County Greenhouse Gas Reduction Plans

The Proposed Project is consistent with County Plans and policies adopted to reduce GHG emissions. The County's General Plan includes many goals and policies adopted to reduce GHG emissions, which the General Plan organizes into "strategies." Strategy A-3 is to increase generation and use of renewable energy sources and includes Conservation and Open Space Policy COS-18.1. The Conservation and Open Space Element of the County's General Plan "encourages

and supports land use development patterns and transportation choices that reduce pollutants and greenhouse gases" and "encourages renewable energy production." Goal COS-18 promotes sustainable energy and encourages "[e]nergy systems that reduce consumption of non-renewable resources and reduce GHG and other air pollutant emissions while minimizing impacts to natural resources and communities." Policy COS-18.1 supports Goal COS-18 and directs the County to work with developers to facilitate the development of alternative energy systems. The Proposed Project is a renewable energy source is therefore consistent with Strategy A-3, Goal COS-18, Policy COS-18.1, and one of the primary purposes of the Conservation and Open Space Element. Therefore, the Proposed Project would be consistent with the County's GHG reduction plans.

Switchyard

The switchyard would support the Proposed Project and the production of renewable energy. It would not conflict with AB 32 or other GHG reducing plans, policies, or regulations. The switchyard would comply with the SF_6 requirements that CARB has in place for reducing the leak rate of gas insulating switchgear. The switchyard is not growth inducing and would have minimal GHG emissions during operation. Therefore, the switchyard would have a **less than cumulatively considerable contribution** to significant cumulative climate change impacts.

4.3 Cumulative Impact Analysis

Due to the global nature of the assessment of GHG emissions and the effects of global climate change, impacts are analyzed from a cumulative impact context; therefore, the analysis includes an assessment of Proposed Project impacts as a cumulative impact, as discussed above.

Switchyard

Due to the global nature of the assessment of GHG emissions and the effects of global climate change, impacts are analyzed from a cumulative impact context; therefore, the switchyard's analysis includes an assessment of switchyard impacts as a cumulative impact, as discussed above.

4.4 Mitigation

The Proposed Project would be consistent with applicable GHG Reduction plans; therefore, impacts related to GHG emissions would be **less than significant**. No mitigation is required.

Switchyard

The switchyard would be consistent with applicable GHG Reduction plans; therefore, impacts related to GHG emissions would be **less than significant**. No mitigation is required.

4.5 Conclusion

The Proposed Project would not increase GHG emissions compared to the existing site as the renewable energy produced would result in a net avoidance of GHG emissions. The Proposed Project is also consistent with applicable plans, policies, and regulations adopted to reduce GHG emissions, including Senate Bill X1 2, Senate Bill 350, and Senate Bill 100, and County General Plan Strategy A-3. The Proposed Project's amortized construction emissions and operational emissions would be 554 MT CO_2e per year. Therefore, the Proposed Project would make a **less than significant** contribution to cumulative climate change impacts.

Switchyard

The switchyard would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHGs. Therefore, the switchyard would make a **less than significant** contribution to significant cumulative climate change impacts.

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6 LIST OF PREPARERS

Jennifer Reed	Air Quality Services Manager
Adam Poll	Senior Air Quality Specialist

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APPENDIX A

CalEEMod Outputs

JVR Energy Park - Construction - Unmitigated

San Diego County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	1.00	1000sqft	0.02	1,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2022
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Land use is surrogate only. No heavy industrial land use associated with the project.

Construction Phase - Based on project description.

Off-road Equipment - BESS Installation - Based on project specific information.

Off-road Equipment - Commissioning - Based on project specific information.

Off-road Equipment - DC Electrical - Based on project specific information.

Off-road Equipment - Fence Installation - Based on project specific information.

Off-road Equipment - Inverter Installation - Based on project specific information.

Off-road Equipment - Landscaping Installation - Based on project specific information.

Off-road Equipment - Pile Driving - Based on project specific information.

Off-road Equipment - Site Mobilization - Based on project specific information.

Off-road Equipment - Site Prep, Grading, Stormwater Protections - Based on project specific information.

Off-road Equipment - Tracker and Module Installation - Based on project specific information.

Off-road Equipment - Underground Medium AC Voltage Electrical - Based on project specific information.

Trips and VMT - Worker trips assumed to be 50% from San Diego and 50% from El Centro. Water trucks from Jacumba Community Services District.

On-road Fugitive Dust - Worker vehicles assumed to travel to/from the staging area. Vendor trucks assumed to travel 0.86 miles on site per trip. Haul trucks assumed to only travel on unpaved roads only. Water trucks come from Jacumba Community Services District.

Demolition -

Grading - Based on applicant provided information.

Architectural Coating - No architectural coatings.

Vehicle Trips - Construction only model run.

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Road Dust - Construction only.

Consumer Products - Construction only model run.

Area Coating - Construction only model run.

Landscape Equipment - Construction only model run.

Energy Use - Construction only model run.

Water And Wastewater - 112 acre-feet of water used during construction.

Solid Waste - Construction only model run.

Land Use Change - Calculated outside of CalEEMod.

Sequestration - No sequestration.

Construction Off-road Equipment Mitigation - Water exposed areas 3 times daily in accordance with SDAPCD Rule 55.

Operational Off-Road Equipment -

Fleet Mix -

Stationary Sources - Emergency Generators and Fire Pumps - Construction only model run.

Off-road Equipment - Demolition - Based on project specific information.

Off-road Equipment - Battery Energy Storage System Installation - Based on project specific information.

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	500	0
tblAreaCoating	Area_Nonresidential_Interior	1500	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	40
tblConsumerProducts	ROG_EF	2.14E-05	1E-21
tblConsumerProducts	ROG_EF_Degreaser	3.542E-07	1E-21
tblConsumerProducts	ROG_EF_PesticidesFertilizers	5.152E-08	1E-21
tblDemolition	PhaseName	Demolition of old farm	Demolition of dairy and ranching structures
tblEnergyUse	LightingElect	2.83	0.00
tblEnergyUse	NT24E	4.27	0.00
tblEnergyUse	NT24NG	7.25	0.00
tblEnergyUse	T24E	1.21	0.00
tblEnergyUse	T24NG	4.31	0.00
tblGrading	MaterialImported	0.00	264,000.00
tblLandscapeEquipment	NumberSummerDays	180	1E-21
tblOffRoadEquipment	HorsePower	402.00	45.00
tblOffRoadEquipment	HorsePower	402.00	18.00
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tblOffRoadEquipment	HorsePower	172.00	49.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
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tblOffRoadEquipment	PhaseName	BESS Installation	Battery Energy Storage System Installation
tblOffRoadEquipment	PhaseName	BESS Installation	Battery Energy Storage System Installation
tblOffRoadEquipment	PhaseName	Demolition of old farm	Demolition of dairy and ranching structures
tblOffRoadEquipment	PhaseName	BESS Installation	Battery Energy Storage System Installation
tblOffRoadEquipment	PhaseName	Demolition of old farm	Demolition of dairy and ranching structures
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tblOffRoadEquipment	PhaseName		Site Prep, Grading, Stormwater Protections
tblOffRoadEquipment	PhaseName		Fence Installation
tblOffRoadEquipment	PhaseName		Fence Installation
tblOffRoadEquipment	PhaseName		Fence Installation

tblOffRoadEquipment	PhaseName		Site Prep, Grading, Stormwater Protections
tblOffRoadEquipment	PhaseName		Demolition of dairy and ranching structures
tblOffRoadEquipment	PhaseName		Site Prep, Grading, Stormwater Protections
tblOffRoadEquipment	PhaseName		Site Mobilization
tblOffRoadEquipment	PhaseName		Fence Installation
tblOffRoadEquipment	UsageHours	4.00	8.00
tblOffRoadEquipment	UsageHours	4.00	8.00
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tblOnRoadDust	HaulingPercentPave	100.00	0.00
tblOnRoadDust	PhaseName	BESS Installation	Battery Energy Storage System Installation
tblOnRoadDust	PhaseName	Demolition of old farm	Demolition of dairy and ranching structures
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tblOnRoadDust	VendorPercentPave	100.00	99.80
tblOnRoadDust	VendorPercentPave	100.00	66.40
tblOnRoadDust	VendorPercentPave	100.00	66.40
tblOnRoadDust	VendorPercentPave	100.00	99.80
tblOnRoadDust	VendorPercentPave	100.00	99.80

tblOnRoadDust	WorkerPercentPave	100.00	99.70
tblOnRoadDust	WorkerPercentPave	100.00	99.70
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tblOnRoadDust	WorkerPercentPave	100.00	99.70
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tblOnRoadDust	WorkerPercentPave	100.00	99.70
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tblSolidWaste	SolidWasteGenerationRate	1.24	0.00
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tblTripsAndVMT	PhaseName	Demolition of old farm	Demolition of dairy and ranching structures
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tblVehicleTrips	CNW_TTP	13.00	0.00
tblVehicleTrips	CW_TL	14.70	0.00
tblVehicleTrips	CW_TTP	59.00	0.00
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tblVehicleTrips	WD_TR	1.50	0.00
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tblWater	OutdoorWaterUseRate	0.00	36,495,360.52

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					
2020	0.0742	1.2335	0.5397	2.8200e-003	5.9851	0.0224	6.0075	0.6131	0.0208	0.6339	0.0000	267.4041	267.4041	0.0326	0.0000	268.2196
2021	1.3129	10.8705	10.5780	0.0549	23.3927	0.1619	23.5547	2.8704	0.1499	3.0203	0.0000	5,150.4181	5,150.4181	0.3421	0.0000	5,158.9709
Maximum	**1.3129**	**10.8705**	**10.5780**	**0.0549**	**23.3927**	**0.1619**	**23.5547**	**2.8704**	**0.1499**	**3.0203**	**0.0000**	**5,150.4181**	**5,150.4181**	**0.3421**	**0.0000**	**5,158.9709**

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					
2020	0.0742	1.2335	0.5397	2.8200e-003	5.8768	0.0224	5.8992	0.6009	0.0208	0.6217	0.0000	267.4040	267.4040	0.0326	0.0000	268.2196
2021	1.3129	10.8705	10.5780	0.0549	23.2844	0.1619	23.4463	2.8582	0.1499	3.0081	0.0000	5,150.4176	5,150.4176	0.3421	0.0000	5,158.9704
Maximum	**1.3129**	**10.8705**	**10.5780**	**0.0549**	**23.2844**	**0.1619**	**23.4463**	**2.8582**	**0.1499**	**3.0081**	**0.0000**	**5,150.4176**	**5,150.4176**	**0.3421**	**0.0000**	**5,158.9704**

	ROG	NOx	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**	**0.74**	**0.00**	**0.73**	**0.70**	**0.00**	**0.67**	**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	12-1-2020	2-28-2021	4.7562	4.7562
2	3-1-2021	5-31-2021	2.6743	2.6743
3	6-1-2021	8-31-2021	3.8284	3.8284
4	9-1-2021	9-30-2021	1.2522	1.2522
		Highest	4.7562	4.7562

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	132.5090	132.5090	5.3300e-003	1.1000e-003	132.9712
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**132.5090**	**132.5090**	**5.3300e-003**	**1.1000e-003**	**132.9712**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	132.5090	132.5090	5.3300e-003	1.1000e-003	132.9712
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**132.5090**	**132.5090**	**5.3300e-003**	**1.1000e-003**	**132.9712**

	ROG	NOx	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 Mobilization	Site Preparation	12/1/2020	12/14/2020	5	10	
2	Demolition of dairy and ranching structures	Demolition	12/15/2020	1/11/2021	5	20	
3	Site Prep, Grading, Stormwater Protections	Grading	12/15/2020	3/8/2021	5	60	
4	Fence Installation	Building Construction	12/15/2020	3/8/2021	5	60	
5	Pile Driving	Site Preparation	3/9/2021	5/3/2021	5	40	
6	Landscaping Installation	Building Construction	3/9/2021	6/28/2021	5	80	
7	Tracker and Module Installation	Building Construction	3/9/2021	8/23/2021	5	120	
8	DC Electrical	Building Construction	4/6/2021	9/20/2021	5	120	
9	Underground Medium AC Voltage Electrical	Trenching	6/1/2021	10/18/2021	5	100	
10	Inverter Installation	Building Construction	8/24/2021	10/18/2021	5	40	
11	Battery Energy Storage System Installation	Building Construction	8/24/2021	10/18/2021	5	40	
12	Commissioning	Building Construction	11/16/2021	12/13/2021	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Mobilization	Graders	0	8.00	187	0.41
Site Mobilization	Skid Steer Loaders	0	8.00	65	0.37
Site Mobilization	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Demolition of dairy and ranching structures	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition of dairy and ranching structures	Excavators	1	8.00	158	0.38
Demolition of dairy and ranching structures	Graders	0	8.00	187	0.41
Demolition of dairy and ranching structures	Rollers	0	8.00	80	0.38
Demolition of dairy and ranching structures	Rubber Tired Dozers	0	8.00	247	0.40
Demolition of dairy and ranching structures	Scrapers	0	8.00	367	0.48
Demolition of dairy and ranching structures	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Prep, Grading, Stormwater Protections	Concrete/Industrial Saws	0	8.00	81	0.73
Site Prep, Grading, Stormwater Protections	Graders	2	8.00	187	0.41
Site Prep, Grading, Stormwater Protections	Rollers	0	8.00	80	0.38
Site Prep, Grading, Stormwater Protections	Rubber Tired Dozers	0	1.00	247	0.40
Site Prep, Grading, Stormwater Protections	Rubber Tired Loaders	1	8.00	203	0.36
Site Prep, Grading, Stormwater Protections	Scrapers	4	8.00	367	0.48
Site Prep, Grading, Stormwater Protections	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Fence Installation	Cement and Mortar Mixers	1	8.00	9	0.56
Fence Installation	Concrete/Industrial Saws	0	8.00	81	0.73
Fence Installation	Cranes	0	4.00	231	0.29
Fence Installation	Crushing/Proc. Equipment	0	8.00	85	0.78
Fence Installation	Excavators	0	8.00	158	0.38
Fence Installation	Forklifts	0	6.00	89	0.20
Fence Installation	Generator Sets	0	8.00	84	0.74
Fence Installation	Rollers	0	8.00	80	0.38
Fence Installation	Rough Terrain Forklifts	0	8.00	100	0.40
Fence Installation	Rubber Tired Dozers	0	8.00	247	0.40

Fence Installation	Skid Steer Loaders	1	8.00	65	0.37
Fence Installation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Pile Driving	Aerial Lifts	2	8.00	63	0.31
Pile Driving	Air Compressors	0	6.00	78	0.48
Pile Driving	Graders	0	8.00	187	0.41
Pile Driving	Other Construction Equipment	6	8.00	49	0.42
Pile Driving	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Landscaping Installation	Cranes	0	8.00	231	0.29
Landscaping Installation	Forklifts	0	6.00	89	0.20
Landscaping Installation	Generator Sets	0	8.00	84	0.74
Landscaping Installation	Off-Highway Trucks	0	8.00	45	0.38
Landscaping Installation	Other Construction Equipment	0	8.00	172	0.42
Landscaping Installation	Rough Terrain Forklifts	0	8.00	100	0.40
Landscaping Installation	Skid Steer Loaders	1	8.00	65	0.37
Landscaping Installation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Tracker and Module Installation	Aerial Lifts	6	8.00	63	0.31
Tracker and Module Installation	Air Compressors	0	6.00	78	0.48
Tracker and Module Installation	Cranes	0	4.00	231	0.29
Tracker and Module Installation	Forklifts	0	6.00	89	0.20
Tracker and Module Installation	Graders	0	8.00	187	0.41
Tracker and Module Installation	Off-Highway Trucks	5	8.00	18	0.38
Tracker and Module Installation	Skid Steer Loaders	0	8.00	65	0.37
Tracker and Module Installation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
DC Electrical	Aerial Lifts	2	8.00	63	0.31
DC Electrical	Cranes	0	4.00	231	0.29
DC Electrical	Forklifts	0	6.00	89	0.20
DC Electrical	Off-Highway Trucks	10	8.00	18	0.38

DC Electrical	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Underground Medium AC Voltage Electrical	Excavators	2	8.00	158	0.38
Underground Medium AC Voltage Electrical	Rollers	1	8.00	80	0.38
Underground Medium AC Voltage Electrical	Rubber Tired Loaders	1	8.00	203	0.36
Inverter Installation	Cranes	1	8.00	231	0.29
Inverter Installation	Forklifts	1	8.00	89	0.20
Inverter Installation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Battery Energy Storage System Installation	Cranes	1	8.00	231	0.29
Battery Energy Storage System Installation	Forklifts	1	8.00	89	0.20
Battery Energy Storage System Installation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Commissioning	Cranes	0	4.00	231	0.29
Commissioning	Forklifts	0	6.00	89	0.20
Commissioning	Tractors/Loaders/Backhoes	0	8.00	97	0.37

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 Mobilization	0	10.00	20.00	0.00	58.00	73.00	20.00	LD_Mix	HDT_Mix	HHDT
Demolition of dairy and ranching structure	2	40.00	2.00	40.00	58.00	2.56	0.25	LD_Mix	HDT_Mix	HHDT
Site Prep, Grading, Stormwater Protection	8	20.00	90.00	33,000.00	58.00	73.00	0.25	LD_Mix	HDT_Mix	HHDT
Fence Installation	2	40.00	2.00	0.00	58.00	2.56	20.00	LD_Mix	HDT_Mix	HHDT
Pile Driving	8	200.00	0.00	0.00	58.00	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Landscaping Installation	3	124.00	2.00	0.00	58.00	2.56	20.00	LD_Mix	HDT_Mix	HHDT
Tracker and Module Installation	11	200.00	70.00	0.00	58.00	73.00	20.00	LD_Mix	HDT_Mix	HHDT
DC Electrical	12	400.00	0.00	0.00	58.00	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Underground Medium AC Voltage Electrical	4	100.00	90.00	0.00	58.00	73.00	20.00	LD_Mix	HDT_Mix	HHDT
Inverter Installation	2	40.00	2.00	0.00	58.00	73.00	20.00	LD_Mix	HDT_Mix	HHDT
Battery Energy Storage System Install	2	40.00	70.00	0.00	58.00	73.00	20.00	LD_Mix	HDT_Mix	HHDT
Commissioning	0	40.00	0.00	0.00	58.00	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Mobilization - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4600e-003	0.0588	0.0161	2.2000e-004	0.0257	5.2000e-004	0.0263	3.8100e-003	5.0000e-004	4.3100e-003	0.0000	21.6456	21.6456	1.1000e-003	0.0000	21.6731
Worker	7.7000e-004	6.6000e-004	6.0600e-003	2.0000e-005	0.0136	1.0000e-005	0.0136	1.7100e-003	1.0000e-005	1.7200e-003	0.0000	1.9015	1.9015	5.0000e-005	0.0000	1.9028
Total	**3.2300e-003**	**0.0595**	**0.0221**	**2.4000e-004**	**0.0393**	**5.3000e-004**	**0.0398**	**5.5200e-003**	**5.1000e-004**	**6.0300e-003**	**0.0000**	**23.5471**	**23.5471**	**1.1500e-003**	**0.0000**	**23.5759**

3.2 Site Mobilization - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.4600e-003	0.0588	0.0161	2.2000e-004	0.0257	5.2000e-004	0.0263	3.8100e-003	5.0000e-004	4.3100e-003	0.0000	21.6456	21.6456	1.1000e-003	0.0000	21.6731
Worker	7.7000e-004	6.6000e-004	6.0600e-003	2.0000e-005	0.0136	1.0000e-005	0.0136	1.7100e-003	1.0000e-005	1.7200e-003	0.0000	1.9015	1.9015	5.0000e-005	0.0000	1.9028
Total	**3.2300e-003**	**0.0595**	**0.0221**	**2.4000e-004**	**0.0393**	**5.3000e-004**	**0.0398**	**5.5200e-003**	**5.1000e-004**	**6.0300e-003**	**0.0000**	**23.5471**	**23.5471**	**1.1500e-003**	**0.0000**	**23.5759**

