Air Quality and Greenhouse Gas Technical Report for the Seville 5 Solar Project, Imperial County, California

FEBRUARY 2025

PREPARED FOR

Apex Energy Solutions, LLC

PREPARED BY

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AIR QUALITY AND GREENHOUSE GAS TECHNICAL REPORT SEVILLE 5 SOLAR PROJECT IMPERIAL COUNTY, CALIFORNIA

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ACRONYMS AND ABBREVIATIONS

μg/m³	micrograms per cubic meter
AB	Assembly Bill
Apex Energy (or applicant)	Apex Energy Solutions, LLC
APN	Assessor's parcel number
AQMP	air quality management plan
AVERT	AVoided Emissions and geneRation Tool
BESS	battery energy storage system
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emission Estimator Model
CalEPA	California Environmental Protection Agency
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CAT	California Action Team
CCAA	California Clean Air Act
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CH_4	methane
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
DC	direct current
DPM	diesel particulate matter
EO	Executive Order
EPA	U.S. Environmental Protection Agency
°F	Fahrenheit
GHG	greenhouse gas
GWP	global warming potential
H_2S	hydrogen sulfide
HFC	hydrofluorocarbon
ICAPCD	Imperial County Air Pollution Control District
IPCC	Intergovernmental Panel on Climate Change
kV	kilovolt

LCFS	Low Carbon Fuel Standard
MMT	million metric tons
MT	metric ton
MW	megawatt
MWh/year	megawatt hour per year
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NCDC	National Climatic Data Center
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_2	nitrogen dioxide
NO_X	oxides of nitrogen
O_3	ozone
ODCP	operational dust control plan
OEHHA	California Office of Environmental Health Hazard Assessment
OPR	Governor’s Office of Planning and Research
PFC	perfluorocarbon
PM	particulate matter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
PM_{10}	particulate matter less than 10 microns in diameter
ppb	parts per billion
ppm	parts per million
project	Seville 5 Solar Project
PV	photovoltaic
ROG	reactive organic gases
RPS	Renewable Portfolio Standard
RTP	Regional Transportation Plan
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management Plan
SCOTUS	Supreme Court of the United States
SCS	Sustainable Communities Strategy
SF_6	sulfur hexafluoride
SIP	State Implementation Plan
SO_2	sulfur dioxide
SO_x	sulfur oxides
SSAB	Salton Sea Air Basin
SWCA	SWCA Environmental Consultants

TAC	toxic air contaminant
TRU	transportation refrigeration unit
TSCA	Toxic Substances Control Act
VOC	volatile organic compound
ZEV	Zero Emission Vehicle

1 INTRODUCTION

This Air Quality and Greenhouse Gas Technical Report was prepared by SWCA Environmental Consultants (SWCA) in support of the Seville 5 Solar Project (project). SWCA was retained by Apex Energy Solutions, LLC (Apex Energy [or applicant]), to conduct an air quality and greenhouse gas (GHG) emissions technical analysis to provide the technical basis for the assessment of potential impacts to air quality and GHGs that may result from implementation of the project. In addition to a description of the existing conditions, this report describes how air quality and GHGs will be potentially affected by the construction, operation, and maintenance of the project. This report may be used to support the environmental documentation and evaluation of the project pursuant to the California Environmental Quality Act (CEQA).

2 PROJECT LOCATION AND DESCRIPTION

2.1 Project Location

Apex Energy proposes to construct a 65-megawatt (MW) solar facility with a 130-MW battery energy storage system (BESS) on approximately 267 acres in unincorporated Imperial County, California (Figure 1). The proposed project site is just south of State Route (SR) 78, approximately 7 miles east of Ocotillo Wells and approximately 9 miles west of SR 86. The project area is also approximately 14 miles from the southern tip of the Salton Sea and 4 miles east of the Imperial County–San Diego County line. The Project is on one privately-owned parcel (Imperial County Assessor’s parcel number (APN) 018-010-043.

The project area is partially situated on San Felipe Creek, and the general area surrounding the site is either vacant land consisting of sand dunes and local washes or developed solar fields. The project area is bound to the north by SR 78, with Ocotillo Wells Off-highway Vehicle State Recreation Area on the north side of SR 78. Vacant land is to the east. Developed portions of Seville 1 and Seville 2 Solar facilities are located immediately to the southeast of the project, and the Titan 1 Solar facility is located further southeast. The proposed Seville 4 Solar project is immediately to the south, on currently vacant land. Vacant land is to the west, with the Ocotillo Recreational Vehicle Resort approximately 0.5-mile west. The site exhibits a generally planar and flat-lying topography, which can be partially attributed to previous agricultural activities that included in-filling of the former creek bottom of San Felipe Creek. The project area is in Sections 15 and 22, Township 12 South, Range 9 East, as depicted on the U.S. Geological Survey (USGS) Borrego Mountain SE, California, 7.5-minute quadrangle (Figures 1 and 2).

2.2 Project Description

The project applicant proposes improvements for the 65-MW solar project that will consist of solar photovoltaic (PV) arrays, inverter transformer stations, a 130-MW BESS, numerous underground cable raceways, a substation, maintenance access roads, and maintenance buildings. The project proposes to use solar PV technology modules mounted on horizontal single-axis tracker systems. The fixed-frame PV module arrays would be mounted on racks that would be supported by driven piles, arranged in arrays spaced up to 30 feet apart (pile to pile) to maximize performance and to allow access for panel cleaning. Solar modules would be a maximum of 10 feet high. These arrays would be separated from each other and the perimeter security fence by at least 20-foot-wide interior roads to provide access to all areas for maintenance and emergency vehicles.

Electricity generated by the PV modules would be collected by a direct current (DC) collection system routed underground in trenches. This DC power would be delivered to pad-mounted inverters in weatherproof enclosures located within the arrays.

The proposed BESS will be constructed at the southeast corner of the project site, adjacent to the project's solar facilities and will consist of either lithium ion or flow batteries. Underground trenches with conduits would be used to connect the batteries to the control and monitoring systems, and inverters would be used to convert the PV-produced DC power to alternating current power. From the Seville 5 BESS, the project would connect to a new generation tie line that extends southeast to the point of interconnection for Seville 5, at the existing Titan 1 Solar project switching station.

Due to the relatively flat-lying topography, site grading is expected to entail minor cuts and fills to provide access roads, site drainage, and building sites for structures. An estimated 90% of ground disturbance would consist of excavation and post installation, as well as trenching for underground utilities and drainage culverts performed using mechanical methods. The remaining 10% of ground disturbance would be caused by overland travel for improvements and maintenance of solar panel blocks with solar photovoltaic arrays and various inverter transformer stations.

All proposed treatment areas, including roads, trails, access roads, and staging areas, are located on previously disturbed soils. Ground disturbance is not anticipated to exceed a depth of 8 feet by vibratory pile hammer and is not anticipated to exceed 48 inches for utilities trenching for underground utilities and would be a result of heavy equipment use. The project lifespan is 20 to 25 years.

Buffer zones will be established around all biologically and culturally sensitive resources, as necessary. In addition, a 50-foot-wide buffer will be established around all streams and floodplains.

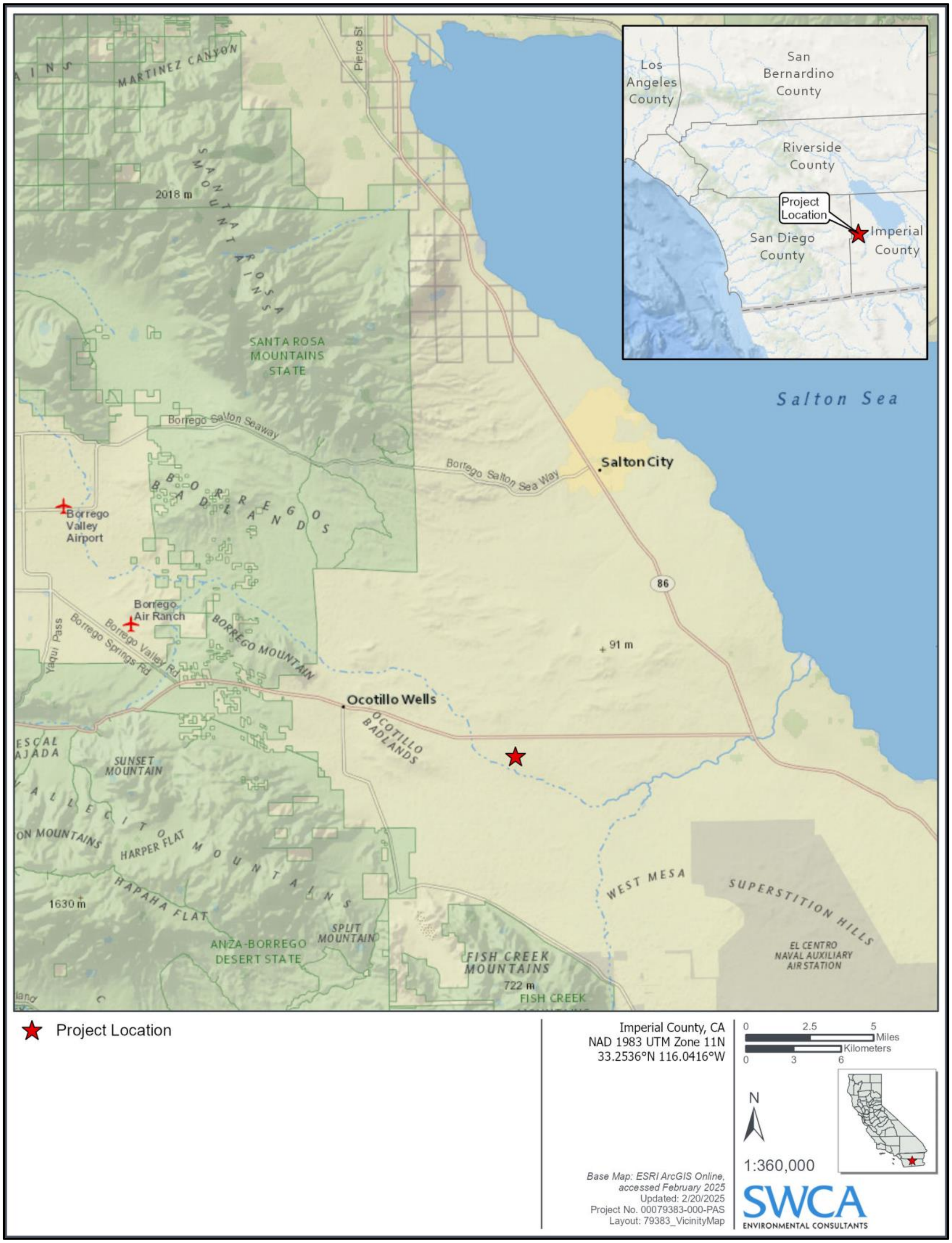

Figure 1. Vicinity map.

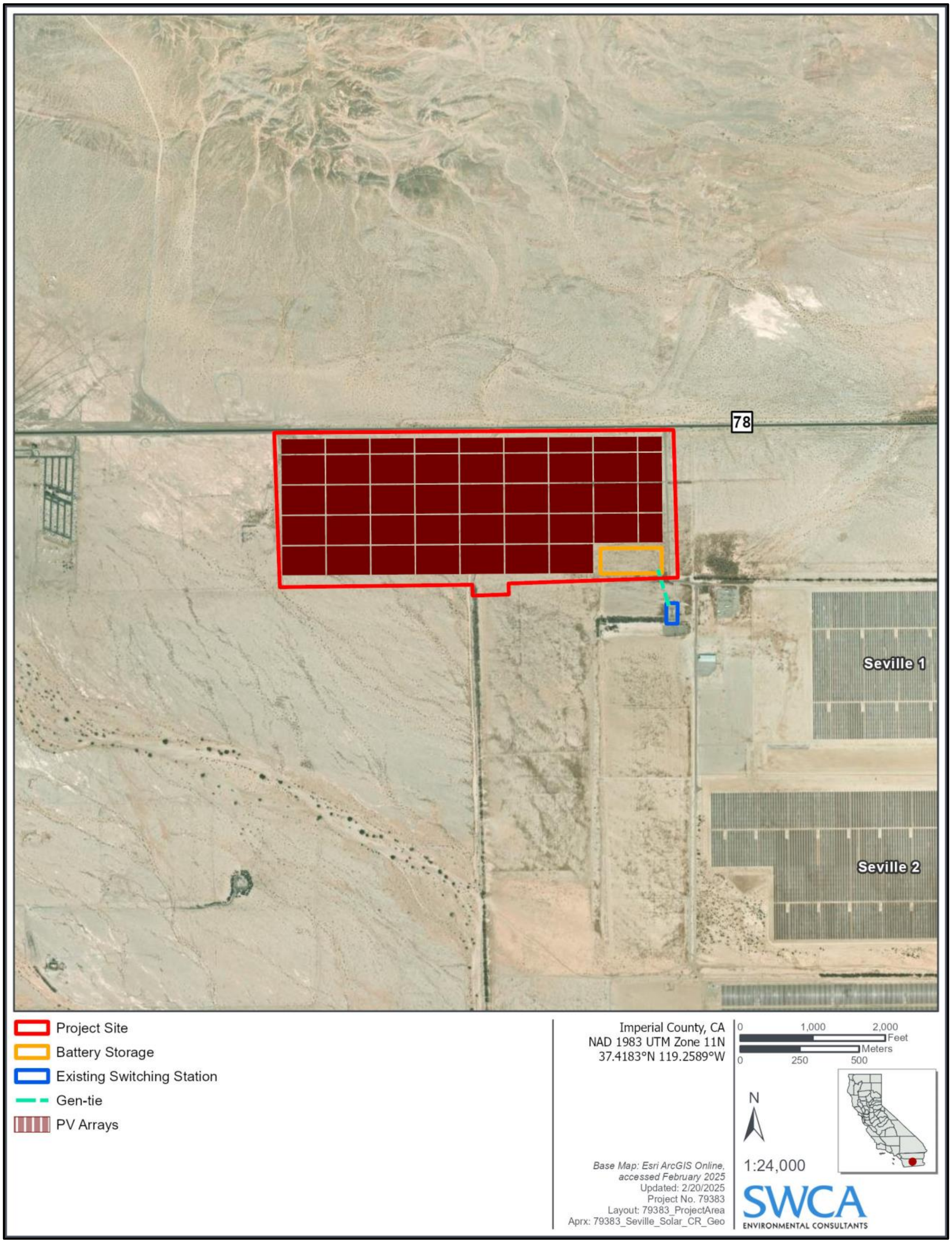

Figure 2. Project Area.

2.3 Construction Time Frame and Phasing

Construction of the project, from mobilization to the site to final completion, is expected to occur over an approximately 12–18-month period, assumed to occur from July 2026 until the end of December 2027. The project would be constructed in four phases: 1) site preparation and grading (including construction equipment delivery, graveling new access roads, grubbing, and grading necessary for construction of the racking system, inverter pads, switching station, substation and energy storage system); 2) trenching and interconnection construction (including the delivery of solar components, trenching for underground electrical conduit, and substation, transmission lines and installation of electrical infrastructure); 3) substation and switching station (installing potential foundations and the substation and switching station apparatus); and 4) solar array installation (including security fencing and finalization). All construction activities, including construction staging of equipment, would be situated entirely within the project site, and access to the site will be from the north on Highway 78. Typical construction equipment would be used during all phases of project construction; would be stored within the staging area; and would potentially include graders, water trucks, forklifts, bulldozers, and backhoes. Grading for solar field construction is expected to be minor because the site is fairly level. However, grading would be necessary for construction of the racking system, inverter pads, switching station, substation, and the BESS. Water use during construction would be minimal and would be required primarily for dust control. Water would be purchased and trucked onto the site or could potentially be obtained from on-site wells.

Approximately 300 acres of the existing ground surface would be grubbed and graded and would require excavation of approximately 1,000 cubic yards of cut and fill. All plants would be chipped on-site and added to the base. Grading would require approximately 3 months. Cut and fill would be balanced on-site, and no fill would be imported or exported from the site.

Dust control measures would include watering roads twice a day and enforcing a maximum speed limit of 15 miles per hour on unpaved roads. Construction would occur during dry weather only. Construction would occur from 6:30 a.m. to 5:00 p.m., 5 days per week.

When construction is completed, the project would be an operational 65-MW, 270-acre solar project with 65-MW BESS and will be remotely controlled. No employees would be based at the project site. Primary security-related monitoring would be done remotely. Security personnel may conduct unscheduled security rounds and would be dispatched to the site in response to a fence breach or other alarm. Site maintenance workers would access the project site two times per year to clean the panels, inspect the equipment, and maintain the project area. The public would not have access to the facility. Access to the project site would be infrequent and limited to authorized personnel.

Periodic washing of the PV modules is expected to occur twice a year to remove dust to maintain power generation efficiency. The amount of water needed for this purpose is conservatively estimated at a total of up to 15 acre-feet per year. This water would be water purchased and trucked to the site.

3 ENVIRONMENTAL SETTING

The project site is in unincorporated Imperial County within the SSAB, which consists of the entirety of Imperial County and the central portion of Riverside County. The Imperial County Air Pollution Control District (ICAPCD) has full jurisdiction within all of Imperial County. The ambient concentrations of air pollutants are determined by the amount of emissions released by the sources of air pollutants and the atmosphere’s ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, atmospheric stability, and sunlight. Therefore, existing air quality conditions in the area are determined by such natural factors as topography, meteorology, and climate, in addition to the amount of emissions released by existing air pollutant sources.

3.1 Overview of Air Pollution and Potential Health Effects

3.1.1 Criteria Air Pollutants

Both the federal and state governments have established ambient air quality standards for outdoor concentrations of specific pollutants in order to protect the public health and welfare. These pollutants are referred to as "criteria air pollutants," and the national and state standards have been set at levels considered safe to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly, with a margin of safety; and to protect public welfare, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.