3.3 Demolition of dairy and ranching structures - 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	2.9500e-003	0.0294	0.0361	5.0000e-005		1.6200e-003	1.6200e-003		1.4900e-003	1.4900e-003	0.0000	4.7226	4.7226	1.5300e-003	0.0000	4.7608
Total	**2.9500e-003**	**0.0294**	**0.0361**	**5.0000e-005**		**1.6200e-003**	**1.6200e-003**		**1.4900e-003**	**1.4900e-003**	**0.0000**	**4.7226**	**4.7226**	**1.5300e-003**	**0.0000**	**4.7608**

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	2.0000e-005	1.2700e-003	2.0000e-004	0.0000	6.5500e-003	0.0000	6.5500e-003	6.5000e-004	0.0000	6.6000e-004	0.0000	0.1393	0.1393	3.0000e-005	0.0000	0.1400
Vendor	3.0000e-005	1.0400e-003	2.7000e-004	0.0000	0.0147	0.0000	0.0147	1.4700e-003	0.0000	1.4700e-003	0.0000	0.1648	0.1648	2.0000e-005	0.0000	0.1652
Worker	4.0200e-003	3.4200e-003	0.0315	1.1000e-004	0.0704	7.0000e-005	0.0705	8.8800e-003	7.0000e-005	8.9500e-003	0.0000	9.8876	9.8876	2.7000e-004	0.0000	9.8945
Total	**4.0700e-003**	**5.7300e-003**	**0.0320**	**1.1000e-004**	**0.0917**	**7.0000e-005**	**0.0917**	**0.0110**	**7.0000e-005**	**0.0111**	**0.0000**	**10.1917**	**10.1917**	**3.2000e-004**	**0.0000**	**10.1997**

3.3 Demolition of dairy and ranching structures - 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					
Off-Road	2.9500e-003	0.0294	0.0361	5.0000e-005		1.6200e-003	1.6200e-003		1.4900e-003	1.4900e-003	0.0000	4.7226	4.7226	1.5300e-003	0.0000	4.7608
Total	**2.9500e-003**	**0.0294**	**0.0361**	**5.0000e-005**		**1.6200e-003**	**1.6200e-003**		**1.4900e-003**	**1.4900e-003**	**0.0000**	**4.7226**	**4.7226**	**1.5300e-003**	**0.0000**	**4.7608**

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	2.0000e-005	1.2700e-003	2.0000e-004	0.0000	6.5500e-003	0.0000	6.5500e-003	6.5000e-004	0.0000	6.6000e-004	0.0000	0.1393	0.1393	3.0000e-005	0.0000	0.1400
Vendor	3.0000e-005	1.0400e-003	2.7000e-004	0.0000	0.0147	0.0000	0.0147	1.4700e-003	0.0000	1.4700e-003	0.0000	0.1648	0.1648	2.0000e-005	0.0000	0.1652
Worker	4.0200e-003	3.4200e-003	0.0315	1.1000e-004	0.0704	7.0000e-005	0.0705	8.8800e-003	7.0000e-005	8.9500e-003	0.0000	9.8876	9.8876	2.7000e-004	0.0000	9.8945
Total	**4.0700e-003**	**5.7300e-003**	**0.0320**	**1.1000e-004**	**0.0917**	**7.0000e-005**	**0.0917**	**0.0110**	**7.0000e-005**	**0.0111**	**0.0000**	**10.1917**	**10.1917**	**3.2000e-004**	**0.0000**	**10.1997**

3.3 Demolition of dairy and ranching structures - 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	1.4600e-003	0.0142	0.0194	3.0000e-005		7.6000e-004	7.6000e-004		7.0000e-004	7.0000e-004	0.0000	2.5436	2.5436	8.2000e-004	0.0000	2.5642
Total	**1.4600e-003**	**0.0142**	**0.0194**	**3.0000e-005**		**7.6000e-004**	**7.6000e-004**		**7.0000e-004**	**7.0000e-004**	**0.0000**	**2.5436**	**2.5436**	**8.2000e-004**	**0.0000**	**2.5642**

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	1.0000e-005	6.6000e-004	1.0000e-004	0.0000	6.5500e-003	0.0000	6.5500e-003	6.5000e-004	0.0000	6.5000e-004	0.0000	0.0743	0.0743	1.0000e-005	0.0000	0.0746
Vendor	1.0000e-005	5.2000e-004	1.3000e-004	0.0000	7.9000e-003	0.0000	7.9000e-003	7.9000e-004	0.0000	7.9000e-004	0.0000	0.0879	0.0879	1.0000e-005	0.0000	0.0881
Worker	2.0500e-003	1.6800e-003	0.0159	6.0000e-005	0.0379	4.0000e-005	0.0380	4.7800e-003	4.0000e-005	4.8200e-003	0.0000	5.1449	5.1449	1.4000e-004	0.0000	5.1484
Total	**2.0700e-003**	**2.8600e-003**	**0.0161**	**6.0000e-005**	**0.0524**	**4.0000e-005**	**0.0524**	**6.2200e-003**	**4.0000e-005**	**6.2600e-003**	**0.0000**	**5.3071**	**5.3071**	**1.6000e-004**	**0.0000**	**5.3111**

3.3 Demolition of dairy and ranching structures - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.4600e-003	0.0142	0.0194	3.0000e-005		7.6000e-004	7.6000e-004		7.0000e-004	7.0000e-004	0.0000	2.5436	2.5436	8.2000e-004	0.0000	2.5642
Total	**1.4600e-003**	**0.0142**	**0.0194**	**3.0000e-005**		**7.6000e-004**	**7.6000e-004**		**7.0000e-004**	**7.0000e-004**	**0.0000**	**2.5436**	**2.5436**	**8.2000e-004**	**0.0000**	**2.5642**

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	1.0000e-005	6.6000e-004	1.0000e-004	0.0000	6.5500e-003	0.0000	6.5500e-003	6.5000e-004	0.0000	6.5000e-004	0.0000	0.0743	0.0743	1.0000e-005	0.0000	0.0746
Vendor	1.0000e-005	5.2000e-004	1.3000e-004	0.0000	7.9000e-003	0.0000	7.9000e-003	7.9000e-004	0.0000	7.9000e-004	0.0000	0.0879	0.0879	1.0000e-005	0.0000	0.0881
Worker	2.0500e-003	1.6800e-003	0.0159	6.0000e-005	0.0379	4.0000e-005	0.0380	4.7800e-003	4.0000e-005	4.8200e-003	0.0000	5.1449	5.1449	1.4000e-004	0.0000	5.1484
Total	**2.0700e-003**	**2.8600e-003**	**0.0161**	**6.0000e-005**	**0.0524**	**4.0000e-005**	**0.0524**	**6.2200e-003**	**4.0000e-005**	**6.2600e-003**	**0.0000**	**5.3071**	**5.3071**	**1.6000e-004**	**0.0000**	**5.3111**

3.4 Site Prep, Grading, Stormwater Protections - 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					0.1776	0.0000	0.1776	0.0200	0.0000	0.0200	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0358	0.4301	0.2430	5.4000e-004		0.0164	0.0164		0.0151	0.0151	0.0000	47.5240	47.5240	0.0154	0.0000	47.9083
Total	**0.0358**	**0.4301**	**0.2430**	**5.4000e-004**	**0.1776**	**0.0164**	**0.1940**	**0.0200**	**0.0151**	**0.0350**	**0.0000**	**47.5240**	**47.5240**	**0.0154**	**0.0000**	**47.9083**

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	6.7900e-003	0.3491	0.0538	3.9000e-004	5.4057	2.5000e-004	5.4059	0.5395	2.4000e-004	0.5397	0.0000	38.3173	38.3173	6.9800e-003	0.0000	38.4919
Vendor	0.0144	0.3442	0.0941	1.3000e-003	0.1506	3.0400e-003	0.1536	0.0223	2.9100e-003	0.0252	0.0000	126.6269	126.6269	6.4300e-003	0.0000	126.7877
Worker	2.0100e-003	1.7100e-003	0.0158	5.0000e-005	0.0352	4.0000e-005	0.0353	4.4400e-003	3.0000e-005	4.4700e-003	0.0000	4.9438	4.9438	1.4000e-004	0.0000	4.9472
Total	**0.0232**	**0.6950**	**0.1637**	**1.7400e-003**	**5.5914**	**3.3300e-003**	**5.5948**	**0.5662**	**3.1800e-003**	**0.5694**	**0.0000**	**169.8881**	**169.8881**	**0.0136**	**0.0000**	**170.2268**

3.4 Site Prep, Grading, Stormwater Protections - 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					0.0693	0.0000	0.0693	7.7900e-003	0.0000	7.7900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0358	0.4301	0.2430	5.4000e-004		0.0164	0.0164		0.0151	0.0151	0.0000	47.5240	47.5240	0.0154	0.0000	47.9082
Total	**0.0358**	**0.4301**	**0.2430**	**5.4000e-004**	**0.0693**	**0.0164**	**0.0856**	**7.7900e-003**	**0.0151**	**0.0228**	**0.0000**	**47.5240**	**47.5240**	**0.0154**	**0.0000**	**47.9082**

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	6.7900e-003	0.3491	0.0538	3.9000e-004	5.4057	2.5000e-004	5.4059	0.5395	2.4000e-004	0.5397	0.0000	38.3173	38.3173	6.9800e-003	0.0000	38.4919
Vendor	0.0144	0.3442	0.0941	1.3000e-003	0.1506	3.0400e-003	0.1536	0.0223	2.9100e-003	0.0252	0.0000	126.6269	126.6269	6.4300e-003	0.0000	126.7877
Worker	2.0100e-003	1.7100e-003	0.0158	5.0000e-005	0.0352	4.0000e-005	0.0353	4.4400e-003	3.0000e-005	4.4700e-003	0.0000	4.9438	4.9438	1.4000e-004	0.0000	4.9472
Total	**0.0232**	**0.6950**	**0.1637**	**1.7400e-003**	**5.5914**	**3.3300e-003**	**5.5948**	**0.5662**	**3.1800e-003**	**0.5694**	**0.0000**	**169.8881**	**169.8881**	**0.0136**	**0.0000**	**170.2268**

3.4 Site Prep, Grading, Stormwater Protections - 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					0.1776	0.0000	0.1776	0.0200	0.0000	0.0200	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1211	1.4199	0.8322	1.9600e-003		0.0536	0.0536		0.0493	0.0493	0.0000	171.8542	171.8542	0.0556	0.0000	173.2437
Total	**0.1211**	**1.4199**	**0.8322**	**1.9600e-003**	**0.1776**	**0.0536**	**0.2312**	**0.0200**	**0.0493**	**0.0693**	**0.0000**	**171.8542**	**171.8542**	**0.0556**	**0.0000**	**173.2437**

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	0.0229	1.2193	0.1849	1.3900e-003	5.4064	8.0000e-004	5.4072	0.5397	7.7000e-004	0.5405	0.0000	137.1789	137.1789	0.0239	0.0000	137.7756
Vendor	0.0393	1.0474	0.3026	4.6600e-003	0.5443	4.0500e-003	0.5484	0.0807	3.8700e-003	0.0845	0.0000	453.6506	453.6506	0.0227	0.0000	454.2171
Worker	6.8800e-003	5.6400e-003	0.0534	1.9000e-004	0.1273	1.3000e-004	0.1275	0.0161	1.2000e-004	0.0162	0.0000	17.2723	17.2723	4.6000e-004	0.0000	17.2838
Total	**0.0690**	**2.2723**	**0.5409**	**6.2400e-003**	**6.0780**	**4.9800e-003**	**6.0830**	**0.6365**	**4.7600e-003**	**0.6412**	**0.0000**	**608.1018**	**608.1018**	**0.0470**	**0.0000**	**609.2765**

3.4 Site Prep, Grading, Stormwater Protections - 2021

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					0.0693	0.0000	0.0693	7.7900e-003	0.0000	7.7900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1211	1.4199	0.8322	1.9600e-003		0.0536	0.0536		0.0493	0.0493	0.0000	171.8540	171.8540	0.0556	0.0000	173.2435
Total	**0.1211**	**1.4199**	**0.8322**	**1.9600e-003**	**0.0693**	**0.0536**	**0.1229**	**7.7900e-003**	**0.0493**	**0.0571**	**0.0000**	**171.8540**	**171.8540**	**0.0556**	**0.0000**	**173.2435**

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	0.0229	1.2193	0.1849	1.3900e-003	5.4064	8.0000e-004	5.4072	0.5397	7.7000e-004	0.5405	0.0000	137.1789	137.1789	0.0239	0.0000	137.7756
Vendor	0.0393	1.0474	0.3026	4.6600e-003	0.5443	4.0500e-003	0.5484	0.0807	3.8700e-003	0.0845	0.0000	453.6506	453.6506	0.0227	0.0000	454.2171
Worker	6.8800e-003	5.6400e-003	0.0534	1.9000e-004	0.1273	1.3000e-004	0.1275	0.0161	1.2000e-004	0.0162	0.0000	17.2723	17.2723	4.6000e-004	0.0000	17.2838
Total	**0.0690**	**2.2723**	**0.5409**	**6.2400e-003**	**6.0780**	**4.9800e-003**	**6.0830**	**0.6365**	**4.7600e-003**	**0.6412**	**0.0000**	**608.1018**	**608.1018**	**0.0470**	**0.0000**	**609.2765**

3.5 Fence Installation - 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	9.0000e-004	9.3000e-003	0.0110	2.0000e-005		3.9000e-004	3.9000e-004		3.7000e-004	3.7000e-004	0.0000	1.4782	1.4782	4.1000e-004	0.0000	1.4885
Total	**9.0000e-004**	**9.3000e-003**	**0.0110**	**2.0000e-005**		**3.9000e-004**	**3.9000e-004**		**3.7000e-004**	**3.7000e-004**	**0.0000**	**1.4782**	**1.4782**	**4.1000e-004**	**0.0000**	**1.4885**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0000e-005	1.0400e-003	2.7000e-004	0.0000	0.0147	0.0000	0.0147	1.4700e-003	0.0000	1.4700e-003	0.0000	0.1648	0.1648	2.0000e-005	0.0000	0.1652
Worker	4.0200e-003	3.4200e-003	0.0315	1.1000e-004	0.0704	7.0000e-005	0.0705	8.8800e-003	7.0000e-005	8.9500e-003	0.0000	9.8876	9.8876	2.7000e-004	0.0000	9.8945
Total	**4.0500e-003**	**4.4600e-003**	**0.0318**	**1.1000e-004**	**0.0851**	**7.0000e-005**	**0.0852**	**0.0104**	**7.0000e-005**	**0.0104**	**0.0000**	**10.0524**	**10.0524**	**2.9000e-004**	**0.0000**	**10.0597**

3.5 Fence Installation - 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					
Off-Road	9.0000e-004	9.3000e-003	0.0110	2.0000e-005		3.9000e-004	3.9000e-004		3.7000e-004	3.7000e-004	0.0000	1.4782	1.4782	4.1000e-004	0.0000	1.4885
Total	**9.0000e-004**	**9.3000e-003**	**0.0110**	**2.0000e-005**		**3.9000e-004**	**3.9000e-004**		**3.7000e-004**	**3.7000e-004**	**0.0000**	**1.4782**	**1.4782**	**4.1000e-004**	**0.0000**	**1.4885**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0000e-005	1.0400e-003	2.7000e-004	0.0000	0.0147	0.0000	0.0147	1.4700e-003	0.0000	1.4700e-003	0.0000	0.1648	0.1648	2.0000e-005	0.0000	0.1652
Worker	4.0200e-003	3.4200e-003	0.0315	1.1000e-004	0.0704	7.0000e-005	0.0705	8.8800e-003	7.0000e-005	8.9500e-003	0.0000	9.8876	9.8876	2.7000e-004	0.0000	9.8945
Total	**4.0500e-003**	**4.4600e-003**	**0.0318**	**1.1000e-004**	**0.0851**	**7.0000e-005**	**0.0852**	**0.0104**	**7.0000e-005**	**0.0104**	**0.0000**	**10.0524**	**10.0524**	**2.9000e-004**	**0.0000**	**10.0597**

3.5 Fence Installation - 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	3.1500e-003	0.0322	0.0399	7.0000e-005		1.3000e-003	1.3000e-003		1.2200e-003	1.2200e-003	0.0000	5.3450	5.3450	1.4900e-003	0.0000	5.3823
Total	**3.1500e-003**	**0.0322**	**0.0399**	**7.0000e-005**		**1.3000e-003**	**1.3000e-003**		**1.2200e-003**	**1.2200e-003**	**0.0000**	**5.3450**	**5.3450**	**1.4900e-003**	**0.0000**	**5.3823**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.0000e-005	3.5000e-003	9.0000e-004	1.0000e-005	0.0531	0.0000	0.0531	5.3100e-003	0.0000	5.3200e-003	0.0000	0.5901	0.5901	6.0000e-005	0.0000	0.5916
Worker	0.0138	0.0113	0.1068	3.8000e-004	0.2547	2.6000e-004	0.2549	0.0321	2.4000e-004	0.0323	0.0000	34.5446	34.5446	9.2000e-004	0.0000	34.5676
Total	**0.0139**	**0.0148**	**0.1077**	**3.9000e-004**	**0.3077**	**2.6000e-004**	**0.3080**	**0.0374**	**2.4000e-004**	**0.0377**	**0.0000**	**35.1347**	**35.1347**	**9.8000e-004**	**0.0000**	**35.1592**

3.5 Fence Installation - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.1500e-003	0.0322	0.0399	7.0000e-005		1.3000e-003	1.3000e-003		1.2200e-003	1.2200e-003	0.0000	5.3449	5.3449	1.4900e-003	0.0000	5.3822
Total	**3.1500e-003**	**0.0322**	**0.0399**	**7.0000e-005**		**1.3000e-003**	**1.3000e-003**		**1.2200e-003**	**1.2200e-003**	**0.0000**	**5.3449**	**5.3449**	**1.4900e-003**	**0.0000**	**5.3822**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.0000e-005	3.5000e-003	9.0000e-004	1.0000e-005	0.0531	0.0000	0.0531	5.3100e-003	0.0000	5.3200e-003	0.0000	0.5901	0.5901	6.0000e-005	0.0000	0.5916
Worker	0.0138	0.0113	0.1068	3.8000e-004	0.2547	2.6000e-004	0.2549	0.0321	2.4000e-004	0.0323	0.0000	34.5446	34.5446	9.2000e-004	0.0000	34.5676
Total	**0.0139**	**0.0148**	**0.1077**	**3.9000e-004**	**0.3077**	**2.6000e-004**	**0.3080**	**0.0374**	**2.4000e-004**	**0.0377**	**0.0000**	**35.1347**	**35.1347**	**9.8000e-004**	**0.0000**	**35.1592**

3.6 Pile Driving - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0455	0.2376	0.2749	3.0000e-004		0.0171	0.0171		0.0157	0.0157	0.0000	26.7557	26.7557	8.6500e-003	0.0000	26.9720
Total	**0.0455**	**0.2376**	**0.2749**	**3.0000e-004**	**0.0000**	**0.0171**	**0.0171**	**0.0000**	**0.0157**	**0.0157**	**0.0000**	**26.7557**	**26.7557**	**8.6500e-003**	**0.0000**	**26.9720**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0586	0.0480	0.4546	1.6200e-003	1.0837	1.1100e-003	1.0848	0.1366	1.0200e-003	0.1376	0.0000	146.9982	146.9982	3.9100e-003	0.0000	147.0959
Total	**0.0586**	**0.0480**	**0.4546**	**1.6200e-003**	**1.0837**	**1.1100e-003**	**1.0848**	**0.1366**	**1.0200e-003**	**0.1376**	**0.0000**	**146.9982**	**146.9982**	**3.9100e-003**	**0.0000**	**147.0959**

3.6 Pile Driving - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0455	0.2376	0.2749	3.0000e-004		0.0171	0.0171		0.0157	0.0157	0.0000	26.7556	26.7556	8.6500e-003	0.0000	26.9720
Total	**0.0455**	**0.2376**	**0.2749**	**3.0000e-004**	**0.0000**	**0.0171**	**0.0171**	**0.0000**	**0.0157**	**0.0157**	**0.0000**	**26.7556**	**26.7556**	**8.6500e-003**	**0.0000**	**26.9720**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0586	0.0480	0.4546	1.6200e-003	1.0837	1.1100e-003	1.0848	0.1366	1.0200e-003	0.1376	0.0000	146.9982	146.9982	3.9100e-003	0.0000	147.0959
Total	**0.0586**	**0.0480**	**0.4546**	**1.6200e-003**	**1.0837**	**1.1100e-003**	**1.0848**	**0.1366**	**1.0200e-003**	**0.1376**	**0.0000**	**146.9982**	**146.9982**	**3.9100e-003**	**0.0000**	**147.0959**

3.7 Landscaping Installation - 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	0.0180	0.1918	0.2364	3.3000e-004		0.0106	0.0106		9.7300e-003	9.7300e-003	0.0000	29.1024	29.1024	9.4100e-003	0.0000	29.3377
Total	**0.0180**	**0.1918**	**0.2364**	**3.3000e-004**		**0.0106**	**0.0106**		**9.7300e-003**	**9.7300e-003**	**0.0000**	**29.1024**	**29.1024**	**9.4100e-003**	**0.0000**	**29.3377**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6000e-004	5.9600e-003	1.5200e-003	1.0000e-005	0.0903	1.0000e-005	0.0903	9.0400e-003	1.0000e-005	9.0500e-003	0.0000	1.0044	1.0044	1.0000e-004	0.0000	1.0071
Worker	0.0727	0.0595	0.5638	2.0100e-003	1.3438	1.3800e-003	1.3451	0.1694	1.2700e-003	0.1707	0.0000	182.2778	182.2778	4.8500e-003	0.0000	182.3990
Total	**0.0728**	**0.0655**	**0.5653**	**2.0200e-003**	**1.4341**	**1.3900e-003**	**1.4355**	**0.1784**	**1.2800e-003**	**0.1797**	**0.0000**	**183.2822**	**183.2822**	**4.9500e-003**	**0.0000**	**183.4060**

3.7 Landscaping Installation - 2021

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	0.0180	0.1918	0.2364	3.3000e-004		0.0106	0.0106		9.7300e-003	9.7300e-003	0.0000	29.1024	29.1024	9.4100e-003	0.0000	29.3377
Total	**0.0180**	**0.1918**	**0.2364**	**3.3000e-004**		**0.0106**	**0.0106**		**9.7300e-003**	**9.7300e-003**	**0.0000**	**29.1024**	**29.1024**	**9.4100e-003**	**0.0000**	**29.3377**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6000e-004	5.9600e-003	1.5200e-003	1.0000e-005	0.0903	1.0000e-005	0.0903	9.0400e-003	1.0000e-005	9.0500e-003	0.0000	1.0044	1.0044	1.0000e-004	0.0000	1.0071
Worker	0.0727	0.0595	0.5638	2.0100e-003	1.3438	1.3800e-003	1.3451	0.1694	1.2700e-003	0.1707	0.0000	182.2778	182.2778	4.8500e-003	0.0000	182.3990
Total	**0.0728**	**0.0655**	**0.5653**	**2.0200e-003**	**1.4341**	**1.3900e-003**	**1.4355**	**0.1784**	**1.2800e-003**	**0.1797**	**0.0000**	**183.2822**	**183.2822**	**4.9500e-003**	**0.0000**	**183.4060**

3.8 Tracker and Module Installation - 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	0.0135	0.2162	0.3939	6.1000e-004		4.1200e-003	4.1200e-003		3.7900e-003	3.7900e-003	0.0000	53.1095	53.1095	0.0172	0.0000	53.5389
Total	**0.0135**	**0.2162**	**0.3939**	**6.1000e-004**		**4.1200e-003**	**4.1200e-003**		**3.7900e-003**	**3.7900e-003**	**0.0000**	**53.1095**	**53.1095**	**0.0172**	**0.0000**	**53.5389**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0780	2.0799	0.6009	9.2500e-003	1.0809	8.0400e-003	1.0890	0.1602	7.6900e-003	0.1679	0.0000	900.8664	900.8664	0.0450	0.0000	901.9915
Worker	0.1758	0.1439	1.3639	4.8700e-003	3.2510	3.3300e-003	3.2544	0.4098	3.0700e-003	0.4129	0.0000	440.9946	440.9946	0.0117	0.0000	441.2878
Total	**0.2538**	**2.2239**	**1.9648**	**0.0141**	**4.3320**	**0.0114**	**4.3433**	**0.5700**	**0.0108**	**0.5808**	**0.0000**	**1,341.8609**	**1,341.8609**	**0.0567**	**0.0000**	**1,343.2793**

3.8 Tracker and Module Installation - 2021

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	0.0135	0.2162	0.3939	6.1000e-004		4.1200e-003	4.1200e-003		3.7900e-003	3.7900e-003	0.0000	53.1094	53.1094	0.0172	0.0000	53.5388
Total	**0.0135**	**0.2162**	**0.3939**	**6.1000e-004**		**4.1200e-003**	**4.1200e-003**		**3.7900e-003**	**3.7900e-003**	**0.0000**	**53.1094**	**53.1094**	**0.0172**	**0.0000**	**53.5388**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0780	2.0799	0.6009	9.2500e-003	1.0809	8.0400e-003	1.0890	0.1602	7.6900e-003	0.1679	0.0000	900.8664	900.8664	0.0450	0.0000	901.9915
Worker	0.1758	0.1439	1.3639	4.8700e-003	3.2510	3.3300e-003	3.2544	0.4098	3.0700e-003	0.4129	0.0000	440.9946	440.9946	0.0117	0.0000	441.2878
Total	**0.2538**	**2.2239**	**1.9648**	**0.0141**	**4.3320**	**0.0114**	**4.3433**	**0.5700**	**0.0108**	**0.5808**	**0.0000**	**1,341.8609**	**1,341.8609**	**0.0567**	**0.0000**	**1,343.2793**

3.9 DC Electrical - 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	4.5000e-003	0.0721	0.1313	2.0000e-004		1.3700e-003	1.3700e-003		1.2600e-003	1.2600e-003	0.0000	17.7032	17.7032	5.7300e-003	0.0000	17.8463
Total	**4.5000e-003**	**0.0721**	**0.1313**	**2.0000e-004**		**1.3700e-003**	**1.3700e-003**		**1.2600e-003**	**1.2600e-003**	**0.0000**	**17.7032**	**17.7032**	**5.7300e-003**	**0.0000**	**17.8463**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.3515	0.2879	2.7279	9.7500e-003	6.5021	6.6700e-003	6.5088	0.8196	6.1400e-003	0.8258	0.0000	881.9891	881.9891	0.0235	0.0000	882.5756
Total	**0.3515**	**0.2879**	**2.7279**	**9.7500e-003**	**6.5021**	**6.6700e-003**	**6.5088**	**0.8196**	**6.1400e-003**	**0.8258**	**0.0000**	**881.9891**	**881.9891**	**0.0235**	**0.0000**	**882.5756**

3.9 DC Electrical - 2021

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	4.5000e-003	0.0721	0.1313	2.0000e-004		1.3700e-003	1.3700e-003		1.2600e-003	1.2600e-003	0.0000	17.7031	17.7031	5.7300e-003	0.0000	17.8463
Total	**4.5000e-003**	**0.0721**	**0.1313**	**2.0000e-004**		**1.3700e-003**	**1.3700e-003**		**1.2600e-003**	**1.2600e-003**	**0.0000**	**17.7031**	**17.7031**	**5.7300e-003**	**0.0000**	**17.8463**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.3515	0.2879	2.7279	9.7500e-003	6.5021	6.6700e-003	6.5088	0.8196	6.1400e-003	0.8258	0.0000	881.9891	881.9891	0.0235	0.0000	882.5756
Total	**0.3515**	**0.2879**	**2.7279**	**9.7500e-003**	**6.5021**	**6.6700e-003**	**6.5088**	**0.8196**	**6.1400e-003**	**0.8258**	**0.0000**	**881.9891**	**881.9891**	**0.0235**	**0.0000**	**882.5756**

3.10 Underground Medium AC Voltage Electrical - 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	0.0495	0.5047	0.5011	9.6000e-004		0.0228	0.0228		0.0210	0.0210	0.0000	84.3545	84.3545	0.0273	0.0000	85.0366
Total	**0.0495**	**0.5047**	**0.5011**	**9.6000e-004**		**0.0228**	**0.0228**		**0.0210**	**0.0210**	**0.0000**	**84.3545**	**84.3545**	**0.0273**	**0.0000**	**85.0366**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0836	2.2285	0.6438	9.9100e-003	1.1581	8.6100e-003	1.1667	0.1716	8.2400e-003	0.1799	0.0000	965.2140	965.2140	0.0482	0.0000	966.4194
Worker	0.0732	0.0600	0.5683	2.0300e-003	1.3546	1.3900e-003	1.3560	0.1708	1.2800e-003	0.1720	0.0000	183.7477	183.7477	4.8900e-003	0.0000	183.8699
Total	**0.1568**	**2.2885**	**1.2121**	**0.0119**	**2.5127**	**0.0100**	**2.5227**	**0.3424**	**9.5200e-003**	**0.3519**	**0.0000**	**1,148.9617**	**1,148.9617**	**0.0531**	**0.0000**	**1,150.2893**

3.10 Underground Medium AC Voltage Electrical - 2021

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	0.0495	0.5047	0.5011	9.6000e-004		0.0228	0.0228		0.0210	0.0210	0.0000	84.3544	84.3544	0.0273	0.0000	85.0365
Total	**0.0495**	**0.5047**	**0.5011**	**9.6000e-004**		**0.0228**	**0.0228**		**0.0210**	**0.0210**	**0.0000**	**84.3544**	**84.3544**	**0.0273**	**0.0000**	**85.0365**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0836	2.2285	0.6438	9.9100e-003	1.1581	8.6100e-003	1.1667	0.1716	8.2400e-003	0.1799	0.0000	965.2140	965.2140	0.0482	0.0000	966.4194
Worker	0.0732	0.0600	0.5683	2.0300e-003	1.3546	1.3900e-003	1.3560	0.1708	1.2800e-003	0.1720	0.0000	183.7477	183.7477	4.8900e-003	0.0000	183.8699
Total	**0.1568**	**2.2885**	**1.2121**	**0.0119**	**2.5127**	**0.0100**	**2.5227**	**0.3424**	**9.5200e-003**	**0.3519**	**0.0000**	**1,148.9617**	**1,148.9617**	**0.0531**	**0.0000**	**1,150.2893**

3.11 Inverter Installation - 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	0.0108	0.1206	0.0630	1.5000e-004		5.6100e-003	5.6100e-003		5.1600e-003	5.1600e-003	0.0000	12.8234	12.8234	4.1500e-003	0.0000	12.9271
Total	**0.0108**	**0.1206**	**0.0630**	**1.5000e-004**		**5.6100e-003**	**5.6100e-003**		**5.1600e-003**	**5.1600e-003**	**0.0000**	**12.8234**	**12.8234**	**4.1500e-003**	**0.0000**	**12.9271**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.4000e-004	0.0198	5.7200e-003	9.0000e-005	0.0103	8.0000e-005	0.0104	1.5300e-003	7.0000e-005	1.6000e-003	0.0000	8.5797	8.5797	4.3000e-004	0.0000	8.5904
Worker	0.0117	9.6000e-003	0.0909	3.2000e-004	0.2167	2.2000e-004	0.2170	0.0273	2.0000e-004	0.0275	0.0000	29.3996	29.3996	7.8000e-004	0.0000	29.4192
Total	**0.0125**	**0.0294**	**0.0967**	**4.1000e-004**	**0.2270**	**3.0000e-004**	**0.2273**	**0.0289**	**2.7000e-004**	**0.0291**	**0.0000**	**37.9793**	**37.9793**	**1.2100e-003**	**0.0000**	**38.0096**

3.11 Inverter Installation - 2021

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	0.0108	0.1206	0.0630	1.5000e-004		5.6100e-003	5.6100e-003		5.1600e-003	5.1600e-003	0.0000	12.8234	12.8234	4.1500e-003	0.0000	12.9271
Total	**0.0108**	**0.1206**	**0.0630**	**1.5000e-004**		**5.6100e-003**	**5.6100e-003**		**5.1600e-003**	**5.1600e-003**	**0.0000**	**12.8234**	**12.8234**	**4.1500e-003**	**0.0000**	**12.9271**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.4000e-004	0.0198	5.7200e-003	9.0000e-005	0.0103	8.0000e-005	0.0104	1.5300e-003	7.0000e-005	1.6000e-003	0.0000	8.5797	8.5797	4.3000e-004	0.0000	8.5904
Worker	0.0117	9.6000e-003	0.0909	3.2000e-004	0.2167	2.2000e-004	0.2170	0.0273	2.0000e-004	0.0275	0.0000	29.3996	29.3996	7.8000e-004	0.0000	29.4192
Total	**0.0125**	**0.0294**	**0.0967**	**4.1000e-004**	**0.2270**	**3.0000e-004**	**0.2273**	**0.0289**	**2.7000e-004**	**0.0291**	**0.0000**	**37.9793**	**37.9793**	**1.2100e-003**	**0.0000**	**38.0096**

3.12 Battery Energy Storage System Installation - 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	0.0108	0.1206	0.0630	1.5000e-004		5.6100e-003	5.6100e-003		5.1600e-003	5.1600e-003	0.0000	12.8234	12.8234	4.1500e-003	0.0000	12.9271
Total	**0.0108**	**0.1206**	**0.0630**	**1.5000e-004**		**5.6100e-003**	**5.6100e-003**		**5.1600e-003**	**5.1600e-003**	**0.0000**	**12.8234**	**12.8234**	**4.1500e-003**	**0.0000**	**12.9271**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0260	0.6933	0.2003	3.0800e-003	0.3603	2.6800e-003	0.3630	0.0534	2.5600e-003	0.0560	0.0000	300.2888	300.2888	0.0150	0.0000	300.6638
Worker	0.0117	9.6000e-003	0.0909	3.2000e-004	0.2167	2.2000e-004	0.2170	0.0273	2.0000e-004	0.0275	0.0000	29.3996	29.3996	7.8000e-004	0.0000	29.4192
Total	**0.0377**	**0.7029**	**0.2912**	**3.4000e-003**	**0.5771**	**2.9000e-003**	**0.5800**	**0.0807**	**2.7600e-003**	**0.0835**	**0.0000**	**329.6884**	**329.6884**	**0.0158**	**0.0000**	**330.0830**

3.12 Battery Energy Storage System Installation - 2021

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	0.0108	0.1206	0.0630	1.5000e-004		5.6100e-003	5.6100e-003		5.1600e-003	5.1600e-003	0.0000	12.8234	12.8234	4.1500e-003	0.0000	12.9271
Total	**0.0108**	**0.1206**	**0.0630**	**1.5000e-004**		**5.6100e-003**	**5.6100e-003**		**5.1600e-003**	**5.1600e-003**	**0.0000**	**12.8234**	**12.8234**	**4.1500e-003**	**0.0000**	**12.9271**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0260	0.6933	0.2003	3.0800e-003	0.3603	2.6800e-003	0.3630	0.0534	2.5600e-003	0.0560	0.0000	300.2888	300.2888	0.0150	0.0000	300.6638
Worker	0.0117	9.6000e-003	0.0909	3.2000e-004	0.2167	2.2000e-004	0.2170	0.0273	2.0000e-004	0.0275	0.0000	29.3996	29.3996	7.8000e-004	0.0000	29.4192
Total	**0.0377**	**0.7029**	**0.2912**	**3.4000e-003**	**0.5771**	**2.9000e-003**	**0.5800**	**0.0807**	**2.7600e-003**	**0.0835**	**0.0000**	**329.6884**	**329.6884**	**0.0158**	**0.0000**	**330.0830**

3.13 Commissioning - 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	0.0000	0.0000	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**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.8600e-003	4.8000e-003	0.0455	1.6000e-004	0.1084	1.1000e-004	0.1085	0.0137	1.0000e-004	0.0138	0.0000	14.6998	14.6998	3.9000e-004	0.0000	14.7096
Total	**5.8600e-003**	**4.8000e-003**	**0.0455**	**1.6000e-004**	**0.1084**	**1.1000e-004**	**0.1085**	**0.0137**	**1.0000e-004**	**0.0138**	**0.0000**	**14.6998**	**14.6998**	**3.9000e-004**	**0.0000**	**14.7096**

3.13 Commissioning - 2021

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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.8600e-003	4.8000e-003	0.0455	1.6000e-004	0.1084	1.1000e-004	0.1085	0.0137	1.0000e-004	0.0138	0.0000	14.6998	14.6998	3.9000e-004	0.0000	14.7096
Total	**5.8600e-003**	**4.8000e-003**	**0.0455**	**1.6000e-004**	**0.1084**	**1.1000e-004**	**0.1085**	**0.0137**	**1.0000e-004**	**0.0138**	**0.0000**	**14.6998**	**14.6998**	**3.9000e-004**	**0.0000**	**14.7096**

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 Heavy 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 Heavy Industry	0.00	72.00	0.00	0.00	100.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Heavy Industry	0.598645	0.040929	0.181073	0.106149	0.015683	0.005479	0.016317	0.023976	0.001926	0.001932	0.006016	0.000753	0.001122

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 Heavy Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

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

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy 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	0.0000	0.0000	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

6.2 Area by SubCategory

Unmitigated

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

6.2 Area by SubCategory

Mitigated

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

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	132.5090	5.3300e-003	1.1000e-003	132.9712
Unmitigated	132.5090	5.3300e-003	1.1000e-003	132.9712

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	0 / 36.4954	132.5090	5.3300e-003	1.1000e-003	132.9712
Total		**132.5090**	**5.3300e-003**	**1.1000e-003**	**132.9712**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	0 / 36.4954	132.5090	5.3300e-003	1.1000e-003	132.9712
Total		**132.5090**	**5.3300e-003**	**1.1000e-003**	**132.9712**

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 Heavy 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 Heavy Industry	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

JVR Energy Park - Decommissioning - Unmitigated

San Diego County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	1.00	1000sqft	0.02	1,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2050
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Land use is surrogate only. No heavy industrial land use associated with the project.

Construction Phase - Based on project description.

Off-road Equipment - Based on construction scenario.

Off-road Equipment - Based on applicant provided information.

Off-road Equipment - Based on construction scenario.

Off-road Equipment - Based on construction scenario.

Off-road Equipment - Based on construction scenario.

Trips and VMT - Worker trips assumed to be 50% from San Diego and 50% from El Centro. Water trucks from Jacumba Community Services District. Based on construction scenario.

On-road Fugitive Dust - Worker vehicles assumed to travel to/from the staging area. Vendor trucks assumed to travel 0.86 miles on site per trip. Water trucks come from Jacumba Community Services District. Based on construction scenario.

Grading -

Architectural Coating - No architectural coatings.

Vehicle Trips - Construction only model run.

Road Dust - Based on traveling from San Diego.

Consumer Products - Construction only model run.

Area Coating - Construction only model run.

Landscape Equipment - Construction only model run.

Energy Use - Construction only model run.

Water And Wastewater - 50 acre-feet of water used during decommissioning.

Solid Waste - Construction only model run.

Land Use Change - Calculated outside of CalEEMod.

Sequestration - No sequestration.

Construction Off-road Equipment Mitigation - Water exposed areas 3 times daily in accordance with SDAPCD Rule 55.

Operational Off-Road Equipment -

Stationary Sources - Emergency Generators and Fire Pumps - Construction only model run.