Certain air pollutants have been recognized to cause notable health problems and consequential damage to the environment, either directly or in reaction with other pollutants due to their presence in elevated concentrations in the atmosphere. Such pollutants have been identified and regulated as part of the overall endeavor to prevent further deterioration and facilitate improvement in the air quality within the SSAB. The criteria air pollutants for which national and state standards have been promulgated and which are most relevant to current air quality planning and regulation in the SSAB include carbon monoxide (CO), ozone (O_3), particulate matter (PM), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), lead, sulfates, and hydrogen sulfide (H_2S). These pollutants, as well as volatile organic compounds (VOCs) and toxic air contaminants (TACs), are discussed in the following paragraphs. The national and state criteria air pollutants and the applicable ambient air quality standards are listed in Table 1.

3.1.1.1 OZONE

O_3 is a strong-smelling, pale blue, reactive, toxic chemical gas consisting of three oxygen atoms. It is a secondary pollutant formed in the atmosphere by a photochemical process involving the sun's energy and O_3 precursors. These precursors are mainly oxides of nitrogen (NO_x) and VOCs. The maximum effects of precursor emissions on O_3 concentrations usually occur several hours after they are emitted and many miles from the source. Meteorology and terrain play major roles in O_3 formation, and ideal conditions occur during summer and early autumn on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. O_3 exists in the upper atmosphere O_3 layer (stratospheric ozone) and at the Earth's surface in the troposphere. The O_3 that the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) regulate as a criteria air pollutant is produced close to the ground level, where people live, exercise, and breathe. Ground-level O_3 is a harmful air pollutant that causes numerous adverse health effects and is thus considered "bad" O_3. Stratospheric, or "good" O_3 occurs naturally in the upper atmosphere, where it reduces the amount of ultraviolet light (i.e., solar radiation) entering the Earth's atmosphere. Without the protection of the beneficial stratospheric O_3 layer, plant and animal life would be seriously harmed.

O_3 in the troposphere causes numerous adverse health effects; short-term exposures (lasting for a few hours) can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes (EPA 2025a). These health problems are particularly acute in sensitive receptors such as the sick, the elderly, and young children.

3.1.1.2 NITROGEN DIOXIDE

NO_2 is a brownish, highly reactive gas that is present in all urban atmospheres. The major mechanism for the formation of NO_2 in the atmosphere is the oxidation of the primary air pollutant nitrous oxide (N_2O), which is a colorless, odorless gas. NO_x plays a major role, together with VOCs, in the atmospheric reactions that produce O_3. NO_x is formed from fuel combustion under high temperature or pressure. In addition, NO_x is an important precursor to acid rain and may affect both terrestrial and aquatic ecosystems. The two major emissions sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers.

NO_2 can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections (EPA 2025a).

3.1.1.3 CARBON MONOXIDE

CO is a colorless, odorless gas formed by the incomplete combustion of hydrocarbon, or fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In urban areas automobile exhaust accounts for the majority of CO emissions. CO is a nonreactive air pollutant that dissipates relatively quickly; therefore, ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions—primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, which is a typical situation at dusk in urban areas from November to February. The highest levels of CO typically occur during the colder months of the year, when inversion conditions are more frequent.

In terms of adverse health effects, CO competes with oxygen, often replacing it in the blood, reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, impairment of central nervous system functions, and death (EPA 2025a).

3.1.1.4 SULFUR DIOXIDE

SO_2 is a colorless, pungent gas formed primarily from incomplete combustion of sulfur-containing fossil fuels. The main sources of SO_2 are coal and oil used in power plants and industries; as such, the highest levels of SO_2 are generally found near large industrial complexes. In recent years, SO_2 concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO_2 and limits on the sulfur content of fuels.

SO_2 is an irritant gas that attacks the throat and lungs and can cause acute respiratory symptoms and diminished ventilator function in children. When combined with PM, SO_2 can injure lung tissue and reduce visibility and the level of sunlight. SO_2 can also yellow plant leaves and erode iron and steel (EPA 2025a).

3.1.1.5 PARTICULATE MATTER

PM pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. Particulate matter less than 2.5 microns in diameter ($PM_{2.5}$; aka fine) and PM less than 10 microns in diameter (PM_{10}; aka coarse) represent fractions of PM. PM_{10} is about $^1/_7$ the thickness of a human hair. Major sources of PM_{10} include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood-burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush and waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. $PM_{2.5}$ is roughly $^1/_{28}$ the diameter of a human hair. $PM_{2.5}$ results from fuel combustion (e.g., from motor vehicles and power generation and industrial facilities), residential fireplaces, and woodstoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as sulfur oxides (SO_x), NO_x, and VOCs.

$PM_{2.5}$ and PM_{10} pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. $PM_{2.5}$ and PM_{10} can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances such as lead, sulfates, and nitrates can cause lung damage directly or be absorbed into the bloodstream, causing damage elsewhere in the body. Additionally, these substances can transport adsorbed gases such as chlorides or ammonium into the lungs, also causing injury. Whereas PM_{10} tends to collect in the upper portion of the respiratory system, $PM_{2.5}$ is so tiny that it can penetrate deeper into the lungs and damage lung tissue. Suspended particulates also damage and discolor surfaces on which they settle and produce haze and reduce regional visibility.

People with influenza, people with chronic respiratory and cardiovascular diseases, and the elderly may suffer worsening illness and premature death as a result of breathing PM. People with bronchitis can expect aggravated symptoms from breathing in PM. Children may experience a decline in lung function due to breathing in $PM_{2.5}$ and PM_{10} (EPA 2025a).

3.1.1.6 LEAD

Lead in the atmosphere occurs as PM. Sources of lead include leaded gasoline; the manufacturing of batteries, paints, ink, ceramics, and ammunition; and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phaseout of leaded gasoline reduced the overall inventory of airborne lead by nearly 95%. With the phaseout of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities are becoming lead-emissions sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance, including intelligence quotient performance, psychomotor performance, reaction time, and growth. Children are highly susceptible to the effects of lead (EPA 2025a).

3.1.1.7 OTHERS

Sulfates. Sulfates are the fully oxidized form of sulfur, which typically occur in combination with metals or hydrogen ions. Sulfates are produced from reactions of SO_2 in the atmosphere. Sulfates can result in respiratory impairment, as well as reduced atmospheric visibility.

Vinyl Chloride. Vinyl chloride is a colorless gas with a mild, sweet odor, which has been detected near landfills, sewage plants, and hazardous waste sites, due to the microbial breakdown of chlorinated solvents. Short-term exposure to high levels of vinyl chloride in air can cause nervous system effects, such as dizziness, drowsiness, and headaches. Long-term exposure through inhalation can cause liver damage, including liver cancer.

Hydrogen Sulfide. H_2S is a colorless and flammable gas that has a characteristic odor of rotten eggs. Sources of H_2S include geothermal power plants, petroleum refineries, sewers, and sewage treatment plants. Exposure to H_2S can result in nuisance odors, as well as headaches and breathing difficulties at higher concentrations.

3.1.2 Volatile Organic Compounds

VOCs are typically formed from combustion of fuels and/or released through evaporation of organic liquids. Some VOCs are also classified by the state of California as TACs. Although there are no specific VOC ambient air quality standards, VOC is a prime component (along with NO_x) of the photochemical processes by which such criteria pollutants as O_3, NO_2, and certain fine particles are formed. They are, thus, regulated as "precursors" to the formation of those criteria pollutants.

3.1.3 Toxic Air Contaminants

TACs refer to a diverse group of "non-criteria" air pollutants that can affect human health but have not had ambient air quality standards established for them. This is not because they are fundamentally different from the pollutants discussed above but because their effects tend to be local rather than regional. TACs are identified by federal and state agencies based on a review of available scientific evidence. In the state of California, TACs are identified through a two-step process that was established in 1983 under the Toxic Air Contaminant Identification and Control Act (Assembly Bill [AB] 1807). This two-step process of risk identification and risk management and reduction was designed to protect residents from the health effects of toxic substances in the air. In addition, the California Air Toxics "Hot Spots" Information and Assessment Act AB 2588, was enacted by the state legislature in 1987 to address public concern over the release of TACs into the atmosphere. The law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emissions sources, location of resulting hot spots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over 5 years.

The federal TACs are air pollutants that may cause or contribute to an increase in mortality or serious illness, or which may pose a hazard to human health, although there are no ambient standards established for TACs. Many pollutants are identified as TACs because of their potential to increase the risk of developing cancer or other acute (short-term) or chronic (long-term) health problems. For TACs that are known or suspected carcinogens, the CARB has consistently found that there are no levels or thresholds below which exposure is risk free. Individual TACs vary greatly in the risks they present; at a given level of exposure, one TAC may pose a hazard that is many times greater than another. For certain TACs, a unit risk factor can be developed to evaluate cancer risk. For acute and chronic health effects, a similar factor, called a Hazard Index, is used to evaluate risk. TACs are identified and their toxicity is studied by the California Office of Environmental Health Hazard Assessment (OEHHA). Examples of TAC sources include industrial processes, dry cleaners, gasoline stations, paint and solvent operations, and fossil fuel combustion sources. The TAC that is relevant to the implementation of the project is diesel particulate matter (DPM).

DPM was identified as a TAC by the CARB in August 1998 (CARB 1998). DPM is emitted from both mobile and stationary sources. In California, on-road, diesel-fueled vehicles contribute approximately 40% of the statewide total, with an additional 57% attributed to other mobile sources such as construction and mining equipment, agricultural equipment, and transport refrigeration units (TRUs). Stationary sources, contributing about 3% of emissions, include shipyards, warehouses, heavy-equipment repair yards, and oil and gas production operations. Emissions from these sources are from diesel-fueled internal combustion engines. Stationary sources that report DPM emissions also include heavy construction, manufacturers of asphalt paving materials and blocks, and diesel-fueled electrical generation facilities.

Exposure to DPM can have immediate health effects. DPM can have a range of health effects including irritation of eyes, throat, and lungs, all of which can cause headaches, lightheadedness, and nausea. Exposure to DPM also causes inflammation in the lungs, which may aggravate chronic respiratory symptoms and increase the frequency or intensity of asthma attacks. Children, the elderly, and people with emphysema, asthma, and chronic heart and lung disease are especially sensitive to fine-particle pollution. In California, DPM has been identified as a carcinogen.

CARB has adopted and implemented a number of regulations to reduce emissions of DPM from stationary and mobile sources. Several of these regulatory programs affect medium- and heavy-duty diesel trucks that represent the bulk of DPM emissions from California highways. These regulations include the solid waste collection vehicle rule, in-use public and utility fleets, and the heavy-duty diesel truck and bus regulations. In 2008, CARB approved a new regulation to reduce emissions of DPM and NO_x from existing on-road, heavy-duty, diesel-fueled vehicles, including those used at construction sites. The regulation requires affected vehicles to meet specific performance requirements between 2014 and 2023, with all affected diesel vehicles required to have 2010 model-year engines or equivalent by 2023. Therefore, as of January 1, 2023, all trucks and buses are 2010 or newer model year engines.

Naturally occurring asbestos areas are identified based on the type of rock found in the area. Asbestos-containing rocks found in California are ultramafic rocks, including serpentine rocks. Asbestos has been designated a TAC by the CARB and is a known carcinogen. When this material is disturbed in connection with construction, grading, quarrying, or surface mining operations, asbestos-containing dust can be generated. Exposure to asbestos can result in adverse health effects such as lung cancer, mesothelioma (cancer of the linings of the lungs and abdomen), and asbestosis (scarring of lung tissues that results in constricted breathing) (Van Gosen and Clinkenbeard 2011).

Naturally occurring asbestos is prevalent in at least 44 of California's 58 counties. Asbestos is the name for a group of naturally occurring silicate minerals. Asbestos may be found in serpentine, other ultramafic, and volcanic rock. When rock containing naturally occurring asbestos is broken or crushed, asbestos may become released and become airborne, causing a potential health hazard. To reduce exposure to asbestos when these soils are disturbed CARB adopted the Airborne Toxic Control Measure for Construction, Grading, Quarrying and Surface Mining Operations. This statewide regulation is applicable to grading or any other projects disturbing soil in areas of California where asbestos may exist, as determined by the California Geological Survey. The Airborne Toxic Control Measure applies to any size construction project, although there are additional notification requirements for projects that exceed 1 acre. The project is not located in a geologic setting with a potential for asbestos to occur; therefore, asbestos will not be an issue for this project (CARB 2000a).

Table 1. State and Federal Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards	National Standards	
			Primary	Secondary
Ozone (O_3)	1 hour	0.09 ppm (180 μg/m³)	–	Same as Primary
	8 hour	0.070 ppm (137 μg/m³)	0.070 ppm (137 μg/m³)	
Coarse PM (PM_{10})	24 hour	50 μg/m³	150 μg/m³	Same as Primary
	Annual mean	20 μg/m³	–	
Fine PM ($PM_{2.5}$)	24 hour	–	35 μg/m³	Same as Primary
	Annual mean	12 μg/m³	9.0 μg/m³	15 μg/m³
Carbon monoxide (CO)	1 hour	20 ppm (23 μg/m³)	35 ppm (40 mg/m³)	–
	8 hour	9.0 ppm (10 mg/m³)	9 ppm (10 mg/m³)	–
	1 hour	0.18 ppm (339 μg/m³)	100 ppb (188 μg/m³)	–

Pollutant	Averaging Time	California Standards	National Standards	
			Primary	Secondary
Nitrogen dioxide (NO_2)	Annual mean	0.030 ppm (57 µg/m³)	0.053 ppm (100 µg/m³)	Same as Primary
Sulfur dioxide (SO_2)	1 hour	0.25 ppm (655 µg/m³)	75 ppb (196 µg/m³)	–
	3 hour	–	–	0.5 ppm (1,300 µg/m³)
	24 hour	0.04 ppm (105 µg/m³)	0.14 ppm	–
	Annual mean	–	0.030 ppm	–
Lead	30-day average	1.5 µg/m³	–	–
	Calendar quarter	–	1.5 µg/m³	Same as Primary
	Rolling 3-month average	–	0.15 µg/m³	Same as Primary
Visibility reducing particles	8 hour	10-mile visibility standard, extinction of 0.23 per kilometer	No National Standards	
Sulfates	24 hour	25 µg/m³		
Hydrogen sulfide (H_2S)	1 hour	0.03 ppm (42 µg/m³)		
Vinyl chloride	24 hour	0.01 ppm (265 µg/m³)		

Source: CARB (2024a).

Notes: ppm = parts per million; ppb = parts per billion; µg/m³ = micrograms per cubic meter; – = no standard.

3.1.4 Odors

A qualitative assessment should be made as to whether a project has the potential to generate odorous emissions of a type or quantity that could meet the statutory definition for nuisance, i.e., odors "which cause detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which may endanger the comfort, repose, health, or safety of any such person or the public, or which may cause, or have a natural tendency to cause, injury or damage to business or property" (Health and Safety Code § 41700). Although offensive odors usually do not cause any physical harm, they can be unpleasant enough to lead to considerable distress among the public and generate citizen complaints to local governments and the ICAPCD. The Air District's Rule 407 (Nuisance) also prohibits any person or source from emitting air contaminants that cause detriment, nuisance, or annoyance to a considerable number of persons or the public. This rule does not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of animals. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

3.2 Existing Air Quality Conditions in the Project Area

3.2.1 Regional Air Quality

The CARB divides the state into air basins that share similar meteorological and topographical features. Imperial County, which extends over 4,482 square miles in the southeastern corner of California, lies in the SSAB, which includes the Imperial Valley and the central part of Riverside County, including the Coachella Valley. The region is characterized by the large-scale sinking and warming of air within the semipermanent subtropical high-pressure center over the Pacific Ocean. The elevation in Imperial County ranges from about 230 feet below sea level in the Salton Sea to more than 2,800 feet above sea level on the mountain summits to the east. The flat terrain near the Salton Sea, intense heat from the sun during the day, and strong radiational cooling at night create deep convective thermals during the daytime and equally strong surface-based temperature inversions at night. The temperature inversions and light nighttime winds trap any local air pollution emissions near the ground. The area is subject to frequent hazy conditions at sunrise, followed by rapid daytime dissipation as winds pick up and the temperature warms. The lack of clouds and atmospheric moisture creates strong diurnal and seasonal temperature variations ranging from an average summer maximum of 108 degrees Fahrenheit (°F) down to a winter morning minimum of 38°F.

The most pleasant weather occurs from about mid-October to early May when daily highs are in the 70s and 80s with very infrequent cloudiness or rainfall. Imperial County experiences rainfall on an average of only four times per year (>0.10 inch in 24 hours). The local area usually has 3 days of rain in winter and 1 thunderstorm day in August. The annual rainfall in this region is less than 3 inches per year (ICAPCD 2010). Winds in the area are driven by a complex pattern of local, regional, and global forces, but primarily reflect the temperature difference between the cool ocean to the west and the heated interior of the entire desert southwest. For much of the year, winds flow predominantly from the west to the east. In summer, intense solar heating in the Imperial Valley creates a more localized wind pattern, as air comes up from the southeast via the Gulf of California. During periods of strong solar heating and intense convection, turbulent motion creates good mixing and low levels of air pollution. However, even strong turbulent mixing is insufficient to overcome the limited air pollution controls on sources in the Mexicali, Mexico area.

Imperial County is predominately agricultural land. This is a factor in the cumulative air quality of the SSAB. The agricultural production generates dust and small PM through the use of agricultural equipment on unpaved roads, land preparation, and harvest practices. Imperial County experiences unhealthful air quality from photochemical smog and from dust due to extensive surface disturbance and the very arid climate (ICAPCD 2010). The entire county is affected by inversion layers, where warm air overlays cooler air. Inversion layers trap pollutants close to the ground. In the winter, these pollutant-trapping, ground-based inversions are formed during windless, clear-sky conditions, as cold air collects in low-lying areas such as valleys and canyons. Imperial County experiences surface inversions almost every day of the year. Due to strong surface heating, these inversions are usually broken, allowing pollutants to be more easily dispersed during daytime hours (ICAPCD 2010).

The local meteorology of the project area and surrounding area is represented by measurements recorded at the National Climatic Data Center (NCDC) Mecca Fire Station meteorological station. The normal annual precipitation is approximately 3.15 inches. January temperatures range from a normal minimum of 40.1°F to a normal maximum of 72.1°F. July temperatures range from a normal minimum of 75.2°F to a normal maximum of 108.7°F (NCDC 2023). The prevailing wind direction is from the west (Western Regional Climate Center 2002).