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Fleet Mix -

JVR Energy Park - Decommissioning - Unmitigated - San Diego County APCD Air District, Annual

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	500.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	1,500.00	0.00
tblAreaCoating	Area_Nonresidential_Exterior	500	0
tblAreaCoating	Area_Nonresidential_Interior	1500	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblEnergyUse	LightingElect	2.83	0.00
tblEnergyUse	NT24E	4.27	0.00
tblEnergyUse	NT24NG	7.25	0.00
tblEnergyUse	T24E	1.21	0.00
tblEnergyUse	T24NG	4.31	0.00
tblOffRoadEquipment	HorsePower	402.00	45.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	20.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	PhaseName		System Disassembly and Removal

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tblOffRoadEquipment	PhaseName		System Disassembly and Removal
tblOffRoadEquipment	PhaseName		System Disassembly and Removal
tblOffRoadEquipment	PhaseName		System Disassembly and Removal
tblOffRoadEquipment	PhaseName		Permiter Fence Removal
tblOffRoadEquipment	UsageHours	4.00	8.00
tblOffRoadEquipment	UsageHours	4.00	8.00
tblOnRoadDust	VendorPercentPave	100.00	98.80
tblOnRoadDust	VendorPercentPave	100.00	98.80
tblOnRoadDust	WorkerPercentPave	100.00	99.70
tblOnRoadDust	WorkerPercentPave	100.00	99.70
tblOnRoadDust	WorkerPercentPave	100.00	99.70
tblOnRoadDust	WorkerPercentPave	100.00	99.70
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblRoadDust	RoadPercentPave	100	98.8
tblSolidWaste	SolidWasteGenerationRate	1.24	0.00
tblTripsAndVMT	VendorTripLength	6.60	73.00
tblTripsAndVMT	VendorTripLength	6.60	73.00
tblTripsAndVMT	VendorTripNumber	0.00	70.00
tblTripsAndVMT	VendorTripNumber	0.00	70.00
tblTripsAndVMT	WorkerTripLength	16.80	58.00
tblTripsAndVMT	WorkerTripLength	16.80	58.00
tblTripsAndVMT	WorkerTripLength	16.80	58.00
tblTripsAndVMT	WorkerTripLength	16.80	58.00
tblTripsAndVMT	WorkerTripNumber	3.00	40.00
tblTripsAndVMT	WorkerTripNumber	0.00	700.00
tblTripsAndVMT	WorkerTripNumber	0.00	300.00
tblTripsAndVMT	WorkerTripNumber	0.00	40.00

tblVehicleTrips	CC_TL	6.60	72.00
tblVehicleTrips	CC_TTP	28.00	100.00
tblVehicleTrips	CNW_TL	6.60	0.00
tblVehicleTrips	CNW_TTP	13.00	0.00
tblVehicleTrips	CW_TL	14.70	0.00
tblVehicleTrips	CW_TTP	59.00	0.00
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	1.50	0.00
tblVehicleTrips	SU_TR	1.50	0.00
tblVehicleTrips	WD_TR	1.50	0.00
tblWater	IndoorWaterUseRate	231,250.00	0.00
tblWater	OutdoorWaterUseRate	0.00	16,292,572.00

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					
2050	0.4266	2.0688	4.9035	0.0259	17.6843	0.0177	17.7019	2.1310	0.0172	2.1482	0.0000	2,402.7459	2,402.7459	0.0807	0.0000	2,404.7638
Maximum	**0.4266**	**2.0688**	**4.9035**	**0.0259**	**17.6843**	**0.0177**	**17.7019**	**2.1310**	**0.0172**	**2.1482**	**0.0000**	**2,402.7459**	**2,402.7459**	**0.0807**	**0.0000**	**2,404.7638**

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					
2050	0.4266	2.0688	4.9035	0.0259	11.6658	0.0177	11.6835	1.5292	0.0172	1.5464	0.0000	2,402.7454	2,402.7454	0.0807	0.0000	2,404.7633
Maximum	**0.4266**	**2.0688**	**4.9035**	**0.0259**	**11.6658**	**0.0177**	**11.6835**	**1.5292**	**0.0172**	**1.5464**	**0.0000**	**2,402.7454**	**2,402.7454**	**0.0807**	**0.0000**	**2,404.7633**

	ROG	NOx	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**	**34.03**	**0.00**	**34.00**	**28.24**	**0.00**	**28.02**	**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	1-1-2050	3-31-2050	0.6313	0.6313
2	4-1-2050	6-30-2050	1.2498	1.2498
3	7-1-2050	9-30-2050	0.5767	0.5767
		Highest	1.2498	1.2498

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	3.9100e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	59.1558	59.1558	2.3800e-003	4.9000e-004	59.3621
Total	**3.9100e-003**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**59.1558**	**59.1558**	**2.3800e-003**	**4.9000e-004**	**59.3622**

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	3.9100e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	59.1558	59.1558	2.3800e-003	4.9000e-004	59.3621
Total	**3.9100e-003**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**59.1558**	**59.1558**	**2.3800e-003**	**4.9000e-004**	**59.3622**

	ROG	NOx	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	Permiter Fence Removal	Site Preparation	1/1/2050	2/16/2050	5	33	
2	System Disassembly and Removal	Building Construction	2/17/2050	7/6/2050	5	100	
3	Energy Storage System	Building Construction	7/7/2050	9/6/2050	5	44	
4	Site Cleanup & Restoration	Architectural Coating	9/7/2050	10/6/2050	5	22	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Permiter Fence Removal	Graders	0	8.00	187	0.41
Permiter Fence Removal	Skid Steer Loaders	1	8.00	65	0.37
Permiter Fence Removal	Tractors/Loaders/Backhoes	0	8.00	97	0.37
System Disassembly and Removal	Cranes	1	8.00	231	0.29
System Disassembly and Removal	Forklifts	0	6.00	89	0.20
System Disassembly and Removal	Generator Sets	2	8.00	84	0.74
System Disassembly and Removal	Off-Highway Trucks	20	8.00	45	0.38
System Disassembly and Removal	Other Construction Equipment	4	8.00	172	0.42
System Disassembly and Removal	Rough Terrain Forklifts	8	8.00	100	0.40
System Disassembly and Removal	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Energy Storage System	Air Compressors	0		78	0.48
Energy Storage System	Cranes	1	8.00	231	0.29
Energy Storage System	Forklifts	0	6.00	89	0.20
Energy Storage System	Graders	1	8.00	187	0.41
Energy Storage System	Rough Terrain Forklifts	1	8.00	100	0.40
Energy Storage System	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Site Cleanup & Restoration	Air Compressors	0	6.00	78	0.48
Site Cleanup & Restoration	Graders	1	8.00	187	0.41
Site Cleanup & Restoration	Skid Steer Loaders	1	8.00	65	0.37

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
Permiter Fence Removal	1	40.00	0.00	0.00	58.00	6.60	20.00	LD_Mix	HDT_Mix	HHDT
System Disassembly and Removal	35	700.00	70.00	0.00	58.00	73.00	20.00	LD_Mix	HDT_Mix	HHDT
Energy Storage System	3	300.00	70.00	0.00	58.00	73.00	20.00	LD_Mix	HDT_Mix	HHDT
Site Cleanup & Restoration	2	40.00	0.00	0.00	58.00	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Permiter Fence Removal - 2050

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.4800e-003	0.0100	0.0248	4.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	3.6083	3.6083	1.2000e-004	0.0000	3.6113
Total	**1.4800e-003**	**0.0100**	**0.0248**	**4.0000e-005**	**0.0000**	**9.0000e-005**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**9.0000e-005**	**0.0000**	**3.6083**	**3.6083**	**1.2000e-004**	**0.0000**	**3.6113**

3.2 Permiter Fence Removal - 2050

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2800e-003	2.6300e-003	0.0282	1.7000e-004	0.1788	6.0000e-005	0.1789	0.0225	5.0000e-005	0.0226	0.0000	15.2472	15.2472	2.2000e-004	0.0000	15.2528
Total	**3.2800e-003**	**2.6300e-003**	**0.0282**	**1.7000e-004**	**0.1788**	**6.0000e-005**	**0.1789**	**0.0225**	**5.0000e-005**	**0.0226**	**0.0000**	**15.2472**	**15.2472**	**2.2000e-004**	**0.0000**	**15.2528**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.4800e-003	0.0100	0.0248	4.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	3.6083	3.6083	1.2000e-004	0.0000	3.6113
Total	**1.4800e-003**	**0.0100**	**0.0248**	**4.0000e-005**	**0.0000**	**9.0000e-005**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**9.0000e-005**	**0.0000**	**3.6083**	**3.6083**	**1.2000e-004**	**0.0000**	**3.6113**

3.2 Permiter Fence Removal - 2050

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2800e-003	2.6300e-003	0.0282	1.7000e-004	0.1205	6.0000e-005	0.1205	0.0167	5.0000e-005	0.0168	0.0000	15.2472	15.2472	2.2000e-004	0.0000	15.2528
Total	**3.2800e-003**	**2.6300e-003**	**0.0282**	**1.7000e-004**	**0.1205**	**6.0000e-005**	**0.1205**	**0.0167**	**5.0000e-005**	**0.0168**	**0.0000**	**15.2472**	**15.2472**	**2.2000e-004**	**0.0000**	**15.2528**

3.3 System Disassembly and Removal - 2050

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	0.1379	0.6667	2.2776	4.2300e-003		9.4000e-003	9.4000e-003		9.4000e-003	9.4000e-003	0.0000	363.8341	363.8341	0.0111	0.0000	364.1115
Total	**0.1379**	**0.6667**	**2.2776**	**4.2300e-003**		**9.4000e-003**	**9.4000e-003**		**9.4000e-003**	**9.4000e-003**	**0.0000**	**363.8341**	**363.8341**	**0.0111**	**0.0000**	**364.1115**

3.3 System Disassembly and Removal - 2050

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0392	0.8107	0.4301	7.0500e-003	4.2472	2.2600e-003	4.2495	0.4672	2.1700e-003	0.4694	0.0000	695.8607	695.8607	0.0372	0.0000	696.7908
Worker	0.1740	0.1393	1.4977	8.9200e-003	9.4822	3.0100e-003	9.4852	1.1953	2.7700e-003	1.1981	0.0000	808.5660	808.5660	0.0118	0.0000	808.8617
Total	**0.2132**	**0.9500**	**1.9278**	**0.0160**	**13.7294**	**5.2700e-003**	**13.7347**	**1.6625**	**4.9400e-003**	**1.6674**	**0.0000**	**1,504.4266**	**1,504.4266**	**0.0490**	**0.0000**	**1,505.6525**

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	0.1379	0.6667	2.2776	4.2300e-003		9.4000e-003	9.4000e-003		9.4000e-003	9.4000e-003	0.0000	363.8337	363.8337	0.0111	0.0000	364.1111
Total	**0.1379**	**0.6667**	**2.2776**	**4.2300e-003**		**9.4000e-003**	**9.4000e-003**		**9.4000e-003**	**9.4000e-003**	**0.0000**	**363.8337**	**363.8337**	**0.0111**	**0.0000**	**364.1111**

3.3 System Disassembly and Removal - 2050

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0392	0.8107	0.4301	7.0500e-003	2.6894	2.2600e-003	2.6916	0.3114	2.1700e-003	0.3136	0.0000	695.8607	695.8607	0.0372	0.0000	696.7908
Worker	0.1740	0.1393	1.4977	8.9200e-003	6.3878	3.0100e-003	6.3908	0.8859	2.7700e-003	0.8886	0.0000	808.5660	808.5660	0.0118	0.0000	808.8617
Total	**0.2132**	**0.9500**	**1.9278**	**0.0160**	**9.0772**	**5.2700e-003**	**9.0824**	**1.1973**	**4.9400e-003**	**1.2022**	**0.0000**	**1,504.4266**	**1,504.4266**	**0.0490**	**0.0000**	**1,505.6525**

3.4 Energy Storage System - 2050

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	0.0147	0.0427	0.1212	4.3000e-004		9.7000e-004	9.7000e-004		9.7000e-004	9.7000e-004	0.0000	36.7396	36.7396	1.1800e-003	0.0000	36.7692
Total	**0.0147**	**0.0427**	**0.1212**	**4.3000e-004**		**9.7000e-004**	**9.7000e-004**		**9.7000e-004**	**9.7000e-004**	**0.0000**	**36.7396**	**36.7396**	**1.1800e-003**	**0.0000**	**36.7692**

3.4 Energy Storage System - 2050

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0172	0.3567	0.1892	3.1000e-003	1.8688	1.0000e-003	1.8698	0.2056	9.5000e-004	0.2065	0.0000	306.1787	306.1787	0.0164	0.0000	306.5880
Worker	0.0328	0.0263	0.2824	1.6800e-003	1.7881	5.7000e-004	1.7886	0.2254	5.2000e-004	0.2259	0.0000	152.4724	152.4724	2.2300e-003	0.0000	152.5282
Total	**0.0501**	**0.3830**	**0.4717**	**4.7800e-003**	**3.6568**	**1.5700e-003**	**3.6584**	**0.4310**	**1.4700e-003**	**0.4324**	**0.0000**	**458.6511**	**458.6511**	**0.0186**	**0.0000**	**459.1162**

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	0.0147	0.0427	0.1212	4.3000e-004		9.7000e-004	9.7000e-004		9.7000e-004	9.7000e-004	0.0000	36.7395	36.7395	1.1800e-003	0.0000	36.7691
Total	**0.0147**	**0.0427**	**0.1212**	**4.3000e-004**		**9.7000e-004**	**9.7000e-004**		**9.7000e-004**	**9.7000e-004**	**0.0000**	**36.7395**	**36.7395**	**1.1800e-003**	**0.0000**	**36.7691**

3.4 Energy Storage System - 2050

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0172	0.3567	0.1892	3.1000e-003	1.1833	1.0000e-003	1.1843	0.1370	9.5000e-004	0.1380	0.0000	306.1787	306.1787	0.0164	0.0000	306.5880
Worker	0.0328	0.0263	0.2824	1.6800e-003	1.2046	5.7000e-004	1.2051	0.1671	5.2000e-004	0.1676	0.0000	152.4724	152.4724	2.2300e-003	0.0000	152.5282
Total	**0.0501**	**0.3830**	**0.4717**	**4.7800e-003**	**2.3879**	**1.5700e-003**	**2.3894**	**0.3041**	**1.4700e-003**	**0.3055**	**0.0000**	**458.6511**	**458.6511**	**0.0186**	**0.0000**	**459.1162**

3.5 Site Cleanup & Restoration - 2050

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					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.7800e-003	0.0121	0.0334	1.2000e-004		2.5000e-004	2.5000e-004		2.5000e-004	2.5000e-004	0.0000	10.0741	10.0741	3.1000e-004	0.0000	10.0818
Total	**3.7800e-003**	**0.0121**	**0.0334**	**1.2000e-004**		**2.5000e-004**	**2.5000e-004**		**2.5000e-004**	**2.5000e-004**	**0.0000**	**10.0741**	**10.0741**	**3.1000e-004**	**0.0000**	**10.0818**

3.5 Site Cleanup & Restoration - 2050

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1900e-003	1.7500e-003	0.0188	1.1000e-004	0.1192	4.0000e-005	0.1192	0.0150	3.0000e-005	0.0151	0.0000	10.1648	10.1648	1.5000e-004	0.0000	10.1686
Total	**2.1900e-003**	**1.7500e-003**	**0.0188**	**1.1000e-004**	**0.1192**	**4.0000e-005**	**0.1192**	**0.0150**	**3.0000e-005**	**0.0151**	**0.0000**	**10.1648**	**10.1648**	**1.5000e-004**	**0.0000**	**10.1686**

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					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.7800e-003	0.0121	0.0334	1.2000e-004		2.5000e-004	2.5000e-004		2.5000e-004	2.5000e-004	0.0000	10.0741	10.0741	3.1000e-004	0.0000	10.0818
Total	**3.7800e-003**	**0.0121**	**0.0334**	**1.2000e-004**		**2.5000e-004**	**2.5000e-004**		**2.5000e-004**	**2.5000e-004**	**0.0000**	**10.0741**	**10.0741**	**3.1000e-004**	**0.0000**	**10.0818**

3.5 Site Cleanup & Restoration - 2050

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1900e-003	1.7500e-003	0.0188	1.1000e-004	0.0803	4.0000e-005	0.0803	0.0111	3.0000e-005	0.0112	0.0000	10.1648	10.1648	1.5000e-004	0.0000	10.1686
Total	**2.1900e-003**	**1.7500e-003**	**0.0188**	**1.1000e-004**	**0.0803**	**4.0000e-005**	**0.0803**	**0.0111**	**3.0000e-005**	**0.0112**	**0.0000**	**10.1648**	**10.1648**	**1.5000e-004**	**0.0000**	**10.1686**

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 Heavy 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 Heavy Industry	0.00	72.00	0.00	0.00	100.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Heavy Industry	0.615011	0.035959	0.175734	0.096057	0.010793	0.005300	0.020678	0.029891	0.002015	0.001593	0.005502	0.000799	0.000668

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 Heavy 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 Heavy 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 Heavy 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 Heavy 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	3.9100e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Unmitigated	3.9100e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.9100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**3.9100e-003**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.9100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	2.0000e-005
Total	**3.9100e-003**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**2.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	59.1558	2.3800e-003	4.9000e-004	59.3621
Unmitigated	59.1558	2.3800e-003	4.9000e-004	59.3621

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	0 / 16.2926	59.1558	2.3800e-003	4.9000e-004	59.3621
Total		**59.1558**	**2.3800e-003**	**4.9000e-004**	**59.3621**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	0 / 16.2926	59.1558	2.3800e-003	4.9000e-004	59.3621
Total		**59.1558**	**2.3800e-003**	**4.9000e-004**	**59.3621**

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 Heavy 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 Heavy Industry	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Switchyard - Construction Unmitigated

San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	1.00	1000sqft	0.02	1,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2022
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Based on applicant provided information.

Off-road Equipment - Based on applicant provided information.

Off-road Equipment - Based on applicant provided information.

Off-road Equipment - Based on applicant provided information.

Off-road Equipment - Based on applicant provided information.

Off-road Equipment - Based on applicant provided information.

Off-road Equipment - Based on applicant provided information.

Off-road Equipment - Based on applicant provided information.

Off-road Equipment - Based on applicant provided information.

Off-road Equipment - Based on applicant provided information.

Off-road Equipment - Based on applicant provided information.

Trips and VMT - Based on applicant provided information.

On-road Fugitive Dust - Based on applicant provided information.

Grading - CalEEMod defaults.

Architectural Coating -

Vehicle Trips - Construction only.

Consumer Products - Construction only.

Area Coating - Construction only.

Landscape Equipment - Construction only.

Energy Use - Construction only.

Water And Wastewater - Construction only.

Solid Waste - Construction only.

Construction Off-road Equipment Mitigation - water twice daily

Table Name	Column Name	Default Value	New Value
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15

Switchyard - Construction Unmitigated - San Diego County, Annual

tblConstructionPhase	NumDays	100.00	21.00
tblConstructionPhase	NumDays	100.00	80.00
tblConstructionPhase	NumDays	100.00	31.00
tblConstructionPhase	NumDays	100.00	21.00
tblConstructionPhase	NumDays	5.00	11.00
tblConstructionPhase	NumDays	1.00	21.00
tblConstructionPhase	NumDays	1.00	23.00
tblConstructionPhase	NumDays	1.00	11.00
tblConstructionPhase	PhaseEndDate	9/22/2022	8/23/2021
tblConstructionPhase	PhaseEndDate	7/29/2021	9/30/2021
tblConstructionPhase	PhaseEndDate	12/16/2021	7/23/2021
tblConstructionPhase	PhaseEndDate	5/5/2022	8/23/2021
tblConstructionPhase	PhaseEndDate	9/29/2022	5/26/2021
tblConstructionPhase	PhaseEndDate	3/9/2021	4/6/2021
tblConstructionPhase	PhaseEndDate	3/10/2021	5/11/2021
tblConstructionPhase	PhaseEndDate	3/11/2021	6/10/2021
tblConstructionPhase	PhaseEndDate	3/11/2021	4/7/2021
tblConstructionPhase	PhaseEndDate	3/11/2021	5/6/2021
tblConstructionPhase	PhaseStartDate	5/6/2022	7/24/2021
tblConstructionPhase	PhaseStartDate	3/12/2021	6/11/2021
tblConstructionPhase	PhaseStartDate	7/30/2021	6/11/2021
tblConstructionPhase	PhaseStartDate	12/17/2021	7/24/2021
tblConstructionPhase	PhaseStartDate	9/23/2022	5/12/2021
tblConstructionPhase	PhaseStartDate	3/10/2021	4/9/2021
tblConstructionPhase	PhaseStartDate	3/11/2021	5/27/2021
tblConstructionPhase	PhaseStartDate	3/12/2021	3/9/2021
tblConstructionPhase	PhaseStartDate	3/12/2021	4/8/2021

tblConsumerProducts	ROG_EF	2.14E-05	1E-21
tblConsumerProducts	ROG_EF_Degreaser	3.542E-07	1E-21
tblConsumerProducts	ROG_EF_PesticidesFertilizers	5.152E-08	1E-22
tblEnergyUse	LightingElect	2.83	0.00
tblEnergyUse	NT24E	4.27	0.00
tblEnergyUse	NT24NG	7.25	0.00
tblEnergyUse	T24E	1.21	0.00
tblEnergyUse	T24NG	4.31	0.00
tblLandscapeEquipment	NumberSummerDays	180	1E-19
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOnRoadDust	VendorPercentPave	100.00	98.80
tblOnRoadDust	VendorPercentPave	100.00	98.80
tblOnRoadDust	VendorPercentPave	100.00	98.80
tblOnRoadDust	VendorPercentPave	100.00	98.80
tblOnRoadDust	VendorPercentPave	100.00	98.80
tblOnRoadDust	VendorPercentPave	100.00	98.80
tblOnRoadDust	VendorPercentPave	100.00	98.80
tblOnRoadDust	VendorPercentPave	100.00	98.80
tblOnRoadDust	VendorPercentPave	100.00	98.80
tblOnRoadDust	VendorPercentPave	100.00	98.80
tblOnRoadDust	WorkerPercentPave	100.00	99.70
tblOnRoadDust	WorkerPercentPave	100.00	99.70
tblOnRoadDust	WorkerPercentPave	100.00	99.70
tblOnRoadDust	WorkerPercentPave	100.00	99.70
tblOnRoadDust	WorkerPercentPave	100.00	99.70
tblOnRoadDust	WorkerPercentPave	100.00	99.70
tblOnRoadDust	WorkerPercentPave	100.00	99.70
tblOnRoadDust	WorkerPercentPave	100.00	99.70
tblOnRoadDust	WorkerPercentPave	100.00	99.70
tblOnRoadDust	WorkerPercentPave	100.00	99.70
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblSolidWaste	SolidWasteGenerationRate	1.24	0.00
tblTripsAndVMT	HaulingTripNumber	0.00	30.00
tblTripsAndVMT	VendorTripLength	6.60	73.00

tblTripsAndVMT	VendorTripLength	6.60	73.00
tblTripsAndVMT	VendorTripLength	6.60	73.00
tblTripsAndVMT	VendorTripLength	6.60	73.00
tblTripsAndVMT	VendorTripLength	6.60	73.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	16.00
tblTripsAndVMT	VendorTripNumber	0.00	8.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	12.00
tblTripsAndVMT	WorkerTripLength	16.80	58.00
tblTripsAndVMT	WorkerTripLength	16.80	58.00
tblTripsAndVMT	WorkerTripLength	16.80	58.00
tblTripsAndVMT	WorkerTripLength	16.80	58.00
tblTripsAndVMT	WorkerTripLength	16.80	58.00
tblTripsAndVMT	WorkerTripLength	16.80	58.00
tblTripsAndVMT	WorkerTripLength	16.80	58.00
tblTripsAndVMT	WorkerTripLength	16.80	58.00
tblTripsAndVMT	WorkerTripLength	16.80	58.00
tblTripsAndVMT	WorkerTripLength	16.80	58.00
tblTripsAndVMT	WorkerTripNumber	33.00	34.00
tblTripsAndVMT	WorkerTripNumber	0.00	4.00
tblTripsAndVMT	WorkerTripNumber	3.00	4.00
tblTripsAndVMT	WorkerTripNumber	3.00	24.00
tblTripsAndVMT	WorkerTripNumber	0.00	8.00
tblTripsAndVMT	WorkerTripNumber	0.00	4.00
tblTripsAndVMT	WorkerTripNumber	0.00	4.00
tblVehicleTrips	ST_TR	1.50	0.00

tblVehicleTrips	SU_TR	1.50	0.00
tblVehicleTrips	WD_TR	1.50	0.00
tblWater	IndoorWaterUseRate	231,250.00	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					
2021	0.1581	1.6347	1.0294	3.6800e-003	1.3112	0.0601	1.3712	0.2481	0.0559	0.3040	0.0000	335.5286	335.5286	0.0549	0.0000	336.9004
Maximum	**0.1581**	**1.6347**	**1.0294**	**3.6800e-003**	**1.3112**	**0.0601**	**1.3712**	**0.2481**	**0.0559**	**0.3040**	**0.0000**	**335.5286**	**335.5286**	**0.0549**	**0.0000**	**336.9004**

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					
2021	0.1581	1.6346	1.0294	3.6800e-003	1.1687	0.0601	1.2287	0.1786	0.0559	0.2345	0.0000	335.5284	335.5284	0.0549	0.0000	336.9002
Maximum	**0.1581**	**1.6346**	**1.0294**	**3.6800e-003**	**1.1687**	**0.0601**	**1.2287**	**0.1786**	**0.0559**	**0.2345**	**0.0000**	**335.5284**	**335.5284**	**0.0549**	**0.0000**	**336.9002**

	ROG	NOx	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**	**10.87**	**0.00**	**10.39**	**28.02**	**0.00**	**22.87**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	3-9-2021	6-8-2021	1.4853	1.4853
2	6-9-2021	9-8-2021	0.2639	0.2639
3	9-9-2021	9-30-2021	0.0199	0.0199
		Highest	1.4853	1.4853

2.2 Overall Operational

Unmitigated Operational

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

2.2 Overall Operational

Mitigated Operational

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

	ROG	NOx	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

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation 1 - Switchyard	Site Preparation	3/9/2021	4/6/2021	5	21	
2	Site Preparation 2 - Switchyard	Site Preparation	4/9/2021	5/11/2021	5	23	
3	Site Preparation - Gentie	Site Preparation	5/27/2021	6/10/2021	5	11	
4	Trenching - Switchyard	Trenching	3/9/2021	4/7/2021	5	22	
5	Conductor Installation 1	Trenching	4/8/2021	5/6/2021	5	21	
6	Operate Air Tools	Building Construction	6/11/2021	9/30/2021	5	80	
7	Structure Installation	Building Construction	6/11/2021	7/23/2021	5	31	
8	Conductor Installation 2	Building Construction	7/24/2021	8/23/2021	5	21	
9	Erect Structures	Building Construction	7/24/2021	8/23/2021	5	21	
10	Paving - Switchyard	Paving	5/12/2021	5/26/2021	5	11	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation 1 - Switchyard	Graders	2	8.00	187	0.41
Site Preparation 1 - Switchyard	Plate Compactors	2	8.00	8	0.43
Site Preparation 1 - Switchyard	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation 1 - Switchyard	Rubber Tired Loaders	3	8.00	203	0.36
Site Preparation 1 - Switchyard	Scrapers	2	8.00	367	0.48
Site Preparation 1 - Switchyard	Tractors/Loaders/Backhoes	1	8.00	97	0.37

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Site Preparation 2 - Switchyard	Bore/Drill Rigs	2	8.00	221	0.50
Site Preparation 2 - Switchyard	Crushing/Proc. Equipment	1	8.00	85	0.78
Site Preparation 2 - Switchyard	Graders	0	8.00	187	0.41
Site Preparation 2 - Switchyard	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Site Preparation - Gentie	Graders	1	8.00	187	0.41
Site Preparation - Gentie	Plate Compactors	1	8.00	8	0.43
Site Preparation - Gentie	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation - Gentie	Rubber Tired Loaders	1	8.00	203	0.36
Site Preparation - Gentie	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Trenching - Switchyard	Trenchers	1	8.00	78	0.50
Conductor Installation 1	Aerial Lifts	1	8.00	63	0.31
Operate Air Tools	Air Compressors	1	8.00	78	0.48
Operate Air Tools	Cranes	0	4.00	231	0.29
Operate Air Tools	Forklifts	0	6.00	89	0.20
Operate Air Tools	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Structure Installation	Cranes	0	4.00	231	0.29
Structure Installation	Forklifts	0	6.00	89	0.20
Structure Installation	Plate Compactors	1	8.00	8	0.43
Structure Installation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Conductor Installation 2	Bore/Drill Rigs	1	8.00	221	0.50
Conductor Installation 2	Cranes	0	4.00	231	0.29
Conductor Installation 2	Forklifts	0	6.00	89	0.20
Conductor Installation 2	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Erect Structures	Cranes	1	4.00	231	0.29
Erect Structures	Forklifts	0	6.00	89	0.20
Erect Structures	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Paving - Switchyard	Cement and Mortar Mixers	0	6.00	9	0.56

Paving - Switchyard	Pavers	2	8.00	130	0.42
Paving - Switchyard	Paving Equipment	2	8.00	132	0.36
Paving - Switchyard	Rollers	3	8.00	80	0.38
Paving - Switchyard	Tractors/Loaders/Backhoes	0	7.00	97	0.37

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 1 - Switchyard	13	34.00	10.00	0.00	58.00	73.00	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation 2 - Switchyard	3	8.00	8.00	30.00	58.00	73.00	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation - Gentie	4	10.00	2.00	0.00	58.00	73.00	20.00	LD_Mix	HDT_Mix	HHDT
Trenching - Switchyard	1	4.00	0.00	0.00	58.00	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Conductor Installation 1	1	24.00	16.00	0.00	58.00	73.00	20.00	LD_Mix	HDT_Mix	HHDT
Operate Air Tools	1	8.00	0.00	0.00	58.00	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Structure Installation	1	4.00	12.00	0.00	58.00	73.00	20.00	LD_Mix	HDT_Mix	HHDT
Conductor Installation 2	1	4.00	0.00	0.00	58.00	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Erect Structures	1	4.00	0.00	0.00	58.00	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Paving - Switchyard	7	18.00	0.00	0.00	58.00	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation 1 - Switchyard - 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					0.2231	0.0000	0.2231	0.1079	0.0000	0.1079	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0756	0.8417	0.3899	9.7000e-004		0.0349	0.0349		0.0321	0.0321	0.0000	84.6505	84.6505	0.0272	0.0000	85.3314
Total	**0.0756**	**0.8417**	**0.3899**	**9.7000e-004**	**0.2231**	**0.0349**	**0.2580**	**0.1079**	**0.0321**	**0.1400**	**0.0000**	**84.6505**	**84.6505**	**0.0272**	**0.0000**	**85.3314**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.9500e-003	0.0520	0.0150	2.3000e-004	0.1274	2.0000e-004	0.1276	0.0140	1.9000e-004	0.0142	0.0000	22.5217	22.5217	1.1300e-003	0.0000	22.5498
Worker	5.2300e-003	4.2800e-003	0.0406	1.4000e-004	0.0967	1.0000e-004	0.0968	0.0122	9.0000e-005	0.0123	0.0000	13.1196	13.1196	3.5000e-004	0.0000	13.1283
Total	**7.1800e-003**	**0.0563**	**0.0556**	**3.7000e-004**	**0.2241**	**3.0000e-004**	**0.2244**	**0.0262**	**2.8000e-004**	**0.0265**	**0.0000**	**35.6413**	**35.6413**	**1.4800e-003**	**0.0000**	**35.6781**

3.2 Site Preparation 1 - Switchyard - 2021

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					0.1004	0.0000	0.1004	0.0486	0.0000	0.0486	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0756	0.8417	0.3899	9.7000e-004		0.0349	0.0349		0.0321	0.0321	0.0000	84.6504	84.6504	0.0272	0.0000	85.3313
Total	**0.0756**	**0.8417**	**0.3899**	**9.7000e-004**	**0.1004**	**0.0349**	**0.1353**	**0.0486**	**0.0321**	**0.0807**	**0.0000**	**84.6504**	**84.6504**	**0.0272**	**0.0000**	**85.3313**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.9500e-003	0.0520	0.0150	2.3000e-004	0.1274	2.0000e-004	0.1276	0.0140	1.9000e-004	0.0142	0.0000	22.5217	22.5217	1.1300e-003	0.0000	22.5498
Worker	5.2300e-003	4.2800e-003	0.0406	1.4000e-004	0.0967	1.0000e-004	0.0968	0.0122	9.0000e-005	0.0123	0.0000	13.1196	13.1196	3.5000e-004	0.0000	13.1283
Total	**7.1800e-003**	**0.0563**	**0.0556**	**3.7000e-004**	**0.2241**	**3.0000e-004**	**0.2244**	**0.0262**	**2.8000e-004**	**0.0265**	**0.0000**	**35.6413**	**35.6413**	**1.4800e-003**	**0.0000**	**35.6781**

3.3 Site Preparation 2 - Switchyard - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0118	0.1097	0.0976	3.0000e-004		4.5000e-003	4.5000e-003		4.3300e-003	4.3300e-003	0.0000	25.9632	25.9632	6.6300e-003	0.0000	26.1290
Total	**0.0118**	**0.1097**	**0.0976**	**3.0000e-004**	**0.0000**	**4.5000e-003**	**4.5000e-003**	**0.0000**	**4.3300e-003**	**4.3300e-003**	**0.0000**	**25.9632**	**25.9632**	**6.6300e-003**	**0.0000**	**26.1290**

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	1.1000e-004	3.9200e-003	9.7000e-004	1.0000e-005	2.6000e-004	1.0000e-005	2.7000e-004	7.0000e-005	1.0000e-005	8.0000e-005	0.0000	1.1424	1.1424	1.0000e-004	0.0000	1.1450
Vendor	1.7100e-003	0.0456	0.0132	2.0000e-004	0.1116	1.8000e-004	0.1118	0.0123	1.7000e-004	0.0125	0.0000	19.7333	19.7333	9.9000e-004	0.0000	19.7579
Worker	1.3500e-003	1.1000e-003	0.0105	4.0000e-005	0.0249	3.0000e-005	0.0250	3.1400e-003	2.0000e-005	3.1700e-003	0.0000	3.3810	3.3810	9.0000e-005	0.0000	3.3832
Total	**3.1700e-003**	**0.0506**	**0.0246**	**2.5000e-004**	**0.1368**	**2.2000e-004**	**0.1370**	**0.0155**	**2.0000e-004**	**0.0157**	**0.0000**	**24.2567**	**24.2567**	**1.1800e-003**	**0.0000**	**24.2861**

3.3 Site Preparation 2 - Switchyard - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0118	0.1097	0.0976	3.0000e-004		4.5000e-003	4.5000e-003		4.3300e-003	4.3300e-003	0.0000	25.9632	25.9632	6.6300e-003	0.0000	26.1289
Total	**0.0118**	**0.1097**	**0.0976**	**3.0000e-004**	**0.0000**	**4.5000e-003**	**4.5000e-003**	**0.0000**	**4.3300e-003**	**4.3300e-003**	**0.0000**	**25.9632**	**25.9632**	**6.6300e-003**	**0.0000**	**26.1289**

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	1.1000e-004	3.9200e-003	9.7000e-004	1.0000e-005	2.6000e-004	1.0000e-005	2.7000e-004	7.0000e-005	1.0000e-005	8.0000e-005	0.0000	1.1424	1.1424	1.0000e-004	0.0000	1.1450
Vendor	1.7100e-003	0.0456	0.0132	2.0000e-004	0.1116	1.8000e-004	0.1118	0.0123	1.7000e-004	0.0125	0.0000	19.7333	19.7333	9.9000e-004	0.0000	19.7579
Worker	1.3500e-003	1.1000e-003	0.0105	4.0000e-005	0.0249	3.0000e-005	0.0250	3.1400e-003	2.0000e-005	3.1700e-003	0.0000	3.3810	3.3810	9.0000e-005	0.0000	3.3832
Total	**3.1700e-003**	**0.0506**	**0.0246**	**2.5000e-004**	**0.1368**	**2.2000e-004**	**0.1370**	**0.0155**	**2.0000e-004**	**0.0157**	**0.0000**	**24.2567**	**24.2567**	**1.1800e-003**	**0.0000**	**24.2861**

3.4 Site Preparation - Gentie - 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					0.0360	0.0000	0.0360	0.0185	0.0000	0.0185	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0104	0.1156	0.0419	1.2000e-004		4.7200e-003	4.7200e-003		4.3500e-003	4.3500e-003	0.0000	10.5216	10.5216	3.3700e-003	0.0000	10.6057
Total	**0.0104**	**0.1156**	**0.0419**	**1.2000e-004**	**0.0360**	**4.7200e-003**	**0.0408**	**0.0185**	**4.3500e-003**	**0.0229**	**0.0000**	**10.5216**	**10.5216**	**3.3700e-003**	**0.0000**	**10.6057**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-004	5.4500e-003	1.5700e-003	2.0000e-005	0.0134	2.0000e-005	0.0134	1.4700e-003	2.0000e-005	1.4900e-003	0.0000	2.3594	2.3594	1.2000e-004	0.0000	2.3624
Worker	8.1000e-004	6.6000e-004	6.2500e-003	2.0000e-005	0.0149	2.0000e-005	0.0149	1.8800e-003	1.0000e-005	1.8900e-003	0.0000	2.0212	2.0212	5.0000e-005	0.0000	2.0226
Total	**1.0100e-003**	**6.1100e-003**	**7.8200e-003**	**4.0000e-005**	**0.0283**	**4.0000e-005**	**0.0283**	**3.3500e-003**	**3.0000e-005**	**3.3800e-003**	**0.0000**	**4.3806**	**4.3806**	**1.7000e-004**	**0.0000**	**4.3849**

3.4 Site Preparation - Gentie - 2021

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					0.0162	0.0000	0.0162	8.3300e-003	0.0000	8.3300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0104	0.1156	0.0419	1.2000e-004		4.7200e-003	4.7200e-003		4.3500e-003	4.3500e-003	0.0000	10.5216	10.5216	3.3700e-003	0.0000	10.6057
Total	**0.0104**	**0.1156**	**0.0419**	**1.2000e-004**	**0.0162**	**4.7200e-003**	**0.0209**	**8.3300e-003**	**4.3500e-003**	**0.0127**	**0.0000**	**10.5216**	**10.5216**	**3.3700e-003**	**0.0000**	**10.6057**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-004	5.4500e-003	1.5700e-003	2.0000e-005	0.0134	2.0000e-005	0.0134	1.4700e-003	2.0000e-005	1.4900e-003	0.0000	2.3594	2.3594	1.2000e-004	0.0000	2.3624
Worker	8.1000e-004	6.6000e-004	6.2500e-003	2.0000e-005	0.0149	2.0000e-005	0.0149	1.8800e-003	1.0000e-005	1.8900e-003	0.0000	2.0212	2.0212	5.0000e-005	0.0000	2.0226
Total	**1.0100e-003**	**6.1100e-003**	**7.8200e-003**	**4.0000e-005**	**0.0283**	**4.0000e-005**	**0.0283**	**3.3500e-003**	**3.0000e-005**	**3.3800e-003**	**0.0000**	**4.3806**	**4.3806**	**1.7000e-004**	**0.0000**	**4.3849**