3.2.2 Regional Attainment Status

Depending on whether the applicable ambient air quality standards are met or exceeded, the SSAB is classified on a federal and state level as being in “attainment” or “nonattainment.” The EPA and CARB determine the air quality attainment status of designated areas by comparing ambient air quality measurements from state and local ambient air monitoring stations with the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS). These designations are determined on a pollutant-by-pollutant basis. Consistent with federal requirements, an unclassifiable or unclassified designation is treated as an attainment designation. The project region is designated as a nonattainment area for the federal and state O_3 and maintenance for state PM_{10} standards. Therefore, is considered an "attainment/unclassified" area for all other pollutants (EPA 2025b).

3.2.3 Local Air Quality

Air pollutants emissions are generated in the local vicinity by stationary and area-wide sources, such as commercial and industrial activity, agriculture, space and water heating, landscape maintenance, consumer products, and mobile sources primarily consisting of automobile traffic. Area-wide sources are the primary source of pollutants in the local vicinity.

3.2.3.1 EXISTING CRITERIA POLLUTANT LEVELS AT NEARBY MONITORING STATIONS

Existing levels of ambient air quality and historical trends and projections in the vicinity of the project area have been documented and measured by CARB. The nearest station is the Westmoreland Monitoring Station, which monitors O_3 and PM_{10}. Data from this monitoring station are summarized in Table 2. The data show violations of the state PM_{10} standard and federal and state O_3. The ICAPCD and CARB identified direct PM_{10} sources, such as fugitive dust sources (e.g., farming, construction, and vehicle travel over paved and unpaved roads) and windblown dust as two principal sources of PM_{10} emissions causing or contributing to PM_{10} exceedances in the nonattainment area. The ICAPCD and CARB found that secondarily formed PM_{10} (i.e., PM_{10} derived from PM_{10} precursors such as NO_X and SO_2) contributed little to exceedances in the nonattainment area. The air quality data collected by CARB in Table 2 include exceptional events, including wind and wildfires. The GHG inventory for California for years 2018 through 2022 is presented in Source: CARB 2025.

Notes: ppm = parts per million; μg/m^3 = micrograms per cubic meter.

Data for O_3 and PM_{10} were obtained from the Imperial County Westmoreland Monitoring Station.

Table 3. The national and state criteria pollutants and the applicable ambient air quality standards are listed above in Table 1.

Table 2. Summary of Ambient Air Quality Monitoring Summary

Pollutant	Averaging Period and Standards	Year		
		2021	2022	2023
O_3	Maximum 1-hour concentration (ppm)	0.081	0.085	0.090
	Days exceeding CAAQS (0.09 ppm)	0	0	0
	Maximum 8-hour concentration (ppm)	0.072	0.067	0.084
	Days exceeding NAAQS (0.07 ppm)	1	0	6
	Days exceeding CAAQS (0.07 ppm)	1	0	6
PM10	Maximum 24-hour concentration (μg/m^3)	547.1	867.2	610.2
	Days exceeding NAAQS (150 μg/m^3)	3	19	14
	Days exceeding CAAQS (50 μg/m^3)	104	123	82

Source: CARB 2025.

Notes: ppm = parts per million; μg/m^3 = micrograms per cubic meter.

Data for O_3 and PM_{10} were obtained from the Imperial County Westmoreland Monitoring Station.

Table 3. California Greenhouse Gas Inventory

Parameter	Unit*	Year				
		2018	2019	2020	2021	2022
Transportation	MMT CO_2e	164.8	161.7	135.2	145.1	139.9
	Percent	40.2%	40.1%	36.7%	38.2%	37.7%
Electric power	MMT CO_2e	65.0	60.2	59.5	62.3	59.8
	Percent	15.8%	14.9%	16.1%	16.4%	16.1%

Parameter	Unit*	Year				
		2018	**2019**	**2020**	**2021**	**2022**
Industrial	MMT CO_2e	82.3	80.9	73.6	74.2	72.7
	Percent	20.0%	20.0%	20.0%	19.5%	19.6%
Commercial and residential	MMT CO_2e	37.5	40.6	39.0	38.8	39.5
	Percent	9.1%	10.1%	10.6%	10.2%	10.6%
Agriculture	MMT CO_2e	32.0	31.2	31.4	30.4	29.8
	Percent	7.8%	7.7%	8.5%	8.0%	8.0%
High global warming potential	MMT CO_2e	20.6	20.8	21.3	21.3	21.3
	Percent	5.0%	5.1%	5.8%	5.6%	5.7%
Recycle and waste	MMT CO_2e	8.2	8.3	8.5	8.3	8.2
	Percent	2.0%	2.0%	2.3%	2.2%	2.2%
Total net emissions	**MMT CO_2e**	**410.5**	**403.7**	**368.5**	**380.4**	**371.1**

Source: California GHG Inventory for 2000–2022 (CARB 2024b)

* MMT CO_2e = million metric tons carbon dioxide equivalent

3.2.3.2 EXISTING HEALTH RISK IN THE PROJECT VICINITY

OEHHA, on behalf of the California Environmental Protection Agency (CalEPA), provides a screening tool called CalEnviroScreen that can be used to help identify California communities disproportionately burdened by multiple sources of pollution. The project site is located in Census Tract 6025012301, which has 4,984 people. To determine the existing level of TACs in the area, the CalEnviroScreen indicator that represents modeled air concentration of chemical releases from large facility emissions in and nearby the census tract was identified. This indicator uses the air concentration and toxicity of the chemical to determine the chemical's toxic release score. The data is averaged over 2017 to 2019, and the toxic release indicator scores range from 0 to 96,985. The score for this census tract is 12.58, which means the toxic release percentile for this census tract is 9, or higher than 9% of the census tracts in California (OEHHA 2021).

Because DPM is also a TAC, the CalEnviroScreen for DPM was determined. This indicator represents how much DPM is emitted into the air within and near the populated parts of the census tracts. The data from 2016 indicate that sources of DPM within and nearby the populated parts of this census tract emit 0.007 tons per year. The DPM percentile for this census tract is 3, meaning it is higher than 3% of the census tracts in California. Diesel emissions in California counties range between 0 and 15 tons per year. These indicators show that health risk in the project vicinity is low. Overall, according to CalEnviroScreen, the project is located in the 36th percentile, which means that the project area is lower than average pollution burden in comparison to other communities within California (OEHHA 2021).

3.2.3.3 SENSITIVE USES

Some population groups, including children, elderly, and acutely and chronically ill persons (especially those with cardiorespiratory diseases), are considered more sensitive to air pollution than others.
A sensitive receptor is a person in the population who is particularly susceptible to health effects due to exposure to an air contaminant. The following are land uses where sensitive receptors are typically located:

- Schools, playgrounds, and childcare centers
- Long-term health care facilities
- Rehabilitation centers
- Convalescent centers
- Hospitals
- Retirement homes
- Residences

The project site is in a rural area, and the closest sensitive receptor to the project site is a residence approximately 500 feet west of the project site, with the next closest residence more than 1,500 feet from the project site. All other air quality sensitive receptors are at greater distances from the project site and would be less impacted by project emissions. Implementation of the proposed project would not result in the long-term operation of any emission sources that would adversely affect nearby sensitive receptors. Short-term (12–18 months) construction activities could result in temporary increases in pollutant concentrations.

3.3 Greenhouse Gas Setting

Global climate change refers to the changes in average climatic conditions on Earth as a whole, including changes in temperature, wind patterns, precipitation, and storms. Global warming, a related concept, is the observed increase in the average temperature of the Earth's atmosphere and oceans in recent decades. There is a general scientific consensus that global climate change is occurring, caused in whole or in part by increased emissions of GHGs that keep the Earth's surface warm by trapping heat in the Earth's atmosphere, in much the same way as glass traps heat in a greenhouse. The Earth's climate is changing because human activities, primarily the combustion of fossil fuels, are altering the chemical composition of the atmosphere through the buildup of GHGs. GHGs are released by the combustion of fossil fuels, land clearing, agriculture, and other activities, and lead to an increase in the greenhouse effect. Although climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 has led to increased efforts devoted to GHG emissions reduction and climate change research and policy.

Regarding the adverse effects of global warming, as reported by AB 2538: "Global warming poses a serious threat to the economic well-being, public health, natural resources and the environment of California." Over the past few decades, energy intensity of the national and state economy has been declining due to the shift to a more service-oriented economy. California ranked fifth lowest among the States in carbon dioxide (CO_2) emissions from fossil fuel consumption per unit of gross state product. However, in terms of total CO_2 emissions California is second only to Texas in the nation and is the 16th largest source of greenhouse gas emissions in the world, exceeding most nations.

3.3.1 Greenhouse Gas Background

GHGs include CO_2, methane (CH_4), N_2O, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). CO_2 is the most abundant GHG. Other GHGs are less abundant but have higher global warming potential (GWP) than CO_2. Thus, emissions of other GHGs are frequently expressed in the equivalent mass of CO_2, denoted as CO_2 equivalent (CO_2e). Forest fires, decomposition, industrial processes, landfills, and consumption of fossil fuels for power generation, transportation, heating, and cooking are the primary sources of GHG emissions. The primary GHGs attributed to global climate change are described below.

3.3.1.1 CARBON DIOXIDE

In the atmosphere, carbon generally exists in its oxidized form, as CO_2. Natural sources of CO_2 include the respiration (breathing) of humans, animals, and plants; volcanic outgassing; decomposition of organic matter; and evaporation from the oceans. Anthropogenic sources of CO_2 include the combustion of fossil fuels and wood, waste incineration, mineral production, and deforestation. Anthropogenic sources of CO_2 amount to over 30 billion tons per year, globally (Friedlingstein et al. 2022). Natural sources release substantially larger amounts of CO_2. However, natural removal processes, such as photosynthesis by land- and ocean-dwelling plant species, cannot keep pace with this extra input of human-made CO_2. Consequently, the gas is building up in the atmosphere.

3.3.1.1.1 Methane

CH_4 is produced when organic matter decomposes in environments lacking sufficient oxygen. Natural sources include wetlands, termites, and oceans. Decomposition occurring in landfills accounts for the majority of human-generated CH_4 emissions in California and in the United States as a whole. Agricultural processes such as intestinal fermentation in livestock, manure management, and rice cultivation are also significant sources of CH_4 in California.

3.3.1.1.2 Nitrous Oxide (N_2O)

N_2O is produced naturally by a wide variety of biological sources, particularly microbial action in soils and water. Tropical soils and oceans account for the majority of natural source emissions. N_2O is a product of the reaction that occurs between nitrogen and oxygen during fuel combustion. Both mobile and stationary combustion produce N_2O, and the quantity emitted varies according to the type of fuel, technology, and pollution control device used, as well as maintenance and operating practices. Agricultural soil management and fossil fuel combustion are the primary sources of human-generated N_2O emissions in California.

3.3.1.1.3 Hydrofluorocarbons, Perfluorocarbons, Sulfur Hexafluoride

HFCs are used primarily as substitutes for ozone-depleting substances regulated under the Montreal Protocol (UNEP 1987), an international treaty that was approved on January 1, 1989, and was designated to protect the ozone layer by phasing out the production of several groups of halogenated hydrocarbons believed to be responsible for ozone depletion. PFCs and SF_6 are emitted from various industrial processes, including aluminum smelting, semiconductor manufacturing, electric power transmission and distribution, and magnesium casting. There is no primary aluminum or magnesium production in California; however, the rapid growth in the semiconductor industry leads to greater use of PFCs.

The magnitude of the impact on global warming differs among the GHGs. The effect each GHG has on climate change is measured as a combination of the volume of its emissions and its GWP. GWPs are one type of simplified index based upon radiative properties used to estimate the potential future impacts of emissions of different gases upon the climate system, expressed as a function of how much warming would be caused by the same mass of CO_2. Thus, GHG emissions are typically measured in terms of pounds or tons of CO_2e. GWPs are based on a number of factors, including the radiative efficiency (heat-absorbing ability) of each gas relative to that of CO_2, as well as the decay rate of each gas (the amount removed from the atmosphere over a given number of years) relative to that of CO_2. The larger GWP, the more that a given gas warms the Earth compared to CO_2 over that time period. HFCs, PFCs, and SF_6 have a greater GWP than CO_2. In other words, these other GHGs have a greater contribution to global warming than CO_2 on a per-mass basis. However, CO_2 has the greatest impact on global warming because of the relatively large quantities of CO_2 emitted into the atmosphere.

A summary of the atmospheric lifetime and GWP of selected gases is presented in Table 4. As indicated in this table, GWPs range from 1 to 23,500 based on IPCC Assessment Reports. IPCC has released three assessment reports (AR4, AR5, and AR6) with updated GWPs, however, CARB reports the statewide GHG inventory using the AR4 GWPs, which is consistent with international reporting standards. By applying the GWP ratios, project-related equivalent mass of CO_2, denoted as CO_2e emissions can be tabulated in metric tons (MT) per year.

Table 4. Global Warming Potentials

Greenhouse Gas	GWP Values for 100-year Time Horizon		
	AR4*	AR5	AR6
Carbon dioxide (CO_2)	1	1	1
Methane (CH_4)	25	28	Fossil origin – 29.8 Non-fossil origin – 27.2
Nitrous oxide (N_2O)	298	265	273
Select hydrofluorocarbons (HFCs)	124–14,800	4–12,400	–
Sulfur hexafluoride (SF_6)	22,800	23,500	–

Sources: IPCC (2007, 2013, 2021).

* For consistency with the EPA and its Inventory of Greenhouse Gas Reporting, we have represented values from AR4 of the IPCC report in this report.

3.3.2 Greenhouse Gas Emissions Inventories

3.3.2.1 UNITED STATES GHG EMISSIONS

Per the EPA's *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2022* (EPA 2024), In 2022, total gross U.S. greenhouse gas emissions were 6,343.2 million metric tons (MMT) of CO_2e. Total gross U.S. emissions decreased by 3.0 percent from 1990 to 2022, down from a high of 15.2% above 1990 levels in 2007. Gross emissions increased from 2021 to 2022 by 0.2% (14.4 MMT CO_2e). Net emissions (including sinks) were 5,489.0 MMT CO_2e in 2022. Overall, net emissions increased by 1.3% from 2021 to 2022 and decreased by 16.7% from 2005 levels. Between 2021 and 2022, the increase in total greenhouse gas emissions was driven largely by an increase in CO_2 emissions from fossil fuel combustion across most end-use sectors due in part to increased energy use from the continued rebound of economic activity after the height of the COVID-19 pandemic. In 2022, CO_2 emissions from fossil fuel combustion increased by 1.0% relative to the previous year and were 1.1% below emissions in 1990. Carbon dioxide emissions from natural gas use increased by 5.2% (84.8 MMT CO_2e) from 2021, while CO_2 emissions from coal consumption decreased by 6.1% (58.6 MMT CO_2e) from 2021 to 2022. The increase in natural gas consumption and associated emissions in 2022 is observed across all sectors except U.S. Territories, while the coal decrease is due to reduced use in the electric power sector. Emissions from petroleum use also increased by 0.9% (19.0 MMT CO_2e) from 2021 to 2022.

3.3.2.2 STATEWIDE GHG EMISSIONS

According to California's 2000–2022 GHG emissions inventory, California emitted 371.1 MMT CO_2e in 2022 (CARB 2024b). The sources of GHG emissions in California include transportation, industrial uses, electric power production from both in-state and out-of-state sources, commercial and residential uses, agriculture, high global-warming potential substances, and recycling and waste. The California GHG emission source categories (as defined in CARB's 2008 Scoping Plan [CARB 2009]) and their relative contributions in 2022 are presented in Source: CARB 2025.

Notes: ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter.

Data for O_3 and PM_{10} were obtained from the Imperial County Westmoreland Monitoring Station.

Table 3 (above). Total GHG emissions in 2022 were approximately 42.9 MMT CO_2e less than 2016 emissions. The 2016 statewide GHG inventory fell below 1990 levels, consistent with the California Global Warming Solutions Act of 2006 (AB 32). The declining trend in GHG emissions, coupled with programs that will continue to provide additional GHG reductions going forward, demonstrates that California will continue to reduce emissions below the 2020 target of 431 MMT CO_2e (CARB 2024a).

4 REGULATORY SETTING

Federal, state, and local agencies have set ambient air quality standards for certain air pollutants through statutory requirements and have established regulations and various plans and policies to maintain and improve air quality, as described below.

4.1 Federal

4.1.1 Federal Clean Air Act

4.1.1.1 AIR QUALITY

The federal Clean Air Act (CAA), which was passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. The CAA delegates primary responsibility for clean air to the EPA. The EPA develops rules and regulations to preserve and improve air quality and delegates specific responsibilities to state and local agencies. Under the act, the EPA has established the NAAQS for six criteria air pollutants that are pervasive in urban environments and for which state and national health-based ambient air quality standards have been established. Ozone (O_3), CO, NO_2, SO_2, lead, and both PMs combined are the six criteria air pollutants. O_3 is a secondary pollutant; NO_X and VOCs are of particular interest as they are precursors to O_3 formation. The NAAQS are divided into primary and secondary standards; the primary standards are set to protect human health within an adequate margin of safety, and the secondary standards are set to protect environmental values, such as plant and animal life. The standards for all criteria pollutants are presented in Table 1 (above).

The CAA requires the EPA to designate areas as attainment, nonattainment, or maintenance (previously nonattainment and currently attainment) for each criteria pollutant based on whether the NAAQS have been achieved. The act also mandates that the State submit and implement a State Implementation Plan (SIP) for areas not meeting the NAAQS. These plans must include pollution control measures that demonstrate how the standards will be met.

4.1.1.2 GREENHOUSE GAS EMISSIONS

The Supreme Court of the United States (SCOTUS) ruled in Massachusetts v. Environmental Protection Agency, 127 S. Ct. 1438 (2007), that CO_2 and other GHGs are pollutants under the federal CAA, which the EPA must regulate if it determines they pose an endangerment to public health or welfare. SCOTUS did not mandate that the EPA enact regulations to reduce GHG emissions. Instead, SCOTUS found that the EPA could avoid taking action if it found that GHGs do not contribute to climate change or if it offered a “reasonable explanation” for not determining that GHGs contribute to climate change.

On April 17, 2009, the EPA issued a proposed finding that GHGs contribute to air pollution that may endanger public health or welfare. On April 24, 2009, the proposed rule was published in the *Federal Register* under Docket ID No. EPA-HQ-OAR-2009~0171. The EPA stated that high atmospheric levels of GHGs "are the unambiguous result of human emissions and are very likely the cause of the observed increase in average temperatures and other climatic changes." The EPA further found that "atmospheric concentrations of greenhouse gases endanger public health and welfare within the meaning of Section 202 of the Clean Air Act." The findings were signed by the EPA Administrator on December 7, 2009. The final findings were published in the *Federal Register* on December 15, 2009. The final rule was effective on January 14, 2010. Although these findings alone do not impose any requirements on industry or other entities, this action is a prerequisite to regulatory actions by the EPA, including, but not limited to, GHG emissions standards for light-duty vehicles.

On July 20, 2011, the EPA published its final rule deferring GHG permitting requirements for CO_2 emissions from biomass-fired and other biogenic sources until July 21, 2014. Environmental groups challenged the deferral. In September 2011, EPA released Accounting Framework for Biogenic CO_2 Emissions from Stationary Sources (EPA 2011), which analyzes accounting methodologies and suggests implementation for biogenic CO_2 emitted from stationary sources.

On April 4, 2012, the EPA published a proposed rule to establish, for the first time, a new source performance standard for GHG emissions (40 CFR Parts 85, 86, and 600 and 49 CFR Parts 531, 533, 536, 537 and 538). Under the proposed rule, new fossil fuel–fired generating units larger than 25 MW are required to limit emissions to 1,000 pounds of CO_2 per megawatt-hour on an average annual basis, subject to certain exceptions.

4.1.2 Toxic Substance Control Act

The Toxic Substances Control Act (TSCA) of 1976 (15 United States Code) provides the EPA with authority to require reporting, record-keeping and testing requirements, and restrictions relating to chemical substances and/or mixtures. TSCA became law on October 11, 1976, and it became effective on January 1, 1977. The TSCA authorized the EPA to secure information on all new and existing chemical substances, as well as to control any of the substances that were determined to cause unreasonable risk to public health or the environment. Congress later added additional titles to the TSCA, with this original part designated at Title I – Control of Hazardous Substances. TSCA regulatory authority and program implementation rests predominantly with the federal government (i.e., the EPA). However, the EPA can authorize states to operate their own, EPA-authorized programs for some portions of the statute. TSCA Title IV allows states the flexibility to develop accreditation and certification programs and work practice standards for lead-related inspection, risk assessment, renovation, and abatement that are at least as protective as existing federal standards.

4.1.3 National Emission Standards for Hazardous Air Pollutants (Asbestos)

The EPA's air toxics regulation for asbestos is intended to minimize the release of asbestos fibers during activities involving the handling of asbestos. Asbestos was one of the first hazardous air pollutants regulated under the air toxics program, as there are major health effects associated with asbestos exposure (lung cancer, mesothelioma, and asbestosis). On March 31, 1971, the EPA identified asbestos as a hazardous pollutant, and on April 6, 1973, EPA promulgated the Asbestos National Emission Standards for Hazardous Air Pollutants (NESHAP), currently found in 40 Code of Federal Regulations Part 61(M). The Asbestos NESHAP has been amended several times, most comprehensively in November 1990. In 1995, the rule was amended to correct cross-reference citations to Occupational Safety and Health Administration, Department of Transportation, and other EPA rules governing asbestos. Air toxics regulations under the CAA have guidance on reducing asbestos in renovation and demolition of buildings; institutional, commercial, and industrial building; large-scale residential demolition; exceptions to the asbestos removal requirements; asbestos control methods; waste disposal and transportation; and milling, manufacturing, and fabrication.

4.2 State

4.2.1 California Clean Air Act

The California Clean Air Act (CCAA) was adopted by the CARB in 1988. The CCAA requires that all air districts in the state endeavor to achieve and maintain CAAQS for O_3, CO, SO_2, and NO_2 by the earliest practical date. The CCAA specifies that districts focus particular attention on reducing the emissions from transportation and area-wide emission sources, and the CCAA provides districts with authority to regulate indirect sources. The CARB and local air districts are responsible for achieving CAAQS, which are to be achieved through district-level air quality management plans (AQMPs) that would be incorporated into the SIP. In California, the EPA has delegated authority to prepare SIPs for CARB, which in turn, has delegated that authority to individual air districts. Each district plan is required to either 1) achieve a 5% annual reduction, averaged over consecutive 3-year periods, in districtwide emissions of each nonattainment pollutant or its precursors, or 2) to provide for implementation of all feasible measures to reduce emissions. Any planning effort for air quality attainment would thus need to consider both state and federal planning requirements.

The State of California began to set its ambient air quality standards (i.e., CAAQS) in 1969, under the mandate of the Mulford-Carrell Air Resources Act. The CCAA requires all air districts of the state to achieve and maintain the CAAQS by the earliest practical date. Table 1 (above) shows the CAAQS currently in effect for each of the criteria pollutants, as well as the other pollutants recognized by the state. As shown in Table 1, the CAAQS are generally more stringent than the corresponding federal standards and incorporate additional standards for sulfates, H_2S, vinyl chloride, and visibility-reducing particles.

California has also adopted a host of other regulations that reduce criteria pollutant emissions, including the following:

- Title 20 California Code of Regulations (CCR): Appliance Energy Efficiency Standards
- Title 24, Part 6, CCR: Building Energy Efficiency Standards
- Title 24, Part 11, CCR: Green Building Standards Code

4.2.2 California Code of Regulations

The CCR is the official compilation and publication of regulations adopted, amended, or repealed by the state agencies pursuant to the Administrative Procedure Act. The CCR includes regulations that pertain to air quality emissions. Specifically, 13 CCR Section 2485 states that the idling of all diesel-fueled commercial vehicles (weighing over 10,000 pounds) during construction shall be limited to 5 minutes at any location. In addition, 17 CCR Section 93115 states that operation of any stationary, diesel-fueled, compression-ignition engine shall meet specified fuel and fuel additive requirements and emission standards.

4.2.3 Toxic Air Contaminants Regulations

California regulates TACs primarily through the Toxic Air Contaminant Identification and Control Act of 1983 (AB 1807, also known as the Tanner Air Toxics Act) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588 – Connelly). In the early 1980s, the CARB established a statewide comprehensive air toxics program to reduce exposure to air toxics. The Tanner Air Toxics Act created

California's program to reduce exposure to air toxics. The Air Toxics "Hot Spots" Information and Assessment Act supplements the AB 1807 program by requiring a statewide air toxics inventory, notification of people exposed to a significant health risk, and facility plans to reduce these risks (CARB 2011).

In August 1998, CARB identified DPM emissions from diesel-fueled engines as a TAC. In September 2000, CARB approved a comprehensive diesel risk reduction plan to reduce emissions from both new and existing diesel-fueled engines and vehicles (CARB 2000b). The goal of the plan is to reduce DPM (inhalable PM) emissions and the associated health risk by 75% in 2010, and by 85% by 2020. The plan identified 14 measures that target new and existing on-road vehicles (e.g., heavy-duty trucks and buses, etc.), off-road equipment (e.g., graders, tractors, forklifts, sweepers, and boats), portable equipment (e.g., pumps, etc.), and stationary engines (e.g., stand-by power generators, etc.). During the control measure phase, specific statewide regulations designed to further reduce DPM emissions from diesel-fueled engines and vehicles were evaluated and developed. The goal of each regulation is to make diesel engines as clean as possible by establishing state-of-the-art technology requirements or emission standards to reduce DPM emissions. The project would be required to comply with applicable diesel control measures.

Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High-priority facilities are required to perform a health risk assessment, and if specific thresholds are exceeded, the facilities are required to communicate the results to the public through notices and public meetings.

CARB has promulgated the following specific rules to limit TAC emissions:

- 13 CCR Chapter 10, Section 2485, Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling
- 13 CCR Chapter 10, Section 2480, Airborne Toxic Control Measure to Limit School Bus Idling and Idling at Schools
- 13 CCR Section 2477 and Article 8, Airborne Toxic Control Measure for In-Use Diesel-Fueled TRUs and TRU Generator Sets and Facilities Where TRUs Operate

The proposed project would be required to comply with the applicable diesel control measures.

4.2.4 Executive Order S-3-05, Executive Order B-30-15, and Executive Order B-55-18

In 2005, the governor issued Executive Order (EO) S-3-05, establishing statewide GHG emissions reduction targets, as well as a process to ensure the targets are met. The order directed the Secretary of the CalEPA to report every 2 years on the state's progress toward meeting the governor's GHG emission reduction targets. The statewide GHG targets established by EO S-3-05 are as follows:

- By 2010, reduce to 2000 emission levels;
- By 2020, reduce to 1990 emission levels; and
- By 2050, reduce to 80% below 1990 levels.

EO B-30-15, issued by Governor Brown in April 2015, established an additional statewide policy goal to reduce GHG emissions 40% below their 1990 levels by 2030. Reducing GHG emissions by 40% below 1990 levels in 2030 and by 80% below 1990 levels by 2050 (consistent with EO S-3-05) aligns with scientifically established levels needed in the United States to limit global warming below 2 degrees Celsius (~35.6°F).

The state legislature adopted equivalent 2020 and 2030 statewide targets in the California Global Warming Solutions Act of 2006 (also known as AB 32) and Senate Bill (SB) 32, respectively, both of which are discussed below. However, the legislature has not yet adopted a target for the 2050 horizon year. As a result of EO S-3-05, the California Action Team (CAT), led by the Secretary of CalEPA, was formed. The CAT is made of representatives from a number of state agencies and was formed to implement global warming emission reduction programs and to report on the progress made toward meeting statewide targets established under the EO. The CAT reported several recommendations and strategies for reducing GHG emissions and reaching the targets established in the EO.

The CAT stated that "smart" land use is an umbrella term for strategies that integrate transportation and land use decisions. Such strategies generally encourage jobs and housing proximity, promote transit-oriented development, and encourage high-density residential and commercial development along transit corridors. These strategies develop more efficient land use patterns within each jurisdiction or region to match population increases, workforce, and socioeconomic needs for the full spectrum of the population. "Intelligent transportation systems" is the application of advanced technology systems and management strategies to improve operational efficiency of transportation systems and the movement of people, goods, and service.

EO B-55-18, issued by Governor Brown in September 2018, establishes a new statewide goal to achieve carbon neutrality as soon as possible, but no later than 2045, and achieve and maintain net negative emissions thereafter. Based on this EO, CARB would work with relevant state agencies to develop a framework for implementation and accounting that tracks progress toward this goal, as well as ensuring future scoping plans identify and recommend measures to achieve the carbon neutrality goal.

4.2.5 Assembly Bill 32 – California Global Warming Solution Act

The California Global Warming Solutions Act of 2006 (AB 32) commits the State to achieve the following:

- By 2010, reduce to 2000 GHG emission levels; and
- By 2020, reduce to 1990 levels.

To achieve these goals, which are consistent with the California CAT GHG targets for 2010 and 2020, AB 32 mandates that the CARB establish a quantified emissions cap; institute a schedule to meet the cap; implement regulations to reduce statewide GHG emissions from stationary sources consistent with the CAT strategies; and develop tracking, reporting, and enforcement mechanisms to ensure that reductions are achieved. To achieve the reductions, AB 32 requires CARB to adopt rules and regulations in an open, public process that achieves the maximum technologically feasible and cost-effective GHG reductions.

SB 32, signed on September 8, 2016, updates AB 32 to include an emissions reduction goal for the year 2030. Specifically, SB 32 requires CARB to ensure that statewide GHG emissions are reduced to 40% below the 1990 level by 2030. The new plan, outlined in SB 32, involves increasing renewable energy use, imposing tighter limits on the carbon content of gasoline and diesel fuel, putting more electric cars on the road, improving energy efficiency, and curbing emissions from key industries.

4.2.6 Climate Change Scoping Plan

In 2008, CARB approved a Climate Change Scoping Plan, as required by AB 32. Subsequently, CARB approved updates of the Climate Change Scoping Plan in 2014 (First Update) and 2017 (2017 Update), with the 2017 Update considering SB 32 (adopted in 2016) in addition to AB 32 (CARB 2014, 2017). The First Update highlights California's progress toward meeting the "near-term" 2020 GHG emission reduction goals (to the level of 427 MMT CO_2e) defined in the original Scoping Plan. It also evaluates how to align the state's longer-term GHG reduction strategies with other state policy priorities, such as for water, waste, natural resources, clean energy and transportation, and land use. In November 2022, the final *2022 Scoping Plan Update and Appendices* (2022 Scoping Plan Update; CARB 2022b) was released. This 2022 Scoping Plan Update assesses progress toward the statutory 2030 target and lays out a path to achieving carbon neutrality no later than 2045 (CARB 2022b). The 2022 Scoping Plan Update focuses on outcomes needed to achieve carbon neutrality by assessing paths for clean technology, energy deployment, natural and working lands, and others, and is designed to meet the state's long-term climate objectives and support a range of economic, environmental, energy security, environmental justice, and public health priorities.

4.2.7 Assembly Bill 197

AB 197, signed on September 8, 2016, is a bill linked to SB 32 that prioritizes efforts to reduce GHG emissions in low-income and minority communities. AB 197 requires the CARB to make available, and update at least annually on its website, the emissions of GHGs, criteria pollutants, and TACs for each facility that reports to CARB and air districts. In addition, AB 197 adds two members of the legislature to the CARB board as ex officio, non-voting members, and also creates the Joint Legislative Committee on Climate Change Policies to ascertain facts and make recommendations to the legislature concerning the state's programs, policies, and investments related to climate change.

4.2.8 Cap-and-Trade Program

The 2008 Climate Change Scoping Plan identified a cap-and-trade program as one of the strategies for California to reduce GHG emissions. The cap-and-trade program is a key element in California's climate plan. It sets a statewide limit on sources responsible for 85% of California's GHG emissions and establishes a price signal needed to drive long-term investment in cleaner fuels and more efficient use of energy. The cap-and-trade rules came into effect on January 1, 2013, and they apply to large electric power plants and large industrial plants. In 2015, fuel distributors, including distributors of heating and transportation fuels, also became subject to the cap-and-trade rules. At that stage, the program will encompass approximately 360 businesses throughout California and nearly 85% of the state's total GHG emissions. Covered entities subject to the cap-and-trade program are sources that emit more than 25,000 MT CO_2e per year. Triggering of the 25,000 MT CO_2e per year "inclusion threshold" is measured against a subset of emissions reported and verified under the California Regulation for the Mandatory Reporting of Greenhouse Gas Emissions.

Under the cap-and-trade regulation, companies must hold enough emission allowances to cover their emissions and are free to buy and sell allowances on the open market. California held its first auction of GHG allowances on November 14, 2012. California's GHG cap-and-trade system is projected to reduce GHG emissions to 1990 levels by the year 2020 and would achieve an approximate 80% reduction from 1990 levels by 2050.

4.2.9 California Renewables Portfolio Standard

The California Renewable Portfolio Standard (RPS) program (SB 1078; 2002) requires that 20% of the available energy supplies are from renewable energy sources by 2017. In 2006, SB 107 accelerated the 20% mandate to 2010. These mandates apply directly to investor-owned utilities. On April 12, 2011, Governor Brown signed into law SB 2X, which modified the California RPS program to require that both public- and investor-owned utilities in California receive at least 33% of their electricity from renewable sources by the year 2020. SB 2X also requires regulated sellers of electricity to meet an interim milestone of procuring 25% of their energy supply from certified renewable sources by 2016.

4.2.10 Senate Bill 350

SB 350, signed on October 7, 2015, is the clean Energy and Pollution Reduction Act of 2015. The objectives of SB 350 are 1) to increase the procurement of electricity from renewable sources from 33% to 50% by the end of 2030; and 2) to double the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation.

4.2.11 Senate Bill 100

SB 100, signed on September 10, 2018, is the 100 Percent Clean Energy Act of 2018. SB 100 updates the goals of California's RPS and SB 350, as discussed above, to the following: achieve a 50% renewable resources target by December 31, 2026; and achieve a 60% target by December 31, 2030. SB 100 also requires that eligible renewable energy resources and zero-carbon resources supply 100% of retail sales of electricity to California end-use customers and 100% procured to serve all state agencies by December 31, 2045.

4.2.12 Senate Bill 1368

SB 1368, signed on September 29, 2006, is a companion bill to AB 32, which requires the California Public Utilities Commission and the California Energy Commission (CEC) to establish GHG emission performance standards for the generation of electricity. These standards also generally apply to power that is generated outside of California and imported into the state. SB 1368 provides a mechanism for reducing the emissions from electricity providers, thereby assisting CARB to meet its mandate under AB 32. On January 25, 2007, the California Public Utilities Commission adopted an interim GHG emissions performance standard, which is a facility-based emission standard requiring that all new long-term commitments for baseload generation to serve California customers be with power plants that have GHG emissions no greater than a combined-cycle gas turbine plant. That level is established at 1,100 pounds of CO_2 per megawatt-hour. Furthermore, on May 23, 2007, the CEC adopted regulations that establish and implement an identical emissions performance standard of 1,100 pounds of CO_2 per MW-hour.

4.2.13 Assembly Bill 1493 (Pavley I)

AB 1493, passed in 2002, requires the development and adoption of regulations to achieve the maximum feasible reduction in GHG emitted by noncommercial passenger vehicles, light-duty trucks, and other vehicles used primarily for personal transportation in the state. CARB originally approved regulations to reduce GHG from passenger vehicles in September 2004, which took effect in 2009. On September 24, 2009, CARB adopted amendments to these regulations that reduce GHG emissions and new passenger vehicles from 2009 through 2016. Although setting emission standards on automobiles is solely the responsibility of the EPA, the federal CAA allows California to set state-specific emission standards on automobiles (after the state first obtains a waiver from the EPA. The EPA granted California that waiver until July 1, 2009. The comparison between the AB 1493 standards and the federal Corporate Average Fuel Economy standards was completed by CARB, and the analysis determined that the California emission standards were 16% more stringent through the 2016 model year and 18% more stringent for the 2020 model year. CARB is also committed to further strengthening these standards beginning with 2020 model year vehicles, to obtain a 45% GHG reduction in comparison to 2009 model years.