3.5 Trenching - Switchyard - 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	4.2100e-003	0.0386	0.0287	4.0000e-005		2.8100e-003	2.8100e-003		2.5800e-003	2.5800e-003	0.0000	3.2624	3.2624	1.0600e-003	0.0000	3.2888
Total	**4.2100e-003**	**0.0386**	**0.0287**	**4.0000e-005**		**2.8100e-003**	**2.8100e-003**		**2.5800e-003**	**2.5800e-003**	**0.0000**	**3.2624**	**3.2624**	**1.0600e-003**	**0.0000**	**3.2888**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.4000e-004	5.3000e-004	5.0000e-003	2.0000e-005	0.0119	1.0000e-005	0.0119	1.5000e-003	1.0000e-005	1.5100e-003	0.0000	1.6170	1.6170	4.0000e-005	0.0000	1.6181
Total	**6.4000e-004**	**5.3000e-004**	**5.0000e-003**	**2.0000e-005**	**0.0119**	**1.0000e-005**	**0.0119**	**1.5000e-003**	**1.0000e-005**	**1.5100e-003**	**0.0000**	**1.6170**	**1.6170**	**4.0000e-005**	**0.0000**	**1.6181**

3.5 Trenching - Switchyard - 2021

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	4.2100e-003	0.0386	0.0287	4.0000e-005		2.8100e-003	2.8100e-003		2.5800e-003	2.5800e-003	0.0000	3.2624	3.2624	1.0600e-003	0.0000	3.2887
Total	**4.2100e-003**	**0.0386**	**0.0287**	**4.0000e-005**		**2.8100e-003**	**2.8100e-003**		**2.5800e-003**	**2.5800e-003**	**0.0000**	**3.2624**	**3.2624**	**1.0600e-003**	**0.0000**	**3.2887**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.4000e-004	5.3000e-004	5.0000e-003	2.0000e-005	0.0119	1.0000e-005	0.0119	1.5000e-003	1.0000e-005	1.5100e-003	0.0000	1.6170	1.6170	4.0000e-005	0.0000	1.6181
Total	**6.4000e-004**	**5.3000e-004**	**5.0000e-003**	**2.0000e-005**	**0.0119**	**1.0000e-005**	**0.0119**	**1.5000e-003**	**1.0000e-005**	**1.5100e-003**	**0.0000**	**1.6170**	**1.6170**	**4.0000e-005**	**0.0000**	**1.6181**

3.6 Conductor Installation 1 - 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	3.9000e-004	6.3100e-003	0.0115	2.0000e-005		1.2000e-004	1.2000e-004		1.1000e-004	1.1000e-004	0.0000	1.5490	1.5490	5.0000e-004	0.0000	1.5616
Total	**3.9000e-004**	**6.3100e-003**	**0.0115**	**2.0000e-005**		**1.2000e-004**	**1.2000e-004**		**1.1000e-004**	**1.1000e-004**	**0.0000**	**1.5490**	**1.5490**	**5.0000e-004**	**0.0000**	**1.5616**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.1200e-003	0.0832	0.0240	3.7000e-004	0.2039	3.2000e-004	0.2042	0.0224	3.1000e-004	0.0227	0.0000	36.0347	36.0347	1.8000e-003	0.0000	36.0797
Worker	3.6900e-003	3.0200e-003	0.0286	1.0000e-004	0.0683	7.0000e-005	0.0683	8.6100e-003	6.0000e-005	8.6700e-003	0.0000	9.2609	9.2609	2.5000e-004	0.0000	9.2670
Total	**6.8100e-003**	**0.0862**	**0.0527**	**4.7000e-004**	**0.2721**	**3.9000e-004**	**0.2725**	**0.0310**	**3.7000e-004**	**0.0314**	**0.0000**	**45.2956**	**45.2956**	**2.0500e-003**	**0.0000**	**45.3467**

3.6 Conductor Installation 1 - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.9000e-004	6.3100e-003	0.0115	2.0000e-005		1.2000e-004	1.2000e-004		1.1000e-004	1.1000e-004	0.0000	1.5490	1.5490	5.0000e-004	0.0000	1.5616
Total	**3.9000e-004**	**6.3100e-003**	**0.0115**	**2.0000e-005**		**1.2000e-004**	**1.2000e-004**		**1.1000e-004**	**1.1000e-004**	**0.0000**	**1.5490**	**1.5490**	**5.0000e-004**	**0.0000**	**1.5616**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.1200e-003	0.0832	0.0240	3.7000e-004	0.2039	3.2000e-004	0.2042	0.0224	3.1000e-004	0.0227	0.0000	36.0347	36.0347	1.8000e-003	0.0000	36.0797
Worker	3.6900e-003	3.0200e-003	0.0286	1.0000e-004	0.0683	7.0000e-005	0.0683	8.6100e-003	6.0000e-005	8.6700e-003	0.0000	9.2609	9.2609	2.5000e-004	0.0000	9.2670
Total	**6.8100e-003**	**0.0862**	**0.0527**	**4.7000e-004**	**0.2721**	**3.9000e-004**	**0.2725**	**0.0310**	**3.7000e-004**	**0.0314**	**0.0000**	**45.2956**	**45.2956**	**2.0500e-003**	**0.0000**	**45.3467**

3.7 Operate Air Tools - 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	0.0117	0.0814	0.0969	1.6000e-004		5.0200e-003	5.0200e-003		5.0200e-003	5.0200e-003	0.0000	13.6174	13.6174	9.3000e-004	0.0000	13.6407
Total	**0.0117**	**0.0814**	**0.0969**	**1.6000e-004**		**5.0200e-003**	**5.0200e-003**		**5.0200e-003**	**5.0200e-003**	**0.0000**	**13.6174**	**13.6174**	**9.3000e-004**	**0.0000**	**13.6407**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6900e-003	3.8400e-003	0.0364	1.3000e-004	0.0867	9.0000e-005	0.0868	0.0109	8.0000e-005	0.0110	0.0000	11.7599	11.7599	3.1000e-004	0.0000	11.7677
Total	**4.6900e-003**	**3.8400e-003**	**0.0364**	**1.3000e-004**	**0.0867**	**9.0000e-005**	**0.0868**	**0.0109**	**8.0000e-005**	**0.0110**	**0.0000**	**11.7599**	**11.7599**	**3.1000e-004**	**0.0000**	**11.7677**

3.7 Operate Air Tools - 2021

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	0.0117	0.0814	0.0969	1.6000e-004		5.0200e-003	5.0200e-003		5.0200e-003	5.0200e-003	0.0000	13.6173	13.6173	9.3000e-004	0.0000	13.6407
Total	**0.0117**	**0.0814**	**0.0969**	**1.6000e-004**		**5.0200e-003**	**5.0200e-003**		**5.0200e-003**	**5.0200e-003**	**0.0000**	**13.6173**	**13.6173**	**9.3000e-004**	**0.0000**	**13.6407**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6900e-003	3.8400e-003	0.0364	1.3000e-004	0.0867	9.0000e-005	0.0868	0.0109	8.0000e-005	0.0110	0.0000	11.7599	11.7599	3.1000e-004	0.0000	11.7677
Total	**4.6900e-003**	**3.8400e-003**	**0.0364**	**1.3000e-004**	**0.0867**	**9.0000e-005**	**0.0868**	**0.0109**	**8.0000e-005**	**0.0110**	**0.0000**	**11.7599**	**11.7599**	**3.1000e-004**	**0.0000**	**11.7677**

3.8 Structure Installation - 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	6.2000e-004	3.9000e-003	3.2600e-003	1.0000e-005		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004	0.0000	0.4848	0.4848	5.0000e-005	0.0000	0.4861
Total	**6.2000e-004**	**3.9000e-003**	**3.2600e-003**	**1.0000e-005**		**1.5000e-004**	**1.5000e-004**		**1.5000e-004**	**1.5000e-004**	**0.0000**	**0.4848**	**0.4848**	**5.0000e-005**	**0.0000**	**0.4861**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.4500e-003	0.0921	0.0266	4.1000e-004	0.2257	3.6000e-004	0.2261	0.0248	3.4000e-004	0.0252	0.0000	39.8955	39.8955	1.9900e-003	0.0000	39.9453
Worker	9.1000e-004	7.4000e-004	7.0500e-003	3.0000e-005	0.0168	2.0000e-005	0.0168	2.1200e-003	2.0000e-005	2.1300e-003	0.0000	2.2785	2.2785	6.0000e-005	0.0000	2.2800
Total	**4.3600e-003**	**0.0929**	**0.0337**	**4.4000e-004**	**0.2425**	**3.8000e-004**	**0.2429**	**0.0270**	**3.6000e-004**	**0.0273**	**0.0000**	**42.1740**	**42.1740**	**2.0500e-003**	**0.0000**	**42.2253**

3.8 Structure Installation - 2021

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	6.2000e-004	3.9000e-003	3.2600e-003	1.0000e-005		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004	0.0000	0.4848	0.4848	5.0000e-005	0.0000	0.4861
Total	**6.2000e-004**	**3.9000e-003**	**3.2600e-003**	**1.0000e-005**		**1.5000e-004**	**1.5000e-004**		**1.5000e-004**	**1.5000e-004**	**0.0000**	**0.4848**	**0.4848**	**5.0000e-005**	**0.0000**	**0.4861**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.4500e-003	0.0921	0.0266	4.1000e-004	0.2257	3.6000e-004	0.2261	0.0248	3.4000e-004	0.0252	0.0000	39.8955	39.8955	1.9900e-003	0.0000	39.9453
Worker	9.1000e-004	7.4000e-004	7.0500e-003	3.0000e-005	0.0168	2.0000e-005	0.0168	2.1200e-003	2.0000e-005	2.1300e-003	0.0000	2.2785	2.2785	6.0000e-005	0.0000	2.2800
Total	**4.3600e-003**	**0.0929**	**0.0337**	**4.4000e-004**	**0.2425**	**3.8000e-004**	**0.2429**	**0.0270**	**3.6000e-004**	**0.0273**	**0.0000**	**42.1740**	**42.1740**	**2.0500e-003**	**0.0000**	**42.2253**

3.9 Conductor Installation 2 - 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	2.7100e-003	0.0317	0.0218	1.0000e-004		9.6000e-004	9.6000e-004		8.9000e-004	8.9000e-004	0.0000	8.6878	8.6878	2.8100e-003	0.0000	8.7580
Total	**2.7100e-003**	**0.0317**	**0.0218**	**1.0000e-004**		**9.6000e-004**	**9.6000e-004**		**8.9000e-004**	**8.9000e-004**	**0.0000**	**8.6878**	**8.6878**	**2.8100e-003**	**0.0000**	**8.7580**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2000e-004	5.0000e-004	4.7700e-003	2.0000e-005	0.0114	1.0000e-005	0.0114	1.4300e-003	1.0000e-005	1.4500e-003	0.0000	1.5435	1.5435	4.0000e-005	0.0000	1.5445
Total	**6.2000e-004**	**5.0000e-004**	**4.7700e-003**	**2.0000e-005**	**0.0114**	**1.0000e-005**	**0.0114**	**1.4300e-003**	**1.0000e-005**	**1.4500e-003**	**0.0000**	**1.5435**	**1.5435**	**4.0000e-005**	**0.0000**	**1.5445**

3.9 Conductor Installation 2 - 2021

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	2.7100e-003	0.0317	0.0218	1.0000e-004		9.6000e-004	9.6000e-004		8.9000e-004	8.9000e-004	0.0000	8.6878	8.6878	2.8100e-003	0.0000	8.7580
Total	**2.7100e-003**	**0.0317**	**0.0218**	**1.0000e-004**		**9.6000e-004**	**9.6000e-004**		**8.9000e-004**	**8.9000e-004**	**0.0000**	**8.6878**	**8.6878**	**2.8100e-003**	**0.0000**	**8.7580**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2000e-004	5.0000e-004	4.7700e-003	2.0000e-005	0.0114	1.0000e-005	0.0114	1.4300e-003	1.0000e-005	1.4500e-003	0.0000	1.5435	1.5435	4.0000e-005	0.0000	1.5445
Total	**6.2000e-004**	**5.0000e-004**	**4.7700e-003**	**2.0000e-005**	**0.0114**	**1.0000e-005**	**0.0114**	**1.4300e-003**	**1.0000e-005**	**1.4500e-003**	**0.0000**	**1.5435**	**1.5435**	**4.0000e-005**	**0.0000**	**1.5445**

3.10 Erect Structures - 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	2.1700e-003	0.0255	0.0104	3.0000e-005		1.0300e-003	1.0300e-003		9.5000e-004	9.5000e-004	0.0000	2.6611	2.6611	8.6000e-004	0.0000	2.6826
Total	**2.1700e-003**	**0.0255**	**0.0104**	**3.0000e-005**		**1.0300e-003**	**1.0300e-003**		**9.5000e-004**	**9.5000e-004**	**0.0000**	**2.6611**	**2.6611**	**8.6000e-004**	**0.0000**	**2.6826**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2000e-004	5.0000e-004	4.7700e-003	2.0000e-005	0.0114	1.0000e-005	0.0114	1.4300e-003	1.0000e-005	1.4500e-003	0.0000	1.5435	1.5435	4.0000e-005	0.0000	1.5445
Total	**6.2000e-004**	**5.0000e-004**	**4.7700e-003**	**2.0000e-005**	**0.0114**	**1.0000e-005**	**0.0114**	**1.4300e-003**	**1.0000e-005**	**1.4500e-003**	**0.0000**	**1.5435**	**1.5435**	**4.0000e-005**	**0.0000**	**1.5445**

3.10 Erect Structures - 2021

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	2.1700e-003	0.0255	0.0104	3.0000e-005		1.0300e-003	1.0300e-003		9.5000e-004	9.5000e-004	0.0000	2.6611	2.6611	8.6000e-004	0.0000	2.6826
Total	**2.1700e-003**	**0.0255**	**0.0104**	**3.0000e-005**		**1.0300e-003**	**1.0300e-003**		**9.5000e-004**	**9.5000e-004**	**0.0000**	**2.6611**	**2.6611**	**8.6000e-004**	**0.0000**	**2.6826**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2000e-004	5.0000e-004	4.7700e-003	2.0000e-005	0.0114	1.0000e-005	0.0114	1.4300e-003	1.0000e-005	1.4500e-003	0.0000	1.5435	1.5435	4.0000e-005	0.0000	1.5445
Total	**6.2000e-004**	**5.0000e-004**	**4.7700e-003**	**2.0000e-005**	**0.0114**	**1.0000e-005**	**0.0114**	**1.4300e-003**	**1.0000e-005**	**1.4500e-003**	**0.0000**	**1.5435**	**1.5435**	**4.0000e-005**	**0.0000**	**1.5445**

3.11 Paving - Switchyard - 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	7.9500e-003	0.0816	0.0909	1.4000e-004		4.3700e-003	4.3700e-003		4.0200e-003	4.0200e-003	0.0000	12.2807	12.2807	3.9700e-003	0.0000	12.3800
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.9500e-003**	**0.0816**	**0.0909**	**1.4000e-004**		**4.3700e-003**	**4.3700e-003**		**4.0200e-003**	**4.0200e-003**	**0.0000**	**12.2807**	**12.2807**	**3.9700e-003**	**0.0000**	**12.3800**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4500e-003	1.1900e-003	0.0113	4.0000e-005	0.0268	3.0000e-005	0.0269	3.3800e-003	3.0000e-005	3.4100e-003	0.0000	3.6382	3.6382	1.0000e-004	0.0000	3.6406
Total	**1.4500e-003**	**1.1900e-003**	**0.0113**	**4.0000e-005**	**0.0268**	**3.0000e-005**	**0.0269**	**3.3800e-003**	**3.0000e-005**	**3.4100e-003**	**0.0000**	**3.6382**	**3.6382**	**1.0000e-004**	**0.0000**	**3.6406**

3.11 Paving - Switchyard - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.9500e-003	0.0816	0.0909	1.4000e-004		4.3700e-003	4.3700e-003		4.0200e-003	4.0200e-003	0.0000	12.2807	12.2807	3.9700e-003	0.0000	12.3800
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.9500e-003**	**0.0816**	**0.0909**	**1.4000e-004**		**4.3700e-003**	**4.3700e-003**		**4.0200e-003**	**4.0200e-003**	**0.0000**	**12.2807**	**12.2807**	**3.9700e-003**	**0.0000**	**12.3800**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4500e-003	1.1900e-003	0.0113	4.0000e-005	0.0268	3.0000e-005	0.0269	3.3800e-003	3.0000e-005	3.4100e-003	0.0000	3.6382	3.6382	1.0000e-004	0.0000	3.6406
Total	**1.4500e-003**	**1.1900e-003**	**0.0113**	**4.0000e-005**	**0.0268**	**3.0000e-005**	**0.0269**	**3.3800e-003**	**3.0000e-005**	**3.4100e-003**	**0.0000**	**3.6382**	**3.6382**	**1.0000e-004**	**0.0000**	**3.6406**

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 Heavy 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 Heavy Industry	14.70	6.60	6.60	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 Heavy Industry	0.593936	0.041843	0.182569	0.108325	0.016436	0.005513	0.015940	0.023523	0.001912	0.001972	0.006090	0.000748	0.001193

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 Heavy Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

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

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy 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	0.0000	0.0000	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

6.2 Area by SubCategory

Unmitigated

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

6.2 Area by SubCategory

Mitigated

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

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 Heavy 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 Heavy 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 Heavy 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 Heavy Industry	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

JVR Energy Park - Operation

San Diego County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	1.00	1000sqft	0.02	1,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2022
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Land use is surrogate only. No heavy industrial land use associated with the project.

Construction Phase - Operational only model run.

Off-road Equipment - Based on applicant provided information.

Off-road Equipment - No offroad equipment during operation.

Trips and VMT - Worker and vendor trips assumed to come from San Diego.

On-road Fugitive Dust - Worker and Vendor trucks assumed to travel 0.86 miles on site per trip.

Grading - Operational only model run.

Architectural Coating - Operational only model run.

Vehicle Trips - Operational mobile emissions estimated in the construction module.

Road Dust - Operational only model run.

Consumer Products - No operational emissions.

Area Coating - No architectural coatings.

Landscape Equipment - No landscaping

Energy Use - Perimeter lighting only.

Water And Wastewater - Based on 10 acre-feet per year for panel washing.

Solid Waste - No waste.

Land Use Change - Operational only model run.

Sequestration - Operational only model run.

Construction Off-road Equipment Mitigation - Project will reduce unpaved road speeds to 15 miles per hour.

Operational Off-Road Equipment -

Stationary Sources - Emergency Generators and Fire Pumps - A 1.5 MW backup diesel generator.

Stationary Sources - Emergency Generators and Fire Pumps EF - CalEEMod defaults.