In March 2020, the EPA issued the Safer Affordable Fuel-Efficient Vehicles Rule, which would roll back fuel economy standards and revoke California's waiver. Under this rule, EPA would amend certain average fuel economy and GHG standards for passenger cars covering model years 2021 through 2026. In September 2019, the EPA withdrew the waiver they had previously provided in California for the state's GHG and Zero Emission Vehicle (ZEV) programs under Section 209 of the CAA. The withdrawal of the waiver became effective on November 26, 2019. In response, several states, including California, have filed a lawsuit challenging the withdrawal of the EPA waiver. These actions continue to be challenged in court. As noted above, on January 20, 2021, former President Biden issued an EO directing all executive departments and agencies to take action, as appropriate, to address federal regulations and other actions taken during the last 4 years that conflicted with the administration's climate and environmental justice goals, which include the Safer Affordable Fuel-Efficient Vehicles Rule.

4.2.14 Executive Order S-01-07 (California Low Carbon Fuel Standard)

EO S-01-07, the Low Carbon Fuel Standard (LCFS) (issued January 18, 2007), requires a reduction of at least 10% in the carbon intensity of California transportation fuels by 2020. Regulatory proceedings and implementation of the LCFS was directed to CARB. CARB released a draft version of the LCFS in October 2008. The final regulation was approved by the Office of Administrative Law and filed with the Secretary of State on January 12, 2010; the LCFS became effective on the same day.

The 2017 update has identified LCFS as a regulatory measure to reduce GHG emission to meet the 2030 emissions target. In calculating statewide emissions and targets, the 2017 update had assumed the LCFS would be extended to an 18% reduction in carbon intensity beyond 2020. On September 27, 2018, CARB approved a rulemaking package that amended the LCFS to relax the 2020 carbon intensity reduction from 10% to 7.5%, and to require a carbon intensity reduction of 20% by 2030.

4.2.15 Advanced Clean Car Regulations

In 2012, CARB approved the Advanced Clean Cars program, a new emissions control program for model years 2015 through 2025. The components of the advance clean car standards include the Low-Emission Vehicle regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the ZEV regulation, which requires manufacturers to produce an increasing number of pure ZEVs, with provisions to also produce plug-in hybrid electric vehicles in the 2018 through 2025 model years period. In March 2017, CARB voted unanimously to continue with the vehicle GHG emission standards and the ZEV programs for cars and light trucks sold in California through 2025.

4.2.16 Senate Bill 375

This bill requires CARB to set regional emissions reduction targets for passenger vehicles. The metropolitan planning organization for each region must then develop a Sustainable Communities Strategy (SCS) that integrates transportation, land use, and housing policies to plan how it will achieve the emissions target for its region. If the SCS is unable to achieve the regional GHG emissions reductions targets, then the metropolitan planning organization is required to prepare an alternative planning strategy that shows how the GHG emissions reduction target can be achieved through alternative development patterns, infrastructure, and/or transportation measures.

As required under SB 375, CARB is required to update regional GHG emission targets every 8 years, with last update formally adopted March 2018. As part of the 2018 update, CARB has adopted a passenger vehicle–related GHG reduction target of 19% by 2035 for the Southern California Association of Governments (SCAG) region, which is more stringent than the previous reduction target of 13% for 2035.

4.2.17 Senate Bill 97

SB 97 was enacted in 2007. SB 97 required the Governor's Office of Planning and Research (OPR) to develop, and the California Natural Resources Agency to adopt, amendments to the CEQA Guidelines (California Association of Environmental Professional 2024) addressing the analysis and mitigation of GHG emissions (OPR 2008, 2018). Those CEQA Guidelines amendments clarified several points (California Natural Resources Agency 2018), including the following:

- Lead agencies must analyze the GHG emissions of proposed projects and must reach a conclusion regarding the significance of those emissions.
- When a project's GHG emissions may be significant, lead agencies must consider a range of potential mitigation measures to reduce those emissions.
- Lead agencies must analyze potentially significant impacts associated with placing projects in hazardous locations, including locations potentially affected by climate change.
- Lead agencies may significantly streamline the analysis of GHGs on a project level by using a programmatic GHG emissions reduction plan meeting certain criteria.
- CEQA mandates analysis of a proposed project's potential energy use (including transportation-related energy), sources of energy supply and ways to reduce energy demand, including through the use of efficient transportation alternatives.

As part of the administrative rulemaking process, the California Natural Resources Agency developed a Final Statement of Reasons explaining the legal and factual basis, intent, and purpose of the CEQA Guidelines amendments. The amendments to the CEQA Guidelines implementing SB 97 became effective on March 18, 2010. SB 97 applies to any environmental impact report, negative declaration, mitigated negative declaration, or other document required by CEQA, which has not been finalized.

4.3 Regional

4.3.1 Imperial County Air Pollution Control District

The ICAPCD is the local air quality agency and shares responsibility with CARB for ensuring that state and federal ambient air quality standards are achieved and maintained in the SSAB. Furthermore, ICAPCD adopts and enforces controls on stationary sources of air pollutants through its permit and inspection programs and regulates agricultural burning. Other ICAPCD responsibilities include monitoring ambient air quality, preparing clean air plans, planning activities such as modeling and maintenance of the emission inventory, and responding to citizen air quality complaints.

The ICAPCD adopted its *CEQA Air Quality Handbook: Guidelines for the Implementation of the California Environmental Quality Act* in 2007 and amended the handbook in December 2017 (ICAPCD 2017). The handbook provides guidance on how to determine the significance of impacts, including air pollutant emissions, related to the development of residential, commercial, and industrial projects. Where impacts are determined to be significant, the ICAPCD CEQA Air Quality Handbook provides guidance to mitigate adverse impacts to air quality from development projects. The ICAPCD is the agency principally responsible for comprehensive air pollution control in the region.

The ICAPCD has developed plans and strategies to achieve attainment for air quality ambient standards. The latest plans include the following:

- 2009 Imperial County plan for PM_{10}

- 2012 Annual $PM_{2.5}$ SIP
- 2013 Plan for 2006 24-hour $PM_{2.5}$ for moderate nonattainment area
- 2017 Plan for 2008 8-hour ozone standard
- 2018 Redesignation Request and Maintenance Plan for PM_{10}

To achieve and maintain ambient air quality standards, the ICAPCD has adopted various rules and regulations for the control of airborne pollutants. The ICAPCD Rules and Regulations that are applicable to the project include, but are not limited to, ICAPCD Rule 801 requirements for construction activities. The purpose of this rule is to reduce the amount of PM_{10} entrained in the ambient air as a result of emissions generated from construction and other earthmoving activities by requiring actions to prevent, reduce, or mitigate PM_{10} emissions. In addition, the project is required to adopt best available control measures to minimize emissions from surface-disturbing activities to comply with ICAPCD Regulation VIII (Fugitive Dust Rules) detailed in Section 7.4 of this report.

In addition, there are other ICAPCD rules and regulations, not detailed here, which may apply to the project but are administrative or descriptive in nature. These include rules associated with fees, enforcement and penalty actions, and variance procedures.

4.3.2 Southern California Association of Governments

SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial Counties, and addresses regional issues relating to transportation, the economy, community development, and the environment. SCAG coordinates with various air quality and transportation stakeholders in Southern California to ensure compliance with the federal and state air quality requirements, including applicable federal, state, and air district laws and regulations. As the federally designated Metropolitan Planning Organization for the six-county Southern California region, SCAG is required by law to ensure that transportation activities conform to, and are supportive of, the goals of regional and state air quality plans to attain the NAAOS. In addition, SCAG is a co-producer, with South Coast Air Quality Management District (SCAQMD), of the transportation strategy and transportation control measure sections of the 2016 AQMP (SCAQMD 2017). The development of the 2016 AQMP relies on population and transportation growth projections contained in SCAG's 2016 through 2040 Regional Transportation Plan (RTP)/SCS (SCAG 2016).

On September 3, 2020, SCAG's Regional Council adopted an updated RTP/SCS known as the 2020–2045 RTP/SCS or Connect SoCal (SCAG 2020). As with the 2016–2020 RTP/SCS, the purpose of the 2020–2045 RTP/SCS is to meet the mobility needs of the six-county SCAG region over the subject planning period through a roadmap identifying sensible ways to expand transportation options, improve air quality, and bolster Southern California's long-term economic viability. On October 30, 2020, the CARB accepted SCAG's determination that the SCS met the applicable state GHG emissions targets. The goals and policies of the 2020–2045 RTP/SCS are similar to, and consistent with, those of the 2016–2040 RTP/SCS. In addition, CARB's new target requiring a 19% reduction in per capita GHG emissions has been included in the 2020–2045 RTP/SCS, to fulfill SB 375 compliance with respect to meeting the state's GHG emission reduction goals.

5 THRESHOLDS OF SIGNIFICANCE

5.1 Air Quality

Based on the environmental checklist presented in Appendix G of the State CEQA Guidelines, the project would have a significant impact on air quality if it would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Result in cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under applicable federal or state ambient air quality standards;
- Expose sensitive receptors to substantial pollutant concentrations; or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

A discussion of applicable thresholds of significance and significance determination follow.

The ICAPCD CEQA Air Quality Handbook was prepared to assist in the evaluation of air quality impacts of projects and plans proposed within Imperial County (ICAPCD 2017). The guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process, consistent with CEQA requirements, and includes recommended thresholds of significance, mitigation measures, and background air quality information. ICAPCD's air quality thresholds of significance are tied to achieving or maintaining attainment designations with the NAAQS and CAAQS, which are scientifically substantiated, numerical concentrations of criteria air pollutants considered to be protective of human health. Implementing the project would have a significant impact related to air quality, such that human health would be adversely affected if it would exceed the significance thresholds in Table 5.

Table 5. ICAPCD Air Quality Significance Thresholds

Pollutant	Regional Construction Threshold	Operational Thresholds Tier 1	Operational Thresholds Tier 2
NO_X	100 lbs/day	<137 lbs/day	>137 lbs/day
VOC	75 lbs/day	<137 lbs/day	>137 lbs/day
PM_{10}	150 lbs/day	<150 lbs/day	>150 lbs/day
$PM_{2.5}$	N/A	<550 lbs/day	>550 lbs/day
SO_X	N/A	<150 lbs/day	>150 lbs/day
CO	550 lbs/day	<550 lbs/day	>550 lbs/day

Note: lbs = pounds.

In any case, regardless of the size of the project, the standard mitigation measures for construction equipment and fugitive PM_{10} must be implemented at all construction sites. The implementation of discretionary mitigation measures, including those listed in Section 7.1 of the ICAPCD's handbook, apply to those construction sites that are 5 acres or more for nonresidential developments or 10 acres or more for residential developments that generate emissions above the levels in Table 5. The list of mitigation measures that would be implemented for the project (derived from Section 7.1 of the ICAPCD CEQA Guidelines) is provided in Section 7.4 of this report. As shown, projects with emissions of criteria pollutants below Tier I may potentially have an adverse impact on local air quality but will be required to develop an initial study to determine the level of significance of potential impact. Tier II projects with a potential to emit criteria pollutants above the thresholds of Tier I are considered to have a significant impact on regional and local air quality. Tier II projects are required to implement all standard mitigation measures, as well as identify and implement all feasible discretionary mitigation measures.

Projects that do not exceed the thresholds above would not cumulatively contribute to health effects in the SSAB. If projects exceed the thresholds above, emissions would contribute cumulatively to the nonattainment status and would contribute to elevating adverse health effects associated with these criteria air pollutants. Known health effects related to ozone include worsening of bronchitis, asthma, and emphysema and a decrease in lung function. Health effects associated with PM include premature death of people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, decreased lung function, and increased respiratory symptoms. Reducing emissions would further contribute to reducing possible adverse health effects related to criteria air pollutants.

Impacts related to odors were also assessed qualitatively, based on proposed construction activities, equipment types and duration of use, overall construction schedule, proposed operational activities, and distance to nearby sensitive receptors.

5.1.1 Carbon Monoxide Hotspots

It has long been recognized that CO exceedances are caused by vehicular emissions, primarily when idling at intersections. Concentrations of CO are a direct function of the number of vehicles, length of delay, and traffic flow conditions. Under certain meteorological conditions, CO concentrations close to congested intersections that experience high levels of traffic and elevated background concentrations may reach unhealthy levels, affecting nearby sensitive receptors. Given the high traffic volume potential, areas of high CO concentrations, or “hot spots,” are typically associated with intersections that are projected to operate at unacceptable levels of service during the peak commute hours. It has long been recognized that CO hotspots are caused by vehicular emissions, primarily when idling at congested intersections.

However, transport of this criteria pollutant is extremely limited, and CO disperses rapidly with distance from the source under normal meteorological conditions. Furthermore, vehicle emissions standards have become increasingly more stringent in the last 20 years. Currently, the allowable CO emissions standard in California is a maximum of 3.4 grams/mile for passenger cars (requirements for certain vehicles are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of increasingly sophisticated and efficient emissions control technologies, CO concentration in the SSAB is designated as in attainment. Detailed modeling of project-specific CO hot spots is not necessary, and thus this potential impact is addressed qualitatively.

A CO hot spot would occur if an exceedance of the state 1-hour standard of 20 parts per million (ppm) or the 8-hour standard of 9 ppm were to occur. The analysis prepared for CO attainment in the SCAQMD 1992 Federal Attainment Plan for Carbon Monoxide in Los Angeles County and a Modeling and Attainment Demonstration prepared by the SCAQMD as part of the 2003 AQMP (SCAQMD 2003) can be used to demonstrate the potential for CO exceedances of these standards. The SCAQMD is the air pollution control office for much of southern California. The SCAQMD conducted a CO hot spot analysis as part of the 1992 CO Federal Attainment Plan at four busy intersections in Los Angeles County during the peak morning and afternoon time periods. The intersections evaluated included Long Beach Boulevard and Imperial Highway (Lynwood), Wilshire Boulevard and Veteran Avenue (Westwood), Sunset Boulevard and Highland Avenue (Hollywood), and La Cienega Boulevard and Century Boulevard (Inglewood). The busiest intersection evaluated was at Wilshire Boulevard and Veteran Avenue, which has a traffic volume of approximately 100,000 vehicles per day. Despite this level of traffic, the CO analysis concluded that there was no violation of CO standards (SCAQMD 1992). In order to establish a more accurate record of baseline CO concentrations affecting the Los Angeles, a CO “hot spot” analysis was conducted in 2003 at the same four busy intersections in Los Angeles at the peak morning and afternoon time periods. This “hot spot” analysis did not predict any violation of CO standards. The highest 1-hour concentration was measured at 4.6 ppm at Wilshire Boulevard and Veteran Avenue and the highest 8-hour concentration was measured at 8.4 ppm at Long Beach Boulevard and Imperial Highway. Thus, there was no violation of CO standards.

Similar considerations are employed by other air districts when evaluating potential CO concentration impacts. More specifically, the Bay Area Air Quality Management District, the air pollution control office for the San Francisco Bay Area, concludes that under existing and future vehicle emission rates, a given project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour or 24,000 vehicles per hour where vertical and/or horizontal air does not mix in order to generate a significant CO impact.

The project operations are anticipated to result in only two washing events, with up to 24 one-way trips per day. It is noted that this is a conservative estimate, and many days will have no operational related vehicle trips. Thus, the project would not generate traffic volumes at any intersection of more than 100,000 vehicles per day (or 44,000 vehicles per day), and there is no likelihood of the project traffic exceeding CO values.

5.1.2 Toxic Air Contaminants

ICAPCD has not established a quantitative threshold of significance for construction-related TAC emissions and recommends that lead agencies address this issue on a case-by-case basis, taking into consideration the specific construction-related characteristics of each project and its proximity to off-site receptors. Information regarding the project's construction details related to TACs has been provided as part of this report. Furthermore, implementation of the CEQA control practices would result in the reduction of DPM exhaust emissions in addition to criteria pollutant emissions, particularly the measures to minimize engine idling time and maintain construction equipment in proper working condition and according to manufacturer's specifications.

5.2 Greenhouse Gases

Consistent with Appendix G of the State CEQA Guidelines, a project would have a significant GHG impact if it would:

- Generate GHG emissions, either directly or indirectly, that may have an adverse effect on the environment; or
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

State CEQA Guidelines Section 15064.4 recommends that lead agencies quantify GHG emissions projects and consider several other factors that may be used in the determination of significance of project-related GHG emissions, including: the extent to which the project may increase or reduce GHG emissions, whether the project exceeds an applicable significant threshold, and the extent to which the project complies with the regulations or requirements adopted to implement a reduction or mitigation of GHG.

Section 15064.4 does not establish a threshold of significance. Lead agencies have the discretion to establish significance thresholds for their respective jurisdictions, and in establishing those thresholds, a lead agency may appropriately look at thresholds developed by other public agencies, or suggested by other experts, such as the California Air Pollution Control Officers Association (CAPCOA), as long as any threshold chosen is supported by substantial evidence (State CEQA Guidelines Section 15064.7(c)). The State CEQA Guidelines also clarify that the events of GHG emissions are cumulative and should be analyzed in the context of CEQA's requirements for cumulative impact analysis (State CEQA Guidelines Section 15130(f)). It is noted that the State CEQA Guidelines were amended in response to SB 97. In particular, the State CEQA Guidelines were amended to specify that compliance with the GHG emissions reduction plan renders a cumulative impact less than significant.

Per State CEQA Guidelines Section 15064(h)(3), a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project would comply with an approved plan or mitigation program that provides specific requirements that would avoid or substantially lessen the cumulative problem within the geographic area of the project. To qualify, such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency. Examples of such programs include "water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plans [and] plans or regulations for the reduction of greenhouse gas emissions" (14 CCR Section 15064(h)(3)). Put another way, State CEQA Guidelines Section 15064(h)(3) allows a lead agency to make a finding of less than significant for GHG emissions if a project complies with adopted programs, plans, policies, and/or other regulatory strategies to reduce GHG emissions.

Per State CEQA Guidelines Section 15064.4(b),

> "in determining the significance of a project's greenhouse gas emissions, the lead agency should focus its analysis on the reasonably foreseeable incremental contribution of the project's emissions to the effects of climate change. A project's incremental contribution may be cumulatively considerable even if it appears relatively small compared to statewide, national, or global emissions."

When determining the significance of GHG impacts, lead agencies should consider the project's impact as compared to the existing environmental setting, whether the project exceeds a threshold of significance, and compliance with relevant GHG-related plans (e.g., State CEQA Guidelines Section 15064.4(b)). Regarding the latter criterion, lead agencies should consider "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 greenhouse gas emissions (e.g., State CEQA Guidelines Section 15183.5(b)). Per State CEQA Guidelines Section 15064.4(b)(3), such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of GHG emissions.

The ICAPCD has not adopted threshold of significance for projects' GHG emissions. However, projects in the Imperial County use the SCAQMD's Interim Thresholds as follows:

- Industrial land use: 10,000 MT per year emissions of carbon monoxide equivalent (CO_2e)
- Residential and commercial land use: 3,000 MT CO_2e per year
- Based on land use type: residential: 3,500 MT CO_2e per year; commercial: 1,400 MT CO_2e per year; or mixed use: 3,000 MT CO_2e per year

The project is considered a commercial development; as such, this analysis, compares the direct and indirect emissions from the project with the 3,000 MT CO_2e per year threshold level (SCAQMD 2023).

If a project's emissions exceed the thresholds of significance, then the project emissions may have a cumulatively considerable contribution to a significant cumulative environmental impact, answering Appendix G of the State CEQA Guidelines first GHG-related question on whether the project would generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. The second GHG-related question in Appendix G of the State CEQA Guidelines asks if the project will conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. To answer this question, project emissions should be evaluated with respect to consistency with the plans and policies, if applicable, that have been adopted to reduce GHG emissions.

5.3 Displaced Grid Electricity Emissions

Indirect sources of emissions can be of different forms. The project generates electricity from solar energy, a renewable source and as such, is an indirect source of reduction in fossil fuel-powered electricity generation. The project would provide a renewable energy resource that would displace generation from higher GHG emitting sources. There would be a small amount of indirect GHG emissions from the project water use. As discussed, periodic washing of the PV modules may be necessary twice per year, and the amount of water needed for this purpose is conservatively estimated at a total of up to 15 acre-feet per year. The GHG emissions from this proposed water use has been determined in the project's California Emission Estimator Model (CalEEMod) operational calculations. The project is expected to generate 179,102 megawatt hours per year (MW-h/year) from Seville 5. The Greenhouse Gas Equivalencies Calculator was used, which uses the AVoided Emissions and geneRation Tool (AVERT) U.S. national weighted average CO_2 marginal emission rate to convert reductions of kilowatt-hours into avoided units of carbon dioxide emissions (EPA 2024). For a 65-MW solar facility, AVERT calculates that 71,150 tons (64,546 MT) CO_2e per year would be avoided by placing the project into operations.

6 METHODOLOGY

This analysis focuses on the potential change in the air quality environment due to implementation of the project. Air pollution emissions would result from both construction and operation of the project. Specific methodologies used to evaluate these emissions are discussed below.

The analysis is based on project specifics and default values in the latest versions of CalEEMod. Accordingly, this analysis has been conducted with the most recent available tools prepared and accepted by the regulatory agencies.

6.1 Construction Emissions

The project's emissions will be evaluated based on significance thresholds and CEQA guidance established by ICAPCD, as discussed above. Daily emissions during construction are estimated by assuming a conservative construction schedule and applying the multiple source and fugitive dust emission factors derived from the ICAPCD-recommended CalEEMod version 2022.1.1.29. Details of the modeling assumptions and emission factors are provided in Appendix A. The calculations of the emissions generated during project construction activities reflect the types and quantities of construction equipment that would be used to complete the project.

6.1.1 Construction Assumptions

Construction emissions associated with the project, including emissions associated with the operation of off-road equipment, haul-truck trips, on-road worker vehicle trips, vehicle travel on paved and unpaved surfaces, and fugitive dust from material handling activities, were calculated using CalEEMod version 2022.1.1.29 (CAPCOA 2023). CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with both construction and operation of a variety of land use projects. The model uses widely accepted federal and state models for emission estimates and default data from sources such as EPA AP-42 emission factors, CARB vehicle emission models, and studies from California agencies such as CEC. The model quantifies direct emissions from construction and operations, as well as indirect emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use. The model was developed in collaboration with the air districts in California. Default data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) have been provided by the various California air districts to account for local requirements and conditions.

Emissions modeling included emissions generated during the project have been grouped into four phases in CalEEMod based on the types of equipment and workload: 1) site preparation/grading (including construction equipment delivery, graveling new access roads, grubbing, and grading necessary for construction of the racking system, inverter pads, switching station, substation and energy storage system); 2) trenching and interconnection construction (including the delivery of solar components, trenching for underground electrical conduit, and substation, transmission lines and installation of electrical infrastructure); 3) substation/switching station (installing potential foundations and the substation and switching station apparatus); and 4) solar array installation (including security fencing and finalization). The project is within a 270-acre area and one CalEEMod land use was used (Industrial - User Defined) for the 270 acres.

Modeling input data were based on this anticipated construction schedule and phasing. Construction equipment and usage required for each phase were obtained using CalEEMod defaults for the land use types that make up the project site, information provided by the applicant, and default parameters contained in the model for the project site (Imperial County) and land uses. The construction duration is assumed to be approximately 12 to 18 months, assumed to occur from July 2026 through the end of December 2027. Project construction would consist of different activities undertaken in phases, through to the operation of the project. Typical construction equipment would be used during all phases of project construction and would be stored within the staging area, potentially including bulldozers, backhoes, graders, and water trucks. Table 6 shows the project's anticipated construction schedule, presents an estimate of the maximum number of pieces of equipment for each construction phase, and conservatively assumes that equipment would be operating 8 hours per day, 5 days per week for the duration of the construction phase. Access to the site will be from the north on Highway 78. Therefore, worker, vendor, and haul trucks to the site are assumed to travel in areas where 98% of the roads are paved. The construction emissions were mitigated in the CalEEMod model to comply with any ICAPCD fugitive dust control rules or client-committed mitigation measures. In CalEEMod, the following mitigation measures were included to reflect these fugitive dust controls: reduce speed on unpaved roads to 15 miles per hour, water exposed areas two times per day, and water the unpaved roads traveled on to the project a minimum of two times per day.

Table 6. Construction Anticipated Schedule, Trips, and Equipment

Phase (Duration)	Equipment Used			Daily Vehicle Trips
	Type	Number	Hours/Day	
1. Site preparation/Grading July 1, 2026–January 31, 2027 (153 working days)	Tractors/loaders/backhoes	2	8	60 one-way worker trips 2 one-way vendor trips 30 one-way on-site haul truck trips 1 mile of on-site truck travel
	Off-highway truck	1	8	
	Scrapers	1	8	
	Excavators	1	8	
	Graders	2	8	
	Rubber-tired bulldozers	1	8	

Phase (Duration)	Equipment Used			Daily Vehicle Trips
	Type	Number	Hours/Day	
2. Trenching/Interconnection construction February 1, 2027–March 31, 2027 (43 working days)	Cranes	1	8	60 one-way worker trips 2 one-way vendor trips 30 one-way on-site haul truck trips 1 mile of on-site truck travel
	Forklifts	3	8	
	Trenchers	2	8	
	Skid steer loaders	4	8	
	generator sets	2	8	
	Off-highway truck	1	8	
	Aerial lift	1	8	
	Tractors/loaders/backhoes	2	8	
	Welders	1	8	
3. Substation/Switching station April 1, 2027–May 31, 2027 (43 working days)	Cranes	1	8	60 one-way worker trips 2 one-way vendor trips 30 one-way on-site haul truck trips 1 mile of on-site truck travel
	Forklifts	3	8	
	Generator set	1	8	
	Skid steer loader	2	8	
	Tractors/loaders/backhoes	2	8	
	Welders	1	8	
4. Solar array installation June 1, 2027–December 31, 2027 (154 working days)	Cranes	1	8	60 one-way worker trips 2 one-way vendor trips 8 one-way on-site haul truck trips 1 miles of on-site truck travel
	Forklifts	5	8	
	Bore/drill rigs	2	8	
	Skid steer loader	2	8	
	Generator sets	1	8	
	Off-highway truck	1	8	
	Tractors/loaders/backhoes	3	8	
	Welders	1	8	

Notes: For the parameters that are not provided in the table (e.g., equipment horsepower and load factor, on-road trip lengths), CalEEMod defaults were used.

In addition to the ICAPCD Rule 801 and ICAPCD Regulation VIII (Fugitive Dust Rules) detailed in Section 7.4 of this report, the following practices describe exhaust emission control from diesel-powered fleets working at a construction site. California regulations also limit idling from both on-road and off-road diesel-powered equipment.

6.2 Operational Emissions

When construction is completed, the project would be an operational 65 MW, 270-acre solar project with 65-MW BESS. Criteria pollutant and GHG emissions from the operation of the project were estimated using CalEEMod Version 2022.1.1.29. Year 2028 was assumed as the first full year of operations after completion of construction.

The project requires minimal operations and maintenance activities and would not require presence of full-time employees. However, for estimation of operational emissions, it is conservatively assumed that for minor maintenance, some employees would commute to the site. These are very conservative assumptions, because no travel to the site is anticipated during operations. The annual operations are assumed to be as follows:

- Routine maintenance activities would include panel washing, which is expected to occur two times annually. Panel washing activities are estimated to require additional daily trips (which includes the truck transporting the water) during each event for a total of 16 one-way worker trips per day (weekdays) during a peak operational maintenance event. However, this does not occur on a daily basis and will only occur during such maintenance events.
- The default model generated trip lengths for commercial-work (C-W) were used for the workers commute, medium heavy-duty trucks and heavy-duty trucks were chosen to represent the worker vehicles and the truck transporting the water, and trip purpose was designated as 100% primary trips.
- Outdoor water use during operations is conservatively estimated at a total of up to 15 acre-feet per year.

6.3 Greenhouse Gas

This analysis quantifies the project's total annual GHG emissions from construction. This analysis evaluates the significance of the project's GHG emission by assessing the project's consistency with CEQA guidelines.

6.4 Toxic Air Contaminants Impacts (Construction and Operations)

ICAPCD recommends that CEQA documents analyze potential impacts resulting from exposure of sensitive receptors to high doses of TACs and associated health risk for only certain circumstances/situations. The project does not produce high doses of any TACs during construction or operation. Potential TAC impacts were evaluated in this analysis by conducting a qualitative analysis consistent with the CARB Handbook (2005) and ICAPCD guidance (2017). The TAC that is the focus of this analysis is DPM because it is known that DPM would be emitted during project construction and operation. Construction-related activities that would result in temporary, intermittent emissions of DPM would be from the exhaust of off-road equipment and on-road heavy-duty trucks. On-road diesel-powered haul trucks traveling to and from the construction area to deliver materials and equipment are less of a concern because they do not operate at any one location for extended periods of time such that they would expose a single receptor to excessive DPM emissions. The project is consistent with TAC-related rules and regulations and the CalEEMod modeling shows the low exhaust PM during construction and operation (see Appendix A). Furthermore, implementation of the ICAPCD and applicant-committed mitigation measures (Section 7.4) would result in the reduction of DPM exhaust emissions in addition to criteria pollutant emissions, particularly the measures to minimize engine idling time and maintain construction equipment in proper working condition and according to manufacturer's specifications.

7 IMPACT ANALYSIS

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

Less Than Significant Impact. A project is conforming with applicable adopted plans if it complies with the applicable ICAPCD rules and regulations and emission control strategies in the applicable air quality attainment plans. The project would comply with the applicable rules and regulations, including the use of standard mitigation measures for construction equipment and fugitive PM_{10}.

Consistency with air quality plans is typically conducted based on a comparison of project-generated growth in employment, population, and vehicle miles traveled within the region, which is used for development of the emissions inventories contained in the air quality plans. The region's SIP is constituted of the ICAPCD air quality plans: 2018 PM_{10} SIP, 2018 Annual $PM_{2.5}$ SIP, 2017 8-Hour Ozone SIP, 2013 24-Hour $PM_{2.5}$ SIP, 2009 Imperial County 1997 8-Hour Ozone Reasonably Available Control Technology SIP, 2009 PM_{10} SIP, and the 2008 Ozone Early Progress Plan. Project compliance with all the ICAPCD rules and regulations results in conformance with the ICAPCD air quality plans. These air quality attainment plans are a compilation of new and previously submitted plans, programs (e.g., monitoring, modeling, permitting, etc.), district rules, state regulations, and federal controls describing how the state will attain ambient air quality standards. These SIPs and associated control measures are based on information derived from projected growth in Imperial County in order to project future emissions and then determine strategies and regulatory controls for the reduction of emissions. Growth projections are based on the general plans developed by Imperial County and the incorporated cities in the county.

Although the project would contribute to energy supply, which is one factor of population growth, the project would not significantly increase employment, population, or growth within the region. The project does not include residential development or large local or regional employment centers, and thus would not result in significant population or employment growth. Furthermore, the operation of the project would create renewable energy over its planned lifetime, helping California meet its RPS, and decrease the need for energy from fossil fuel-based power plants in the state, which is considered a beneficial impact to statewide air quality. The energy produced by the project would displace the criteria pollutant emissions that would otherwise be produced by existing, business-as-usual power generation resources (including natural gas and coal).

The thresholds of significance, adopted by the ICAPCD, determine compliance with the goals of attainment plans in the region. As such, emissions below the ICAPCD regional mass daily emissions thresholds would not conflict with or obstruct implementation of the applicable air quality plans. The project implementation would generate emissions of criteria air pollutants during construction and operation. The emissions from project construction (Table 7 andTable 8) and operation (Table 9) are below the thresholds of significance; therefore, the project does not conflict with implementation of the ICAPCD applicable air quality plans. Fugitive dust control measures during construction is required. The detailed assumptions and calculations, as well as CalEEMod outputs are provided in Appendix A of this report.

Impact AQ-2. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard?

Less Than Significant Impact with Mitigation. The ICAPCD's thresholds of significance represent the allowable emissions a project can generate without generating a cumulatively considerable contribution to regional air quality impacts. Therefore, a project that would not exceed the ICAPCD thresholds of significance on a project level also would not be considered to result in a cumulatively considerable contribution to these regional air quality impacts. The region is designated as nonattainment for federal and state 8-hour ozone standards and maintenance for the state 24-hour PM_{10} standards. Impacts related to construction and operation of the project are addressed separately below.

7.1 Construction

The project implementation would generate emissions of criteria air pollutants during construction. The estimated unmitigated emissions from construction of the project are summarized in Table 7. The detailed assumptions and calculations, as well as CalEEMod outputs are provided in Appendix A of this report.

Table 7. Unmitigated Construction Emissions Summary

Parameter	Unmitigated Construction Emissions Summary (lbs/day)					
	ROG	NO_x	CO	PM_{10}	$PM_{2.5}$	SO_2
2026 Peak daily emission	3.44	28.07	34.73	65.34	9.46	0.07
2027 Peak daily emission	2.43	19.48	34.72	56.67	5.86	0.06
ICAPCD significance thresholds	*75*	*100*	*550*	*150*	*N/A*	*N/A*
Threshold exceeded?	*No*	*No*	*No*	*No*	*N/A*	*N/A*

Source: Emissions were quantified using CalEEMod version 2022.1.1.29 (CAPCOA 2025).

Notes: lb = pound; N/A = not applicable, no threshold; ROG = reactive organic gases. Model results (summer, winter, and annual) and assumptions are provided in Appendix A of this report.

As Table 7 shows, estimated unmitigated construction emissions for all pollutants are below ICAPCD significance thresholds. The combined construction emissions from all components of the project are below the recommended ICAPCD thresholds of significance. Therefore, project construction would have a less-than-significant impact. The application of mitigation measures which comply with the standard mitigation measures for fugitive dust control regarding on- and off-site unpaved roads and all unpaved traffic areas 1 acre or more with 75 or more average vehicle trips per day being effectively stabilized, and visible emissions limited to no greater than 20% opacity for dust emissions by paving, chemical stabilizers, dust suppressants and/or watering. In CalEEMod the following mitigation measures were included to reflect these standard mitigation measures for fugitive dust control: reduce speed on unpaved roads to 15 miles per hour, water exposed areas two times per day, and water the unpaved roads traveled on to the project site a minimum of two times per day. The estimated mitigated emissions from construction of the project are summarized in Table 8.

Table 8. Mitigated Construction Emissions Summary

Parameter	Mitigated Construction Emissions Summary (lbs/day)					
	ROG	NO_x	CO	PM_{10}	$PM_{2.5}$	SO_2
2026 Peak daily emission	3.44	28.07	34.73	56.75	6.93	0.07
2027 Peak daily emission	2.43	19.48	34.72	53.37	5.53	0.06
ICAPCD significance thresholds	*75*	*100*	*550*	*150*	*N/A*	*N/A*
Threshold exceeded?	*No*	*No*	*No*	*No*	*N/A*	*N/A*

Source: Emissions were quantified using CalEEMod version 2022.1.1.29 (CAPCOA 2025).

Notes: lb = pound; N/A = not applicable, no threshold; ROG = reactive organic gases. Model results (summer, winter, and annual) and assumptions are provided in Appendix A.

As presented above, the project would not violate any air quality significance thresholds or contribute substantially to an existing or projected air quality violation. The impact is less than significant, and no mitigation is required. However, for all proposed projects, the ICAPCD requires the use of standard mitigation measures for construction equipment and fugitive PM_{10}, whether or not construction-related emissions exceed applicable thresholds of significance (see Section 7.4 of this report). After implementation of these recommended measures, the project would have a less-than-significant impact with respect to community risk caused by construction activities.

7.2 Operations

The project's operation is limited to panel washing and maintenance, which is not anticipated but is conservatively assumed to be up to 16 one-way employee vehicle trips per weekday. Project operations would generate VOC, NO_x, CO, SO_x, PM_{10}, and $PM_{2.5}$ emissions from mobile sources and water use. The estimated emissions from operation of the project are summarized in Table 9. Complete details of the emissions calculations are provided in Appendix A.