JVR Energy Park - Operation - San Diego County APCD Air District, Annual

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	500	0
tblAreaCoating	Area_Nonresidential_Interior	1500	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	0.5
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	1.00	365.00
tblConstructionPhase	NumDaysWeek	5.00	7.00
tblEnergyUse	NT24E	4.27	0.00
tblEnergyUse	NT24NG	7.25	0.00
tblEnergyUse	T24E	1.21	0.00
tblEnergyUse	T24NG	4.31	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	PhaseName		Permiter Fence Installation
tblOnRoadDust	VendorPercentPave	100.00	99.80
tblOnRoadDust	WorkerPercentPave	100.00	99.80
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblSolidWaste	SolidWasteGenerationRate	1.24	0.00
tblTripsAndVMT	VendorTripLength	6.60	72.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	WorkerTripLength	16.80	72.00
tblTripsAndVMT	WorkerTripNumber	0.00	8.00
tblVehicleTrips	ST_TR	1.50	0.00
tblVehicleTrips	SU_TR	1.50	0.00
tblVehicleTrips	WD_TR	1.50	0.00
tblWater	IndoorWaterUseRate	231,250.00	0.00

tblWater	OutdoorWaterUseRate	0.00	3,258,514.33

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					
2022	0.0375	0.3455	0.2899	2.2800e-003	0.5386	1.6800e-003	0.5403	0.0756	1.5900e-003	0.0772	0.0000	217.0808	217.0808	9.3000e-003	0.0000	217.3133
Maximum	**0.0375**	**0.3455**	**0.2899**	**2.2800e-003**	**0.5386**	**1.6800e-003**	**0.5403**	**0.0756**	**1.5900e-003**	**0.0772**	**0.0000**	**217.0808**	**217.0808**	**9.3000e-003**	**0.0000**	**217.3133**

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					
2022	0.0375	0.3455	0.2899	2.2800e-003	0.3784	1.6800e-003	0.3801	0.0596	1.5900e-003	0.0612	0.0000	217.0808	217.0808	9.3000e-003	0.0000	217.3133
Maximum	**0.0375**	**0.3455**	**0.2899**	**2.2800e-003**	**0.3784**	**1.6800e-003**	**0.3801**	**0.0596**	**1.5900e-003**	**0.0612**	**0.0000**	**217.0808**	**217.0808**	**9.3000e-003**	**0.0000**	**217.3133**

	ROG	NOx	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**	**29.75**	**0.00**	**29.66**	**21.20**	**0.00**	**20.75**	**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	**1-1-2022**	**3-31-2022**	0.0951	0.0951
2	**4-1-2022**	**6-30-2022**	0.0922	0.0922
3	**7-1-2022**	**9-30-2022**	0.0932	0.0932
		Highest	0.0951	0.0951

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.9249	0.9249	4.0000e-005	1.0000e-005	0.9281
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
Stationary	0.0858	0.3835	0.2187	4.1000e-004		0.0126	0.0126		0.0126	0.0126	0.0000	39.8009	39.8009	5.5800e-003	0.0000	39.9404
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	11.8312	11.8312	4.8000e-004	1.0000e-004	11.8724
Total	**0.0858**	**0.3835**	**0.2187**	**4.1000e-004**	**0.0000**	**0.0126**	**0.0126**	**0.0000**	**0.0126**	**0.0126**	**0.0000**	**52.5570**	**52.5570**	**6.1000e-003**	**1.1000e-004**	**52.7410**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.9249	0.9249	4.0000e-005	1.0000e-005	0.9281
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
Stationary	0.0858	0.3835	0.2187	4.1000e-004		0.0126	0.0126		0.0126	0.0126	0.0000	39.8009	39.8009	5.5800e-003	0.0000	39.9404
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	11.8312	11.8312	4.8000e-004	1.0000e-004	11.8724
Total	**0.0858**	**0.3835**	**0.2187**	**4.1000e-004**	**0.0000**	**0.0126**	**0.0126**	**0.0000**	**0.0126**	**0.0126**	**0.0000**	**52.5570**	**52.5570**	**6.1000e-003**	**1.1000e-004**	**52.7410**

	ROG	NOx	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	Permiter Fence Installation	Site Preparation	1/1/2022	12/31/2022	7	365	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Permiter Fence Installation	Graders	0	8.00	187	0.41
Permiter Fence Installation	Skid Steer Loaders	0	8.00	65	0.37
Permiter Fence Installation	Tractors/Loaders/Backhoes	0	8.00	97	0.37

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
Permiter Fence Installation	0	8.00	4.00	0.00	72.00	72.00	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Reduce Vehicle Speed on Unpaved Roads

3.2 Permiter Fence Installation - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0125	0.3258	0.0997	1.5700e-003	0.1853	1.1900e-003	0.1865	0.0275	1.1400e-003	0.0286	0.0000	152.9895	152.9895	7.6800e-003	0.0000	153.1816
Worker	0.0250	0.0198	0.1902	7.1000e-004	0.3533	4.9000e-004	0.3538	0.0482	4.5000e-004	0.0486	0.0000	64.0913	64.0913	1.6200e-003	0.0000	64.1318
Total	**0.0375**	**0.3455**	**0.2899**	**2.2800e-003**	**0.5386**	**1.6800e-003**	**0.5403**	**0.0756**	**1.5900e-003**	**0.0772**	**0.0000**	**217.0808**	**217.0808**	**9.3000e-003**	**0.0000**	**217.3133**

3.2 Permiter Fence Installation - 2022

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0125	0.3258	0.0997	1.5700e-003	0.1319	1.1900e-003	0.1331	0.0221	1.1400e-003	0.0233	0.0000	152.9895	152.9895	7.6800e-003	0.0000	153.1816
Worker	0.0250	0.0198	0.1902	7.1000e-004	0.2465	4.9000e-004	0.2470	0.0375	4.5000e-004	0.0379	0.0000	64.0913	64.0913	1.6200e-003	0.0000	64.1318
Total	**0.0375**	**0.3455**	**0.2899**	**2.2800e-003**	**0.3784**	**1.6800e-003**	**0.3801**	**0.0596**	**1.5900e-003**	**0.0612**	**0.0000**	**217.0808**	**217.0808**	**9.3000e-003**	**0.0000**	**217.3133**

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 Heavy 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 Heavy Industry	14.70	6.60	6.60	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 Heavy Industry	0.598645	0.040929	0.181073	0.106149	0.015683	0.005479	0.016317	0.023976	0.001926	0.001932	0.006016	0.000753	0.001122

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	0.9249	0.9249	4.0000e-005	1.0000e-005	0.9281
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.9249	0.9249	4.0000e-005	1.0000e-005	0.9281
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 Heavy Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Heavy 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 Heavy Industry	2830	0.9249	4.0000e-005	1.0000e-005	0.9281
Total		**0.9249**	**4.0000e-005**	**1.0000e-005**	**0.9281**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy Industry	2830	0.9249	4.0000e-005	1.0000e-005	0.9281
Total		**0.9249**	**4.0000e-005**	**1.0000e-005**	**0.9281**

6.0 Area Detail

6.1 Mitigation Measures Area

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

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	11.8312	4.8000e-004	1.0000e-004	11.8724
Unmitigated	11.8312	4.8000e-004	1.0000e-004	11.8724

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	0 / 3.25851	11.8312	4.8000e-004	1.0000e-004	11.8724
Total		**11.8312**	**4.8000e-004**	**1.0000e-004**	**11.8724**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	0 / 3.25851	11.8312	4.8000e-004	1.0000e-004	11.8724
Total		**11.8312**	**4.8000e-004**	**1.0000e-004**	**11.8724**

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 Heavy Industry	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0.5	52	2010	0.73	Diesel

Boilers

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

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

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					
Emergency Generator - Diesel (750 - 9999 HP)	0.0858	0.3835	0.2187	4.1000e-004		0.0126	0.0126		0.0126	0.0126	0.0000	39.8009	39.8009	5.5800e-003	0.0000	39.9404
Total	**0.0858**	**0.3835**	**0.2187**	**4.1000e-004**		**0.0126**	**0.0126**		**0.0126**	**0.0126**	**0.0000**	**39.8009**	**39.8009**	**5.5800e-003**	**0.0000**	**39.9404**

11.0 Vegetation

Switchyard - Operation

San Diego County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	1.00	1000sqft	0.02	1,000.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2022
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Land use is surrogate only. No heavy industrial land use associated with the project.

Construction Phase - Operational only model run.

Off-road Equipment - Based on applicant provided information.

Off-road Equipment - Based on applicant provided information.

Trips and VMT - Worker and vendor trips assumed to come from San Diego.

On-road Fugitive Dust - Worker and Vendor trucks assumed to travel 0.86 miles on site per trip.

Grading - Operational only model run.

Architectural Coating - Operational only model run.

Vehicle Trips - Operational mobile emissions estimated in the construction module.

Road Dust - Operational only model run.

Consumer Products - No operational emissions.

Area Coating - No architectural coatings.

Landscape Equipment - No landscaping

Energy Use - No energy use.

Water And Wastewater - Based on 10 acre-feet per year for panel washing.

Solid Waste - No waste.

Land Use Change - Operational only model run.

Sequestration - Operational only model run.

Construction Off-road Equipment Mitigation - Project will reduce unpaved road speeds to 15 miles per hour.

Operational Off-Road Equipment -

Stationary Sources - Emergency Generators and Fire Pumps -

Stationary Sources - Emergency Generators and Fire Pumps EF - CalEEMod defaults.

Off-road Equipment - Based on applicant provided information.

Off-road Equipment - Based on applicant provided information.

Off-road Equipment - Based on applicant provided information.

Off-road Equipment - Based on applicant provided information.

Off-road Equipment - Based on applicant provided information. Weed trimmers only.

Off-road Equipment - Based on applicant provided information.

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	500	0
tblAreaCoating	Area_Nonresidential_Interior	1500	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	1.00	7.00
tblConstructionPhase	NumDays	1.00	7.00
tblConstructionPhase	NumDays	1.00	12.00
tblConstructionPhase	NumDaysWeek	5.00	7.00
tblConstructionPhase	NumDaysWeek	5.00	7.00

tblConstructionPhase	NumDaysWeek	5.00	7.00
tblEnergyUse	LightingElect	2.83	0.00
tblEnergyUse	NT24E	4.27	0.00
tblEnergyUse	NT24NG	7.25	0.00
tblEnergyUse	T24E	1.21	0.00
tblEnergyUse	T24NG	4.31	0.00
tblOffRoadEquipment	HorsePower	172.00	5.00
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType		Other Construction Equipment
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	PhaseName		Emergency Repair and Replacement
tblOffRoadEquipment	PhaseName		Emergency Repair and Replacement
tblOffRoadEquipment	PhaseName		Emergency Repair and Replacement
tblOffRoadEquipment	PhaseName		Kettle One Switchyard - Annually
tblOffRoadEquipment	PhaseName		Pole or Structure Brushing
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00

tblOnRoadDust	VendorPercentPave	100.00	99.80
tblOnRoadDust	VendorPercentPave	100.00	99.80
tblOnRoadDust	VendorPercentPave	100.00	99.80
tblOnRoadDust	VendorPercentPave	100.00	99.80
tblOnRoadDust	VendorPercentPave	100.00	99.80
tblOnRoadDust	VendorPercentPave	100.00	99.80
tblOnRoadDust	VendorPercentPave	100.00	99.80
tblOnRoadDust	WorkerPercentPave	100.00	99.80
tblOnRoadDust	WorkerPercentPave	100.00	99.80
tblOnRoadDust	WorkerPercentPave	100.00	99.80
tblOnRoadDust	WorkerPercentPave	100.00	99.80
tblOnRoadDust	WorkerPercentPave	100.00	99.80
tblOnRoadDust	WorkerPercentPave	100.00	99.80
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblSolidWaste	SolidWasteGenerationRate	1.24	0.00
tblTripsAndVMT	VendorTripLength	6.60	72.00
tblTripsAndVMT	VendorTripLength	6.60	72.00
tblTripsAndVMT	VendorTripLength	6.60	72.00
tblTripsAndVMT	VendorTripLength	6.60	72.00
tblTripsAndVMT	VendorTripLength	6.60	72.00
tblTripsAndVMT	VendorTripLength	6.60	72.00
tblTripsAndVMT	VendorTripLength	6.60	72.00
tblTripsAndVMT	VendorTripNumber	0.00	12.00
tblTripsAndVMT	VendorTripNumber	0.00	10.00
tblTripsAndVMT	VendorTripNumber	0.00	4.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00

tblTripsAndVMT	WorkerTripLength	16.80	72.00
tblTripsAndVMT	WorkerTripLength	16.80	72.00
tblTripsAndVMT	WorkerTripLength	16.80	72.00
tblTripsAndVMT	WorkerTripLength	16.80	72.00
tblTripsAndVMT	WorkerTripLength	16.80	72.00
tblTripsAndVMT	WorkerTripLength	16.80	72.00
tblTripsAndVMT	WorkerTripLength	16.80	72.00
tblTripsAndVMT	WorkerTripNumber	5.00	8.00
tblTripsAndVMT	WorkerTripNumber	5.00	6.00
tblTripsAndVMT	WorkerTripNumber	5.00	4.00
tblTripsAndVMT	WorkerTripNumber	5.00	2.00
tblTripsAndVMT	WorkerTripNumber	5.00	4.00
tblTripsAndVMT	WorkerTripNumber	5.00	2.00
tblTripsAndVMT	WorkerTripNumber	5.00	2.00
tblVehicleTrips	ST_TR	1.50	0.00
tblVehicleTrips	SU_TR	1.50	0.00
tblVehicleTrips	WD_TR	1.50	0.00
tblWater	IndoorWaterUseRate	231,250.00	0.00
tblWater	OutdoorWaterUseRate	0.00	3,258,514.33

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					
2022	5.2400e-003	0.0658	0.0432	3.2000e-004	0.0516	7.9000e-004	0.0524	7.1800e-003	7.3000e-004	7.9100e-003	0.0000	30.4452	30.4452	2.8100e-003	0.0000	30.5155

Maximum	**5.2400e-003**	**0.0658**	**0.0432**	**3.2000e-004**	**0.0516**	**7.9000e-004**	**0.0524**	**7.1800e-003**	**7.3000e-004**	**7.9100e-003**	**0.0000**	**30.4452**	**30.4452**	**2.8100e-003**	**0.0000**	**30.5155**

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					
2022	5.2400e-003	0.0658	0.0432	3.2000e-004	0.0345	7.9000e-004	0.0353	5.4400e-003	7.3000e-004	6.1700e-003	0.0000	30.4452	30.4452	2.8100e-003	0.0000	30.5155
Maximum	**5.2400e-003**	**0.0658**	**0.0432**	**3.2000e-004**	**0.0345**	**7.9000e-004**	**0.0353**	**5.4400e-003**	**7.3000e-004**	**6.1700e-003**	**0.0000**	**30.4452**	**30.4452**	**2.8100e-003**	**0.0000**	**30.5155**

	ROG	NOx	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**	**33.14**	**0.00**	**32.64**	**24.23**	**0.00**	**22.00**	**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	1-1-2022	3-31-2022	0.0739	0.0739
		Highest	0.0739	0.0739

2.2 Overall Operational

Unmitigated Operational

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

Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	11.8312	11.8312	4.8000e-004	1.0000e-004	11.8724
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**11.8312**	**11.8312**	**4.8000e-004**	**1.0000e-004**	**11.8724**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	11.8312	11.8312	4.8000e-004	1.0000e-004	11.8724
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**11.8312**	**11.8312**	**4.8000e-004**	**1.0000e-004**	**11.8724**

	ROG	NOx	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	Emergency Repair and Replacement	Site Preparation	1/1/2022	1/7/2022	7	7	
2	Kettle One Switchyard - Annually	Site Preparation	1/1/2022	1/7/2022	7	7	
3	Kettle One Switchyard - Routine Maintenance	Site Preparation	1/1/2022	1/12/2022	7	12	
4	138 kV Transmission Line Tie-In	Site Preparation	1/1/2022	1/3/2022	5	1	
5	ROW Repair	Site Preparation	1/1/2022	1/3/2022	5	1	
6	Pole or Structure Brushing	Site Preparation	1/1/2022	1/3/2022	5	1	
7	Application of Herbicides	Site Preparation	1/1/2022	1/3/2022	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Emergency Repair and Replacement	Aerial Lifts	1	8.00	63	0.31
Emergency Repair and Replacement	Graders	0	8.00	187	0.41
Emergency Repair and Replacement	Off-Highway Trucks	1	8.00	402	0.38
Emergency Repair and Replacement	Skid Steer Loaders	0	8.00	65	0.37
Emergency Repair and Replacement	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Kettle One Switchyard - Annually	Graders	0	8.00	187	0.41
Kettle One Switchyard - Routine Maintenance	Graders	0	8.00	187	0.41
138 kV Transmission Line Tie-In	Graders	0	8.00	187	0.41
ROW Repair	Graders	1	1.00	187	0.41
Pole or Structure Brushing	Graders	0	8.00	187	0.41
Application of Herbicides	Graders	0	8.00	187	0.41
Kettle One Switchyard - Annually	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Kettle One Switchyard - Routine Maintenance	Tractors/Loaders/Backhoes	0	8.00	97	0.37
138 kV Transmission Line Tie-In	Tractors/Loaders/Backhoes	0	8.00	97	0.37

ROW Repair	Tractors/Loaders/Backhoes	1	1.00	97	0.37
Pole or Structure Brushing	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Application of Herbicides	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Kettle One Switchyard - Annually	Aerial Lifts	1	6.00	63	0.31
Pole or Structure Brushing	Other Construction Equipment	1	2.00	5	0.42

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
Emergency Repair and Replacement	2	8.00	12.00	0.00	72.00	72.00	20.00	LD_Mix	HDT_Mix	HHDT
Kettle One Switchyard - Annually	2	6.00	10.00	0.00	72.00	72.00	20.00	LD_Mix	HDT_Mix	HHDT
Kettle One Switchyard - Routine Maintenance	2	4.00	4.00	0.00	72.00	72.00	20.00	LD_Mix	HDT_Mix	HHDT
138 kV Transmission Line Tie-In	2	2.00	2.00	0.00	72.00	72.00	20.00	LD_Mix	HDT_Mix	HHDT
ROW Repair	2	4.00	2.00	0.00	72.00	72.00	20.00	LD_Mix	HDT_Mix	HHDT
Pole or Structure Brushing	2	2.00	2.00	0.00	72.00	72.00	20.00	LD_Mix	HDT_Mix	HHDT
Application of Herbicides	2	2.00	2.00	0.00	72.00	72.00	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Emergency Repair and Replacement - 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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	1.9800e-003	0.0160	0.0156	5.0000e-005		5.5000e-004	5.5000e-004		5.0000e-004	5.0000e-004	0.0000	4.5773	4.5773	1.4800e-003	0.0000	4.6143
Total	**1.9800e-003**	**0.0160**	**0.0156**	**5.0000e-005**	**0.0000**	**5.5000e-004**	**5.5000e-004**	**0.0000**	**5.0000e-004**	**5.0000e-004**	**0.0000**	**4.5773**	**4.5773**	**1.4800e-003**	**0.0000**	**4.6143**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.2000e-004	0.0187	5.7400e-003	9.0000e-005	0.0107	7.0000e-005	0.0107	1.5800e-003	7.0000e-005	1.6500e-003	0.0000	8.8021	8.8021	4.4000e-004	0.0000	8.8132
Worker	4.8000e-004	3.8000e-004	3.6500e-003	1.0000e-005	6.7800e-003	1.0000e-005	6.7900e-003	9.2000e-004	1.0000e-005	9.3000e-004	0.0000	1.2292	1.2292	3.0000e-005	0.0000	1.2299
Total	**1.2000e-003**	**0.0191**	**9.3900e-003**	**1.0000e-004**	**0.0174**	**8.0000e-005**	**0.0175**	**2.5000e-003**	**8.0000e-005**	**2.5800e-003**	**0.0000**	**10.0313**	**10.0313**	**4.7000e-004**	**0.0000**	**10.0431**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9800e-003	0.0160	0.0156	5.0000e-005		5.5000e-004	5.5000e-004		5.0000e-004	5.0000e-004	0.0000	4.5773	4.5773	1.4800e-003	0.0000	4.6143
Total	**1.9800e-003**	**0.0160**	**0.0156**	**5.0000e-005**	**0.0000**	**5.5000e-004**	**5.5000e-004**	**0.0000**	**5.0000e-004**	**5.0000e-004**	**0.0000**	**4.5773**	**4.5773**	**1.4800e-003**	**0.0000**	**4.6143**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.2000e-004	0.0187	5.7400e-003	9.0000e-005	7.5900e-003	7.0000e-005	7.6600e-003	1.2700e-003	7.0000e-005	1.3400e-003	0.0000	8.8021	8.8021	4.4000e-004	0.0000	8.8132
Worker	4.8000e-004	3.8000e-004	3.6500e-003	1.0000e-005	4.7300e-003	1.0000e-005	4.7400e-003	7.2000e-004	1.0000e-005	7.3000e-004	0.0000	1.2292	1.2292	3.0000e-005	0.0000	1.2299
Total	**1.2000e-003**	**0.0191**	**9.3900e-003**	**1.0000e-004**	**0.0123**	**8.0000e-005**	**0.0124**	**1.9900e-003**	**8.0000e-005**	**2.0700e-003**	**0.0000**	**10.0313**	**10.0313**	**4.7000e-004**	**0.0000**	**10.0431**