Table 9. Unmitigated Operational Emissions Summary

Operation Year 2028 Parameters	Unmitigated Operational Emissions Summary (lbs/day)					
	ROG	NO_x	CO	PM_{10}	$PM_{2.5}$	SO_2
Mobile	0.02	0.62	0.29	5.90	0.63	0.009
Area	0	0	0	0	0	0
Energy	0	0	0	0	0	0
Total	**0.02**	**0.62**	**0.29**	**5.90**	**0.63**	**0.009**
ICAPCD significance thresholds	*137*	*137*	*550*	*150*	*550*	*150*
Threshold exceeded?	*No*	*No*	*No*	*No*	*No*	*No*

Source: Emissions were quantified using CalEEMod version 2022.1.1.29 (CAPCOA 2025).

Notes: lb = pound; ROG = reactive organic gases. Model results (summer, winter, and annual) and assumptions are provided in Appendix A.

Solar equipment has a lifespan of approximately 20 to 25 years. At the end of the project operation term, the applicant may determine that the project site should be decommissioned and deconstructed, or it may seek an extension of its conditional use permit. The emissions associated with decommissioning of the project are not quantitatively estimated, as the extent of activities and emissions factors for equipment and vehicles at the time of decommissioning are unknown. The overall activity would be anticipated to be somewhat less than project construction, and the emissions from off- and on-road equipment are expected to be much lower than those for the project construction. However, without changes in fugitive dust control methods, it is likely that fugitive dust emissions would be closer to those estimated for construction. Overall, similar to construction, emissions associated with decommissioning would be less than significant.

As Table 9 shows, estimated unmitigated operational emissions for all pollutants are below ICAPCD significance thresholds; however, per requirements of ICAPCD, the standard mitigation measures would be implemented during construction and operation of the project, including an operational dust control plan (ODCP) outlining strategies for controlling dust emissions during project operations. The required ICAPCD mitigation measures (for all projects) are listed in Section 7.4 of this report. Also, project operations would not affect traffic volumes at any affected intersection. Therefore, the project would not exceed the CO screening criteria. Therefore, based on the above criteria, the project would have a less-than-significant impact related to CO hotspots.

The combined construction emissions and combined operational emissions from all components of the project are below the recommended ICAPCD thresholds of significance. Therefore, the project would not be anticipated to exceed any significance threshold and would have a less than significant contribution to cumulative impacts.

Impact AQ-3 Would the project expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact with Mitigation. Some population groups, such as children, the elderly, and acutely and chronically ill persons are considered more sensitive to air pollution than others. Sensitive receptor locations typically include residential areas, hospitals, elder-care facilities, rehabilitation centers, daycare centers, and parks. The project site is in a rural area surrounded by a few private residences scattered west and southwest of the project site. The closest sensitive receptor to the project site is a residence located approximately 500 feet west of the project site, with next closest residence more than 1,500 feet from the project site.

Implementation of the project would not result in the long-term operation of any emission sources that would adversely affect nearby sensitive receptors. Short-term construction activities (12–18 months) could result in temporary increases in pollutant concentrations. Emissions of all criteria pollutants are below the ICAPCD thresholds and would not have any significant impact. The project's emissions of toxic air pollutants would be minimal and would consist of DPM emissions during construction activities. Although other TACs exist (e.g., benzene, 1,3-butadiene, hexavalent chromium, formaldehyde, methylene chloride), they are primarily associated with industrial operations and the project would not include any industrial sources of other TACs.

Construction-related activities that would result in temporary, intermittent emissions of DPM would be from the exhaust of off-road equipment and on-road, heavy-duty trucks. On-road, diesel-powered haul trucks traveling to and from the construction area to deliver materials and equipment are less of a concern because they do not operate at any one location for extended periods of time such that they would expose a single receptor to excessive DPM emissions.

Based on the construction-related emissions modeling conducted (see Appendix A), maximum daily emissions of exhaust PM_{10} (used as a surrogate for DPM) would be less than 1.5 pounds during peak construction. A portion of these emissions would be related to haul trucks traveling and to and from the project site. In addition, studies show that DPM is highly dispersive and that concentrations of DPM decline with distance from the source (e.g., 500 feet from a freeway, the concentration of DPM decreases by 70%) (Roorda-Knape et al. 1999 and Zhu et al. 2002 as cited in CARB 2005:9). Additionally, the closest receptor to the project site is located approximately 500 feet west of the project site. Construction would not be limited to only one portion of the project site but would rather occur throughout the project site in phases. Construction-related TAC emissions would not expose sensitive receptors to an incremental increase in cancer risk greater than 10 in 1 million or a hazard index greater than 1.0 because the low exposure level reflects the 1) relatively low mass of DPM emissions that would be generated by construction activity on the project site (i.e., less than 1.5 pounds (lbs)/day of exhaust PM_{10}), 2) the relatively short duration of DPM-emitting construction activity at the project site (12–18 months), and 3) the highly dispersive properties of DPM.

Operation-related TAC emissions would be negligible and the project would be controlled remotely, with very few visits to the site for maintenance. Also, any on-road, diesel-powered haul trucks traveling to and from the construction area to deliver materials and equipment are less of a concern because they do not operate at any one location for extended periods of time such that they would expose a single receptor to excessive DPM emissions. No other TAC emission sources will occur during operations. Therefore, construction and operation-generated emissions of TACs would be less than significant.

Fugitive Dust. During construction and operations activities, the project would implement dust control measures as shown in Section 7.4 of this report, including an ODCP, to ensure receptors in the project vicinity would not be impacted by the project's long-term dust emissions during operations.

Naturally Occurring Asbestos. Airborne asbestos is classified as a known human carcinogen and was identified by as a TAC by CARB in 1986. The project is not located in a geologic setting with a potential to host asbestos and, therefore, an asbestos will not be an issue for this project (CARB 2000a).

Impact AQ-4. Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less Than Significant Impact. The project would not be a source of any odors during operations. During construction, a limited number of diesel engines would be operated on the project site for limited durations. Diesel exhaust and VOCs from these diesel engines would be emitted during construction of the project, which are objectionable to some; however, the short duration of construction activities is expected to last approximately 12–18 months, emissions would disperse rapidly from the project site, and diesel exhaust odors would be consistent with existing vehicle odors in the area. Land uses commonly considered to be potential sources of obnoxious odorous emissions include agriculture (farming and livestock), wastewater treatment plants, food processing plants, chemical plants, composting facilities, refineries, landfills, dairies, and fiberglass molding. The project does not include any uses identified as being associated with odors. Considering this information, construction and operation of the project would not create other emissions or odors adversely affecting a substantial number of people; impacts would be less than significant.

Impact GHG-1 Would the project generate GHG emissions, either directly or indirectly, that may have an adverse effect on the environment?

Beneficial Impact. Construction of the project would result in GHG emissions, which are primarily associated with use of off-road construction equipment, on-road vendor trucks, and worker vehicles. Total GHG emissions from all phases of construction activities were amortized over the estimated 20-year life of the project and added to the annual operational emissions of GHGs. The project would offset GHG emissions through renewable energy generation and thereby result in environmental benefits by lessening the impacts of global climate change, as such, the annual displaced GHG emissions were estimated to include all direct and indirect emissions associated with implementation of the project. Project decommissioning emissions were not calculated as the equipment and fuel types that would exist 20 or more years in the future are unknown. Also as described above, it is anticipated that the decommissioning emissions would be lower than the construction emissions.

Project construction emissions were calculated and compared to the SCAQMD significance threshold. Construction emissions were also amortized over a 20-year project lifetime. CalEEMod was used to calculate the annual GHG emissions based on the construction scenario described. Construction of the project is anticipated to last approximately 12–18 months. On-site sources of GHG emissions include off-road equipment and off-site sources including haul trucks, vendor trucks and worker vehicles. Table 10 presents construction emissions for the project from on-site and off-site emission sources.

Table 10. Estimated Annual Construction Greenhouse Gas Emissions

Construction Years	CO_2e	CO_2	N_2O	CH_4
	Metric Tons per Year			
2026	566	558	0.02	0.02
2027	839	829	0.03	0.03
Total	1,405	1,387	0.05	0.05
		Amortized construction emissions		***70.25***
SCAQMD GHG Threshold	N/A	N/A	N/A	3,000

Note: N/A = not applicable. See Appendix A of this report.

As shown in Table 10, the estimated total GHG emissions during construction would be approximately 1,405 MT CO_2e over the construction period, below the SCAQMD threshold. Estimated project-generated construction emissions amortized over 20 years would be approximately 70.25 MT CO_2e per year. As with project-generated construction criteria air pollutant emissions, GHG emissions generated during construction of the project would occur only when construction is active, lasting only for the duration of the construction period, and would not represent a long-term source of GHG emissions.

Operation of the project would generate GHG emissions through motor vehicle trips to and from the project site and water use. CalEEMod was used to calculate the annual GHG emissions based on the operational assumptions described in Section 6.2 of this report. The estimated operational project-generated GHG emissions are shown in Table 11.

Table 11. Estimated Annual Operational Greenhouse Gas Emissions

Construction Year	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
Mobile	114.2	0.001	0.01	118.2
Water	3.26	<0.001	<0.001	3.27
Total	117.46	0.001	0.01	121.5
			Amortized construction emissions	70.25
			Total operational + amortized construction GHGs	***192***
			Displaced Emissions (from Project Operation)	***64,546***
			SCAQMD Threshold	***3,000***

Notes: See Appendix A of this report. Emissions reflect operational year 2028.

As shown in Table 11, estimated annual project-generated GHG emissions would be approximately 122 MT CO_2e per year as a result of project operations only. After summing the amortized project construction emissions, total GHGs generated by the project would be approximately 192 MT CO_2e per year. The project's annual indirect GHG emissions from the displacement of fossil fuel fired electricity generation is significantly higher than the project's annualized direct and indirect emissions sources; as such, the overall effect of the project is to reduce GHG emissions. Therefore, the project would have a beneficial GHG emissions impact, and Impact GHG-1 would be less than significant. An energy assessment has been provided as Appendix B with additional details regarding energy consumption and project benefits.

Impact GHG-2 Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

Less Than Significant Impact. Currently, there are no federal, state, or local climate change or GHG emissions regulations that address the GHG emissions project construction. There are a number of federal, state, and local plans and policies and GHG emissions reduction strategies that are potentially applicable to the project, either directly or indirectly. The project operation is consistent with the following:

- The project is consistent with the AB 32 scoping plan strategies to increase the total amount of renewable energy sources consistent with the goal of the state's RPS.
- The project is consistent with the CARB's emission reduction strategy presented in the Scoping Plans. The 2008 Scoping Plan specifically addresses critical measures directed at emission

sources that are included in the cap-and-trade program that are designed to achieve cost-effective emissions reductions while accelerating the necessary transition to the low-carbon economy.

- The project implementation will help California meet its RPS requirements.

The project would help promote California's GHG policies by creating renewable energy resources and would not exceed applicable GHG screening levels. Therefore, the project would not conflict with an applicable plan, policy, or regulation adopted to reduce GHG emissions. Moreover, projects that are consistent with applicable plan, policy, or regulation adopted to reduce GHG emissions are considered less than significant during construction, operation, and reclamation. Furthermore, GHG emissions from the project, as shown in Appendix A, would not generate substantial GHG emissions during construction or operation. Therefore, impacts would be less than significant.

7.3 Cumulative Impacts

7.3.1 Air Quality

The cumulative setting for air quality includes the SSAB, which is designated as a nonattainment area for federal and state standards of 8-hour ozone, maintenance for state standards of PM_{10}, and unclassified or attainment for all other pollutants. Cumulative growth in population and vehicle use could inhibit efforts to improve regional air quality and attain the ambient air quality standards. The ICAPCD CEQA Handbook does not include separate significance thresholds for cumulative construction and operational emissions. As described in threshold discussion, above, the project would also be consistent with the appropriate ICAPCD mitigation measures, which are provided to reduce air quality emissions for the Imperial County region. Additionally, the threshold discussion above addresses cumulative impacts and demonstrates that the project would not exceed the applicable ICAPCD significance thresholds for construction or operations. The nature of air emissions is largely a cumulative impact and as a result, no single project is sufficient in size by itself to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. Consistency with the ICAPCD CEQA Handbook would ensure that the project would not cumulatively contribute to air quality impacts in the SSAB; therefore, impacts would be less than significant.

7.3.2 Greenhouse Gas Emissions

The analysis of a project's GHG emissions is inherently a cumulative impacts analysis because climate change is a global problem and the emissions from any single project alone would be negligible. Accordingly, the analysis above considers the potential for the project to contribute to the cumulative impact of a global climate change. Table 10 and Table 11 show the estimated annual project-generated GHG emissions as a result of project construction and operation. Given that the project would generate construction and operation GHG emissions that are below the SCAQMD threshold, and therefore would not conflict with applicable reduction plans and policies; and given that GHG emission impacts are cumulative in nature, the project's incremental contribution to cumulatively significant GHG emissions would be less than significant.

7.4 Mitigation Measures

As discussed in the ICAPCD CEQA Handbook, all construction projects within Imperial County must comply with the requirements of ICAPCD Regulation VIII for control of fugitive dust. In addition, the

Handbook lists additional (discretionary) mitigation measures that may be warranted as feasible, to control fugitive dust and equipment exhaust emissions.

In compliance with the ICAPCD requirements, the following measures would be implemented during construction of the project:

- **Regulation VIII (Fugitive Dust Control Measures).** All construction sites, regardless of size, must comply with the requirements contained within Regulation VIII.
    - *Standard Mitigation Measures for Fugitive Dust (PM_{10}) Control*
        - Construction:
            - All disturbed areas, including bulk material storage which is not being actively utilized, shall be effectively stabilized and visible emissions shall be limited to no greater than 20% opacity for dust emissions by using water, chemical stabilizers, dust suppressants, tarps, or other suitable material such as vegetative ground cover.
            - All on-site and off-site unpaved roads would be effectively stabilized, and visible emissions shall be limited to no greater than 20% opacity for dust emissions by paving, chemical stabilizers, dust suppressants and/or watering.
            - All unpaved traffic areas 1 acre or more with 75 or more average vehicle trips per day would be effectively stabilized and visible emission shall be limited to no greater than 20% opacity for dust emissions by paving, chemical stabilizers, dust suppressants and/or watering.
            - The transport of bulk material shall be completely covered unless 6 inches of freeboard space from the top of the container is maintained with no spillage and loss of bulk material. In addition, the cargo compartment of all haul trucks is to be cleaned and/or washed at delivery site after removal of bulk material.
            - All track-out or carry-out would be cleaned at the end of each workday or immediately when mud or dirt extends a cumulative distance of 50 linear feet or more onto a paved road within an urban area.
            - Movement of bulk material handling or transfer shall be stabilized prior to handling or at points of transfer with application of sufficient amounts of water, chemical stabilizers or by sheltering or enclosing the operation and transfer line.
        - The construction of any new unpaved road is prohibited within any area with a population of 500 or more unless the road meets the definition of a temporary unpaved road. Any temporary unpaved road shall be effectively stabilized, and visible emissions shall be limited to no greater than 20% opacity for dust emission by paving, chemical stabilizers, dust suppressants and/or watering.
    - *Discretionary Mitigation Measures for Fugitive Dust (PM_{10}) Control*
        - For projects with construction site of 5 acres or more for nonresidential developments, in order to provide a greater degree of PM_{10} reductions, above that required by Regulation VIII, the ICAPCD recommends the following:
            - Water exposed soil with adequate frequency for continued moist soil.
            - Replace ground cover in disturbed areas as quickly as possible.
            - Use automatic sprinkler system installed on all soil piles.

        - Limit vehicle speed for all construction vehicles to 15 miles per hour on any unpaved surface at the construction site.
        - Develop a trip reduction plan to achieve a 1.5 Average Vehicle Ridership for construction employees.
        - Implement a shuttle service to and from retail services and food establishments during lunch hours.

- **Standard Mitigation Measures for Exhaust Equipment Emissions Control**

    - The following practices describe exhaust emission control from diesel-powered fleets working at a construction site. California regulations limit idling from both on-road and off-road diesel-powered equipment. The CARB enforces idling limitations and compliance with diesel fleet regulations.
        - Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes [CCR, Title 13, sections 2449(d)(3) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site.
        - Provide current certificate(s) of compliance for CARB's In-Use Off-Road Diesel-Fueled Fleets Regulation [CCR, Title 13, sections 2449 and 2449.1].
    - These include:
        - Use of equipment with alternative fueled or catalyst-equipped diesel engine, including for all off-road and portable diesel-powered equipment.
        - Limit, to the extent feasible, the hours of operation of heavy-duty equipment and/or the number of pieces of equipment in use.
        - Replace fossil fueled equipment with electrically powered equivalents (provided they are not run via a portable generator)

    - Although not required by local or state regulation, many construction companies have equipment inspection and maintenance programs to ensure work and fuel efficiencies.
        - Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determine to be running in proper condition before it is operated.

- **Enhanced Mitigation Measures for Construction Equipment**

    - To help provide a greater degree of reduction of PM emissions from construction combustion equipment, ICAPCD recommends the following enhanced measures.
        - Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing of construction activity during the peak hour of vehicular traffic on adjacent roadways.
        - Implement activity management (e.g., rescheduling activities to reduce short-term impacts).

- **Operational Dust Control Plan**

    - To help reduce fugitive dust emissions from on-site unpaved roads and accumulation of small dunes during operations, an ODCP would be prepared. The ODCP would include strategies for how dust emissions would be controlled and maintained during project operations. The ODCP would be submitted to the ICAPCD for approval prior to the issuance of a Certificate of Occupancy.

8 LITERATURE CITED

California Air Pollution Control Officers Association (CAPCOA). 2025. Southern California Emission Estimator Model (CalEEMod) and User Guide. Version 2022.1.1.29. Available at: http://www.caleemod.com/. Accessed February 15, 2025.

California Air Resources Board (CARB). 1998. *Report to the Air Resources Board on the Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant, Part A Exposure Assessment: As Approved by the Scientific Review Panel*. Available at: https://ww2.arb.ca.gov/sites/default/files/classic/toxics/dieseltac/part_a.pdf?_ga=2.170343008.1594849109.1690912838-1957288001.1685472643. Accessed February 15, 2025.