3.3 Kettle One Switchyard - Annually - 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					1.8600e-003	0.0000	1.8600e-003	2.0000e-004	0.0000	2.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.0000e-005	1.4600e-003	2.8600e-003	0.0000		3.0000e-005	3.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.3850	0.3850	1.2000e-004	0.0000	0.3881
Total	**9.0000e-005**	**1.4600e-003**	**2.8600e-003**	**0.0000**	**1.8600e-003**	**3.0000e-005**	**1.8900e-003**	**2.0000e-004**	**2.0000e-005**	**2.2000e-004**	**0.0000**	**0.3850**	**0.3850**	**1.2000e-004**	**0.0000**	**0.3881**

Unmitigated Construction Off-Site

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

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0000e-004	0.0156	4.7800e-003	8.0000e-005	8.8800e-003	6.0000e-005	8.9400e-003	1.3200e-003	5.0000e-005	1.3700e-003	0.0000	7.3351	7.3351	3.7000e-004	0.0000	7.3443
Worker	3.6000e-004	2.8000e-004	2.7400e-003	1.0000e-005	5.0800e-003	1.0000e-005	5.0900e-003	6.9000e-004	1.0000e-005	7.0000e-004	0.0000	0.9219	0.9219	2.0000e-005	0.0000	0.9224
Total	**9.6000e-004**	**0.0159**	**7.5200e-003**	**9.0000e-005**	**0.0140**	**7.0000e-005**	**0.0140**	**2.0100e-003**	**6.0000e-005**	**2.0700e-003**	**0.0000**	**8.2570**	**8.2570**	**3.9000e-004**	**0.0000**	**8.2668**

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					7.2000e-004	0.0000	7.2000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.0000e-005	1.4600e-003	2.8600e-003	0.0000		3.0000e-005	3.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.3850	0.3850	1.2000e-004	0.0000	0.3881
Total	**9.0000e-005**	**1.4600e-003**	**2.8600e-003**	**0.0000**	**7.2000e-004**	**3.0000e-005**	**7.5000e-004**	**8.0000e-005**	**2.0000e-005**	**1.0000e-004**	**0.0000**	**0.3850**	**0.3850**	**1.2000e-004**	**0.0000**	**0.3881**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0000e-004	0.0156	4.7800e-003	8.0000e-005	6.3200e-003	6.0000e-005	6.3800e-003	1.0600e-003	5.0000e-005	1.1100e-003	0.0000	7.3351	7.3351	3.7000e-004	0.0000	7.3443
Worker	3.6000e-004	2.8000e-004	2.7400e-003	1.0000e-005	3.5500e-003	1.0000e-005	3.5500e-003	5.4000e-004	1.0000e-005	5.5000e-004	0.0000	0.9219	0.9219	2.0000e-005	0.0000	0.9224
Total	**9.6000e-004**	**0.0159**	**7.5200e-003**	**9.0000e-005**	**9.8700e-003**	**7.0000e-005**	**9.9300e-003**	**1.6000e-003**	**6.0000e-005**	**1.6600e-003**	**0.0000**	**8.2570**	**8.2570**	**3.9000e-004**	**0.0000**	**8.2668**

3.4 Kettle One Switchyard - Routine Maintenance - 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					3.1800e-003	0.0000	3.1800e-003	3.4000e-004	0.0000	3.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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**	**3.1800e-003**	**0.0000**	**3.1800e-003**	**3.4000e-004**	**0.0000**	**3.4000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.1000e-004	0.0107	3.2800e-003	5.0000e-005	6.0900e-003	4.0000e-005	6.1300e-003	9.0000e-004	4.0000e-005	9.4000e-004	0.0000	5.0298	5.0298	2.5000e-004	0.0000	5.0361
Worker	4.1000e-004	3.2000e-004	3.1300e-003	1.0000e-005	5.8100e-003	1.0000e-005	5.8200e-003	7.9000e-004	1.0000e-005	8.0000e-004	0.0000	1.0536	1.0536	3.0000e-005	0.0000	1.0542
Total	**8.2000e-004**	**0.0110**	**6.4100e-003**	**6.0000e-005**	**0.0119**	**5.0000e-005**	**0.0120**	**1.6900e-003**	**5.0000e-005**	**1.7400e-003**	**0.0000**	**6.0834**	**6.0834**	**2.8000e-004**	**0.0000**	**6.0903**

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					1.2400e-003	0.0000	1.2400e-003	1.3000e-004	0.0000	1.3000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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**	**1.2400e-003**	**0.0000**	**1.2400e-003**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.1000e-004	0.0107	3.2800e-003	5.0000e-005	4.3400e-003	4.0000e-005	4.3800e-003	7.3000e-004	4.0000e-005	7.6000e-004	0.0000	5.0298	5.0298	2.5000e-004	0.0000	5.0361
Worker	4.1000e-004	3.2000e-004	3.1300e-003	1.0000e-005	4.0500e-003	1.0000e-005	4.0600e-003	6.2000e-004	1.0000e-005	6.2000e-004	0.0000	1.0536	1.0536	3.0000e-005	0.0000	1.0542
Total	**8.2000e-004**	**0.0110**	**6.4100e-003**	**6.0000e-005**	**8.3900e-003**	**5.0000e-005**	**8.4400e-003**	**1.3500e-003**	**5.0000e-005**	**1.3800e-003**	**0.0000**	**6.0834**	**6.0834**	**2.8000e-004**	**0.0000**	**6.0903**

3.5 138 kV Transmission Line Tie-In - 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					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	0.0000	0.0000	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**	**2.7000e-004**	**0.0000**	**2.7000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	4.5000e-004	1.4000e-004	0.0000	2.5000e-004	0.0000	2.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.2096	0.2096	1.0000e-005	0.0000	0.2098
Worker	2.0000e-005	1.0000e-005	1.3000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0439	0.0439	0.0000	0.0000	0.0439
Total	**4.0000e-005**	**4.6000e-004**	**2.7000e-004**	**0.0000**	**4.9000e-004**	**0.0000**	**5.0000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2535**	**0.2535**	**1.0000e-005**	**0.0000**	**0.2538**

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					1.0000e-004	0.0000	1.0000e-004	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	4.5000e-004	1.4000e-004	0.0000	1.8000e-004	0.0000	1.8000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.2096	0.2096	1.0000e-005	0.0000	0.2098
Worker	2.0000e-005	1.0000e-005	1.3000e-004	0.0000	1.7000e-004	0.0000	1.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0439	0.0439	0.0000	0.0000	0.0439
Total	**4.0000e-005**	**4.6000e-004**	**2.7000e-004**	**0.0000**	**3.5000e-004**	**0.0000**	**3.5000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.2535**	**0.2535**	**1.0000e-005**	**0.0000**	**0.2538**

3.6 ROW Repair - 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					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.0000e-005	4.3000e-004	2.5000e-004	0.0000		2.0000e-005	2.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.0534	0.0534	2.0000e-005	0.0000	0.0539
Total	**4.0000e-005**	**4.3000e-004**	**2.5000e-004**	**0.0000**	**2.7000e-004**	**2.0000e-005**	**2.9000e-004**	**3.0000e-005**	**1.0000e-005**	**4.0000e-005**	**0.0000**	**0.0534**	**0.0534**	**2.0000e-005**	**0.0000**	**0.0539**

Unmitigated Construction Off-Site

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

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	4.5000e-004	1.4000e-004	0.0000	2.5000e-004	0.0000	2.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.2096	0.2096	1.0000e-005	0.0000	0.2098
Worker	3.0000e-005	3.0000e-005	2.6000e-004	0.0000	4.8000e-004	0.0000	4.8000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.0878	0.0878	0.0000	0.0000	0.0879
Total	**5.0000e-005**	**4.8000e-004**	**4.0000e-004**	**0.0000**	**7.3000e-004**	**0.0000**	**7.4000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.2974**	**0.2974**	**1.0000e-005**	**0.0000**	**0.2977**

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					1.0000e-004	0.0000	1.0000e-004	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.0000e-005	4.3000e-004	2.5000e-004	0.0000		2.0000e-005	2.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.0534	0.0534	2.0000e-005	0.0000	0.0539
Total	**4.0000e-005**	**4.3000e-004**	**2.5000e-004**	**0.0000**	**1.0000e-004**	**2.0000e-005**	**1.2000e-004**	**1.0000e-005**	**1.0000e-005**	**2.0000e-005**	**0.0000**	**0.0534**	**0.0534**	**2.0000e-005**	**0.0000**	**0.0539**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	4.5000e-004	1.4000e-004	0.0000	1.8000e-004	0.0000	1.8000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.2096	0.2096	1.0000e-005	0.0000	0.2098
Worker	3.0000e-005	3.0000e-005	2.6000e-004	0.0000	3.4000e-004	0.0000	3.4000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.0878	0.0878	0.0000	0.0000	0.0879
Total	**5.0000e-005**	**4.8000e-004**	**4.0000e-004**	**0.0000**	**5.2000e-004**	**0.0000**	**5.2000e-004**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.2974**	**0.2974**	**1.0000e-005**	**0.0000**	**0.2977**

3.7 Pole or Structure Brushing - 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					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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**	**2.7000e-004**	**0.0000**	**2.7000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	4.5000e-004	1.4000e-004	0.0000	2.5000e-004	0.0000	2.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.2096	0.2096	1.0000e-005	0.0000	0.2098
Worker	2.0000e-005	1.0000e-005	1.3000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0439	0.0439	0.0000	0.0000	0.0439
Total	**4.0000e-005**	**4.6000e-004**	**2.7000e-004**	**0.0000**	**4.9000e-004**	**0.0000**	**5.0000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2535**	**0.2535**	**1.0000e-005**	**0.0000**	**0.2538**

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					1.0000e-004	0.0000	1.0000e-004	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	4.5000e-004	1.4000e-004	0.0000	1.8000e-004	0.0000	1.8000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.2096	0.2096	1.0000e-005	0.0000	0.2098
Worker	2.0000e-005	1.0000e-005	1.3000e-004	0.0000	1.7000e-004	0.0000	1.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0439	0.0439	0.0000	0.0000	0.0439
Total	**4.0000e-005**	**4.6000e-004**	**2.7000e-004**	**0.0000**	**3.5000e-004**	**0.0000**	**3.5000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.2535**	**0.2535**	**1.0000e-005**	**0.0000**	**0.2538**

3.8 Application of Herbicides - 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					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	0.0000	0.0000	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**	**2.7000e-004**	**0.0000**	**2.7000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	4.5000e-004	1.4000e-004	0.0000	2.5000e-004	0.0000	2.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.2096	0.2096	1.0000e-005	0.0000	0.2098
Worker	2.0000e-005	1.0000e-005	1.3000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0439	0.0439	0.0000	0.0000	0.0439
Total	**4.0000e-005**	**4.6000e-004**	**2.7000e-004**	**0.0000**	**4.9000e-004**	**0.0000**	**5.0000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.2535**	**0.2535**	**1.0000e-005**	**0.0000**	**0.2538**

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					1.0000e-004	0.0000	1.0000e-004	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	4.5000e-004	1.4000e-004	0.0000	1.8000e-004	0.0000	1.8000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.2096	0.2096	1.0000e-005	0.0000	0.2098
Worker	2.0000e-005	1.0000e-005	1.3000e-004	0.0000	1.7000e-004	0.0000	1.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0439	0.0439	0.0000	0.0000	0.0439
Total	**4.0000e-005**	**4.6000e-004**	**2.7000e-004**	**0.0000**	**3.5000e-004**	**0.0000**	**3.5000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.2535**	**0.2535**	**1.0000e-005**	**0.0000**	**0.2538**

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 Heavy 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-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	14.70	6.60	6.60	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 Heavy Industry	0.598645	0.040929	0.181073	0.106149	0.015683	0.005479	0.016317	0.023976	0.001926	0.001932	0.006016	0.000753	0.001122

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 Heavy Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

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

Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy 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	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

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**					**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	11.8312	4.8000e-004	1.0000e-004	11.8724
Unmitigated	11.8312	4.8000e-004	1.0000e-004	11.8724

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	0 / 3.25851	11.8312	4.8000e-004	1.0000e-004	11.8724
Total		**11.8312**	**4.8000e-004**	**1.0000e-004**	**11.8724**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			

General Heavy Industry	0 / 3.25851	11.8312	4.8000e-004	1.0000e-004	11.8724
Total		**11.8312**	**4.8000e-004**	**1.0000e-004**	**11.8724**

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 Heavy 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 Heavy Industry	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Project Name

Vegetation

Land Use Change - Loss of Sequestered Carbon

A development which changes land use type results in changes in CO_2 sequestration from the atmosphere which would not have been captured had there been no land-type change.

Equation:

Sequestered CO_2 (MT CO_2) = Σ_f ($SeqCO_2$)$_f$ x (area)$_f$ - Σ_i (SeqCO2)$_i$ x (area)$_i$

Where:

$SeqCO_2$ = mass of sequestered CO_2 per unit area (MT CO_2/acre)

area = area of land for specific land use type (acre)

f = index for final land use type

I = index for initial land use type

Default CalEEMod Factors

The mass of sequestered CO_2 per unit area (MT CO_2/acre) is dependent on the specific land use type. The program uses default CO_2 sequestration values from the California Climate Action Registry for each land use that will be preserved or created:

Vegetation Land Use Type	Vegetation Land Use Subtype	Biogenic CO_2 Emissions (MT CO_2/Acre)
Cropland	Cropland	6.2
Forest Land	Scrub	14.3
Forest Land	Trees	111
Grassland	Grassland	4.31
Wetlands	Wetlands	0
Others	Others	0

Notes:

Based on values indicated in IPCC Guidelines for National Greenhouse Gas Inventories (IPCC Guidelines). Available online at http://www.ipcc-nggip.iges.or.jp/public/2006gl/

Reference:

CalEEMod Users Guide, Appendix A Calculation Details (Section 11 Vegetation, pages 50-52)

Custom Content Factors

Vegetation Land Use Type	Vegetation Land Use Subtype	Biogenic CO_2 Emissions (MT CO_2/Acre)
Citrus Trees	N/A	26.68

Reference:

See "Estimate of Sequestered Carbon - Citrus Trees"

Project Name

Calculations:

Project Vegetation Land Use	Vegetation Land Use Category	Vegetation Land Use Category Subtype	Initial Acres (acres)	Final Acres (acres)	Net Loss (acres)	Biogenic CO_2 Emissions (MT CO_2/Acre)	Sequestered CO_2 (MT CO_2)
Scrub and Chaparral	Forest Land	Scrub	594.62	0.00	594.62	14.3	8,503.07

Notes:

The default annual CO2 is calculated by multiplying total biomass (MT dry matter/acre) from IPCC data by the carbon fraction in plant material (0.47), then using the ratio of molecular weights (44/12) to convert from MT of carbon (C) to MT of carbon dioxide (CO2).

Vegetation Type

Vegetation types are defined by IPCC as follows:

Forest Land

This category includes all land with woody vegetation consistent with thresholds used to define Forest Land in the national greenhouse gas inventory. It also includes systems with a vegetation structure that currently fall below, but *in situ* could potentially reach the threshold values used by a country to define the Forest Land category.

Cropland

This category includes cropped land, including rice fields, and agro-forestry systems where the vegetation structure falls below the thresholds used for the Forest Land category.

Grassland

This category includes rangelands and pasture land that are not considered Cropland. It also includes systems with woody vegetation and other non-grass vegetation such as herbs and brushes that fall below the threshold values used in the Forest Land category. The category also includes all grassland from wild lands to recreational areas as well as agricultural and silvi-pastural systems, consistent with national definitions.

Wetlands

This category includes areas of peat extraction and land that is covered or saturated by water for all or part of the year (e.g., peatlands) and that does not fall into the Forest Land, Cropland, Grassland or Settlements categories. It includes reservoirs as a managed sub-division and natural rivers and lakes as unmanaged sub-divisions.

Area

The user must specify area of land in acres for specific final and initial land use types. These area changes include not only the area of land that will be converted to buildings, but also areas disrupted by the construction of utility corridors, water tank sites, and associated borrow and grading areas. Areas temporarily disturbed that will eventually recover to become vegetated will not be counted as vegetation removed as there is no net change in vegetation or land use.

This assumption facilitates the calculation as a yearly growth rate and CO2 removal rate does not have to be calculated. As long as the disturbed land will indeed return to its original state, this assumption is valid for time periods over 20 years.

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Caution: Photovoltaic system performance predictions calculated by PVWatts® include many inherent assumptions and uncertainties and do not reflect variations between PV technologies nor site-specific characteristics except as represented by PVWatts® inputs. For example, PV modules with better performance are not differentiated within PVWatts® from lesser performing modules. Both NREL and private companies provide more sophisticated PV modeling tools (such as the System Advisor Model at https://sam.nrel.gov) that allow for more precise and complex modeling of PV systems.

The expected range is based on 30 years of actual weather data at the given location and is intended to provide an indication of the variation you might see. For more information, please refer to this NREL report: The Error Report.

The energy output range is based on analysis of 30 years of historical weather data for nearby , and is intended to provide an indication of the possible interannual variability in generation for a Fixed (open rack) PV system at this location.

RESULTS

211,159,088 kWh/Year*

System output may range from 201,297,959 to 213,355,143 kWh per year near this location.

Month	Solar Radiation (kWh / m^2 / day)	AC Energy (kWh)	Value ($)
January	4.94	11,791,114	1,592,980
February	5.82	12,663,077	1,710,782
March	7.71	18,282,754	2,470,000
April	9.34	20,616,706	2,785,317
May	10.75	23,477,548	3,171,817
June	11.35	23,889,754	3,227,506
July	10.22	22,347,876	3,019,198
August	9.69	20,706,960	2,797,510
September	8.56	17,877,022	2,415,186
October	7.09	16,206,565	2,189,507
November	5.47	12,550,953	1,695,634
December	4.40	10,748,762	1,452,158
Annual	7.95	211,159,091	$ 28,527,595

Location and Station Identification

Requested Location	jacumba hot springs, ca
Weather Data Source	Lat, Lon: 32.61, -116.18 1.0 mi
Latitude	32.61° N
Longitude	116.18° W

PV System Specifications *(Commercial)*

DC System Size	99000 kW
Module Type	Standard
Array Type	1-Axis Tracking
Array Tilt	0°
Array Azimuth	180°
System Losses	14.08%
Inverter Efficiency	96%
DC to AC Size Ratio	1.2
Ground Coverage Ratio	0.4

Economics

Average Retail Electricity Rate	0.135 $/kWh

Performance Metrics

Capacity Factor	24.3%

Year	SDG&E GHG Emission Factor	Avoided GHG Emissions
	lb CO_2/MWh	$MTCO_2$
2017	448.30	-
2018	432.29	-
2019	416.28	-
2020	400.27	-
2021	384.26	-
2022	368.25	35,271.13
2023	352.24	33,737.60
2024	336.23	32,204.07
2025	320.22	30,670.54
2026	304.21	29,137.02
2027	288.20	27,603.49
2028	272.19	26,069.96
2029	256.17	24,536.44
2030	240.16	23,002.91
2031	224.15	21,469.38
2032	208.14	19,935.85
2033	192.13	18,402.33
2034	176.12	16,868.80
2035	160.11	15,335.27
2036	144.10	13,801.74
2037	128.09	12,268.22
2038	112.08	10,734.69
2039	96.07	9,201.16
2040	80.05	7,667.64
2041	64.04	6,134.11
2042	48.03	4,600.58
2043	32.02	3,067.05
2044	16.01	1,533.53
2045	0.00	0.00
Total		**423,253.51**

Breaker (kV)	Number of Breakers	Pounds of SF6	MT of SF6	Leak Rate	Global Warming Potential	MT CO2 e
138	6	124	0.056	1%	23,900	6.73