———. 2000a. *A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos*. Available at: https://ww2.arb.ca.gov/sites/default/files/classic/toxics/asbestos/ofr_2000-019.pdf. Accessed February 15, 2025.

———. 2000b. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. Available at: https://ww2.arb.ca.gov/sites/default/files/classic/diesel/documents/rrpfinal.pdf. Accessed February 15, 2025.

———. 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*. Available at: https://sfmohcd.org/sites/default/files/20%20-%20CARB%2C%20Air%20Quality%20and%20Land%20Use%20Handbook%202005.pdf. Accessed February 15, 2025.

———. 2009. 2008 Final Scoping Plan and Appendices. Available at: https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2008-scoping-plan-documents. Accessed February 15, 2025.

———. 2011. CARB Toxic Air Contaminant Identification List. Available at: https://ww2.arb.ca.gov/resources/documents/carb-identified-toxic-air-contaminants. Accessed February 15, 2025.

———. 2014. *First Update to the Climate Change Scoping Plan*. Available at: https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf. Accessed February 15, 2025.

———. 2017. 2017 Scoping Plan Documents. Available at: https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2017-scoping-plan-documents. Accessed February 15, 2025.

———. 2022a. GHG 1990 Emissions Level and 2020 Limit. Available at: https://ww2.arb.ca.gov/ghg-2020-limit. Accessed February 15, 2025.

———. 2022b. 2022 Scoping Plan Update and Appendices. Available at: https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents#:~:text=The%202022%20Scoping%20Plan%20Update%20focuses%20on%20outcomes,energy%20security%2C%20environmental%20justice%2C%20and%20public%20health%20priorities. Accessed February 15, 2025.

———. 2024a. *Ambient Air Quality Standards Chart*. Available at: https://ww2.arb.ca.gov/sites/default/files/2024-08/AAQS%20Table_ADA_FINAL_07222024.pdf. Accessed February 15, 2025.

———. 2024b. Current California GHG Emission Inventory Data. 2000–2022 GHG Inventory (2024 Edition). Available at: https://ww2.arb.ca.gov/ghg-inventory-data. Accessed February 15, 2025.

———. 2025. Air Quality Data Statistics, Top Four Summary for Monitored Data at Livermore Station. Available at: https://www.arb.ca.gov/adam/. Accessed February 15, 2025.

California Association of Environmental Professional. 2024. 2024 California Environmental Quality Act (CEQA) Statute and Guidelines. Available at: https://www.califaep.org/docs/2024_CEQA_Statute_and_Guidelines_Handbook.pdf. Accessed February 15, 2025.

California Natural Resources Agency. 2018. California Environmental Quality Act (CEQA): Supplemental Documents. Available at: https://resources.ca.gov/admin/Legal/CEQA-Supplemental-Documents. Accessed February 15, 2025.

Friedlingstein, P., M.W. Jones, M. O'Sullivan, R.M. Andrew, D.C.E. Bakker, J. Hauck, C. Le Quéré, Glen P. Peters, Wouter Peters, Julia Pongratz, Stephen Sitch, Josep G. Canadell, Philippe Ciais, Rob B. Jackson, Simone R. Alin, Peter Anthoni, Nicholas R. Bates, Meike Becker, Nicolas Bellouin, Laurent Bopp, Thi Tuyet Trang Chau, Frédéric Chevallier, Louise P. Chini, Margot Cronin, Kim I. Currie, Bertrand Decharme, Laique M. Djeutchouang, Xinyu Dou, Wiley Evans, Richard A. Feely, Liang Feng, Thomas Gasser, Dennis Gilfillan, Thanos Gkritzalis, Giacomo Grassi, Luke Gregor, Nicolas Gruber, Özgür Gürses, Ian Harris, Richard A. Houghton, George C. Hurtt, Yosuke Iida, Tatiana Ilyina, Ingrid T. Luijkx, Atul Jain, Steve D. Jones, Etsushi Kato, Daniel Kennedy, Kees Klein Goldewijk, Jürgen Knauer, Jan Ivar Korsbakken, Arne Körtzinger, Peter Landschützer, Siv K. Lauvset, Nathalie Lefèvre, Sebastian Lienert, Junjie Liu, Gregg Marland, Patrick C. McGuire, Joe R. Melton, David R. Munro, Julia E. M. S. Nabel, Shin-Ichiro Nakaoka, Yosuke Niwa, Tsuneo Ono, Denis Pierrot, Benjamin Poulter, Gregor Rehder, Laure Resplandy, Eddy Robertson, Christian Rödenbeck, Thais M. Rosan, Jörg Schwinger, Clemens Schwingshackl, Roland Séférian, Adrienne J. Sutton, Colm Sweeney, Toste Tanhua, Pieter P. Tans, Hanqin Tian, Bronte Tilbrook, Francesco Tubiello, Guido R. van der Werf, Nicolas Vuichard, Chisato Wada, Rik Wanninkhof, Andrew J. Watson, David Willis, Andrew J. Wiltshire, Wenping Yuan, Chao Yue, Xu Yue, Sönke Zaehle, and Jiye Zeng. 2022. Global Carbon Budget 2021. Earth Science System Data 14(4):1917–2005. Available at: https://doi.org/10.5194/essd-14-1917-2022.. Accessed February 15, 2025.

Governor's Office of Planning and Research (OPR). 2008. *Technical Advisory. CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act (CEQA) Review*. Available at: https://opr.ca.gov/docs/june08-ceqa.pdf. Accessed February 15, 2025.

———. 2018. *Discussion Draft: CEQA and Climate Change Advisory*. Available at: https://www.opr.ca.gov/docs/20181228-Discussion_Draft_Climate_Change_Adivsory.pdf. Accessed February 15, 2025.

Imperial County Air Pollution Control District (ICAPCD). 2010. *Final 2009 1997 8-Hour Ozone Modified Air Quality Management Plan*. Available at: https://ww2.arb.ca.gov/resources/documents/2009-imperial-county-1997-8-hour-ozone-modified-air-quality-management-plan-and. Accessed August 15, 2023.

———. 2017. *CEQA Air Quality Handbook: Guidelines for the Implementation of the California Environmental Quality Act*. Revised December 12. Accessed February 15, 2025.

Intergovernmental Panel on Climate Change (IPCC). 2007. *IPCC Fourth Assessment Report: Climate Change 2007 (AR4): The Physical Science Basis*. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Table 2.14. Available at: https://www.ipcc.ch/site/assets/uploads/2018/02/ar4-wg1-chapter2-1.pdf. Accessed February 15, 2025.

———. 2013. *IPCC Fifth Assessment Report: Climate Change 2013 (AR5): The Physical Science Basis*. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Available at: https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_all_final.pdf. Accessed February 15, 2025.

———. 2021. *IPCC Sixth Assessment Report: Climate Change 2021 (AR6): The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change.* Available at: https://report.ipcc.ch/ar6/wg1/IPCC_AR6_WGI_FullReport.pdf. Accessed February 15, 2025.

National Climatic Data Center (NCDC). 2023. Monthly Normals. Available at: https://www.ncei.noaa.gov/access/us-climate-normals/. Accessed February 15, 2025.

Office of Environmental Health Hazard Assessment (OEHHA). 2021. CalEnviroScreen 4.0. Available at: https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40. Accessed February 15, 2025.

South Coast Air Quality Management District (SCAQMD). 2003. 2003 Air Quality Management Plan. Available at: https://www.aqmd.gov/home/air-quality/air-quality-management-plans/air-quality-mgt-plan/2003-aqmp. Accessed February 15, 2025.

———. 2017. Final 2016 AQMP and Related SIP Submittals. Available at: https://www.aqmd.gov/home/air-quality/air-quality-management-plans/final-2016-aqmp. Accessed February 15, 2025.

———. 2023. South Coast AQMD Significance Thresholds. Available at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/south-coast-aqmd-air-quality-significance-thresholds.pdf?sfvrsn=25. Rev. March. Accessed February 15, 2025.

Southern California Association of Governments. 2016. 2016-2040 Regional Transportation Plan/ Sustainable Communities Strategy (2016 RTP/SCS or Plan). Available at: https://scag.ca.gov/2016-rtpscs. Accessed February 15, 2025.

———. 2020. Final Connect SoCal 2020. Available at: https://scag.ca.gov/read-plan-adopted-final-connect-socal-2020. Accessed February 15, 2025.

United Nations Environment Programme (UNEP). 1987. Montreal Protocol on Substances that Deplete the Ozone Layer. Available at: https://wedocs.unep.org/bitstream/handle/20.500.11822/8286/-Montreal%20Protocol%20on%20Substances%20that%20Deplete%20the%20Ozone%20layer%20Final%20Act-19872497.pdf. Accessed February 15, 2025.

U.S. Environmental Protection Agency (EPA). 2011. Accounting Framework for Biogenic CO2 Emissions from Stationary Sources. Available at: https://www.epa.gov/sites/default/files/2016-08/documents/biogenic-co2-accounting-framework-report-sept-2011.pdf. Accessed February 15, 2025.

———. 2023. Avert Web Edition. Available at: https://www.epa.gov/avert/avert-web-edition. Accessed February 15, 2025.

———. 2024. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2022. EPA 430-R-22-003. Available at: https://www.epa.gov/system/files/documents/2024-04/us-ghg-inventory-2024-main-text_04-18-2024.pdf. Accessed February 15, 2025.

———. 2025a. Criteria Air Pollutants. Available at: https://www.epa.gov/criteria-air-pollutants. Accessed February 15, 2025.

———. 2025b. Green Book. California Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants. Available at: https://www3.epa.gov/airquality/greenbook/anayo_ca.html. Accessed February 15, 2025.

Van Gosen, B.S., and J.P. Clinkenbeard. 2011. Reported Historic Asbestos Mines, Historic Asbestos Prospects, and Other Natural Occurrences of Asbestos in California, 2011. Open-File Report 2011-1188. Denver, Colorado: U.S. Geological Survey and Sacramento: California Geological Survey. Available at: https://pubs.usgs.gov/of/2011/1188/. Accessed February 15, 2025.

Western Regional Climate Center. 2002. Prevailing Wind Direction. Available at: https://wrcc.dri.edu/Climate/comp_table_show.php?stype=wind_dir_avg. Accessed February 15, 2025.

APPENDIX A

CALEEMOD RESULTS – AIR POLLUTANT AND GHG EMISSION CALCULATIONS

Seville 5 Solar Project Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Seville 5 Solar Project
Construction Start Date	7/1/2026
Operational Year	2028
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.30
Precipitation (days)	8.80
Location	33.124470740652754, -116.02270492555343
County	Imperial
City	Unincorporated
Air District	Imperial County APCD
Air Basin	Salton Sea
TAZ	5615
EDFZ	19
Electric Utility	Imperial Irrigation District
Gas Utility	Southern California Gas
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
User Defined Industrial	270	User Defined Unit	270	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-10-A	Water Exposed Surfaces
Construction	C-10-C	Water Unpaved Construction Roads
Construction	C-11	Limit Vehicle Speeds on Unpaved Roads

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.07	3.44	28.1	34.7	0.07	1.14	65.3	66.5	1.05	9.46	10.5	—	9,440	9,440	0.32	0.41	7.33	9,576
Mit.	4.07	3.44	28.1	34.7	0.07	1.14	56.8	57.9	1.05	6.93	7.98	—	9,440	9,440	0.32	0.41	7.33	9,576
% Reduced	—	—	—	—	—	—	13%	13%	—	27%	24%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.99	3.36	28.4	32.1	0.07	1.14	65.3	66.5	1.05	9.46	10.5	—	9,301	9,301	0.32	0.41	0.19	9,430
Mit.	3.99	3.36	28.4	32.1	0.07	1.14	56.8	57.9	1.05	6.93	7.98	—	9,301	9,301	0.32	0.41	0.19	9,430
% Reduced	—	—	—	—	—	—	13%	13%	—	27%	24%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.87	1.58	13.3	21.0	0.04	0.43	34.8	35.2	0.40	3.75	4.15	—	5,007	5,007	0.18	0.19	1.57	5,068
Mit.	1.87	1.58	13.3	21.0	0.04	0.43	32.1	32.6	0.40	3.39	3.79	—	5,007	5,007	0.18	0.19	1.57	5,068

% Reduced	—	—	—	—	—	—	8%	7%	—	10%	9%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.34	0.29	2.44	3.83	0.01	0.08	6.35	6.42	0.07	0.68	0.76	—	829	829	0.03	0.03	0.26	839
Mit.	0.34	0.29	2.44	3.83	0.01	0.08	5.86	5.94	0.07	0.62	0.69	—	829	829	0.03	0.03	0.26	839
% Reduced	—	—	—	—	—	—	8%	7%	—	10%	9%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	4.07	3.44	28.1	34.7	0.07	1.14	65.3	66.5	1.05	9.46	10.5	—	9,440	9,440	0.32	0.41	7.33	9,576
2027	2.86	2.43	19.5	34.7	0.06	0.62	56.7	57.1	0.57	5.86	6.25	—	7,284	7,284	0.28	0.38	6.74	7,346
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	3.99	3.36	28.4	31.9	0.07	1.14	65.3	66.5	1.05	9.46	10.5	—	9,301	9,301	0.32	0.41	0.19	9,430
2027	3.84	3.23	26.7	32.1	0.07	1.06	65.3	66.4	0.98	9.46	10.4	—	9,241	9,241	0.32	0.41	0.17	9,370
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.44	1.22	10.2	11.8	0.03	0.41	23.0	23.5	0.38	3.36	3.73	—	3,369	3,369	0.11	0.15	1.14	3,417
2027	1.87	1.58	13.3	21.0	0.04	0.43	34.8	35.2	0.40	3.75	4.15	—	5,007	5,007	0.18	0.19	1.57	5,068
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.26	0.22	1.86	2.16	< 0.005	0.07	4.21	4.28	0.07	0.61	0.68	—	558	558	0.02	0.02	0.19	566
2027	0.34	0.29	2.44	3.83	0.01	0.08	6.35	6.42	0.07	0.68	0.76	—	829	829	0.03	0.03	0.26	839

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	4.07	3.44	28.1	34.7	0.07	1.14	56.8	57.9	1.05	6.93	7.98	—	9,440	9,440	0.32	0.41	7.33	9,576
2027	2.86	2.43	19.5	34.7	0.06	0.62	53.4	53.8	0.57	5.53	5.92	—	7,284	7,284	0.28	0.38	6.74	7,346
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	3.99	3.36	28.4	31.9	0.07	1.14	56.8	57.9	1.05	6.93	7.98	—	9,301	9,301	0.32	0.41	0.19	9,430
2027	3.84	3.23	26.7	32.1	0.07	1.06	56.8	57.8	0.98	6.93	7.91	—	9,241	9,241	0.32	0.41	0.17	9,370
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.44	1.22	10.2	11.8	0.03	0.41	20.0	20.4	0.38	2.45	2.83	—	3,369	3,369	0.11	0.15	1.14	3,417
2027	1.87	1.58	13.3	21.0	0.04	0.43	32.1	32.6	0.40	3.39	3.79	—	5,007	5,007	0.18	0.19	1.57	5,068
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.26	0.22	1.86	2.16	< 0.005	0.07	3.65	3.72	0.07	0.45	0.52	—	558	558	0.02	0.02	0.19	566
2027	0.34	0.29	2.44	3.83	0.01	0.08	5.86	5.94	0.07	0.62	0.69	—	829	829	0.03	0.03	0.26	839

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.03	0.02	0.62	0.29	0.01	0.01	5.90	5.90	0.01	0.63	0.64	0.00	985	985	0.01	0.11	2.43	1,021
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	0.03	0.02	0.69	0.29	0.01	0.01	5.90	5.90	0.01	0.63	0.64	0.00	985	985	0.01	0.11	0.06	1,019
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.02	0.02	0.49	0.21	0.01	0.01	4.11	4.12	0.01	0.44	0.45	0.00	709	709	0.01	0.08	0.75	734
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	< 0.005	< 0.005	0.09	0.04	< 0.005	< 0.005	0.75	0.75	< 0.005	0.08	0.08	0.00	117	117	< 0.005	0.01	0.12	122

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.03	0.02	0.62	0.29	0.01	0.01	5.90	5.90	0.01	0.63	0.64	—	965	965	0.01	0.11	2.43	1,001
Area	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
Energy	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
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	19.7	19.7	< 0.005	< 0.005	—	19.8
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.03	0.02	0.62	0.29	0.01	0.01	5.90	5.90	0.01	0.63	0.64	0.00	985	985	0.01	0.11	2.43	1,021
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.03	0.02	0.69	0.29	0.01	0.01	5.90	5.90	0.01	0.63	0.64	—	965	965	0.01	0.11	0.06	999
Area	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	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
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	19.7	19.7	< 0.005	< 0.005	—	19.8
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.03	0.02	0.69	0.29	0.01	0.01	5.90	5.90	0.01	0.63	0.64	0.00	985	985	0.01	0.11	0.06	1,019

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.02	0.02	0.49	0.21	0.01	0.01	4.11	4.12	0.01	0.44	0.45	—	689	689	< 0.005	0.08	0.75	714
Area	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
Energy	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
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	19.7	19.7	< 0.005	< 0.005	—	19.8
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.02	0.02	0.49	0.21	0.01	0.01	4.11	4.12	0.01	0.44	0.45	0.00	709	709	0.01	0.08	0.75	734
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	0.09	0.04	< 0.005	< 0.005	0.75	0.75	< 0.005	0.08	0.08	—	114	114	< 0.005	0.01	0.12	118
Area	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
Energy	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
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	3.26	3.26	< 0.005	< 0.005	—	3.27
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.09	0.04	< 0.005	< 0.005	0.75	0.75	< 0.005	0.08	0.08	0.00	117	117	< 0.005	0.01	0.12	122

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.03	0.02	0.62	0.29	0.01	0.01	5.90	5.90	0.01	0.63	0.64	—	965	965	0.01	0.11	2.43	1,001
Area	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
Energy	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
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	19.7	19.7	< 0.005	< 0.005	—	19.8
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.03	0.02	0.62	0.29	0.01	0.01	5.90	5.90	0.01	0.63	0.64	0.00	985	985	0.01	0.11	2.43	1,021

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.03	0.02	0.69	0.29	0.01	0.01	5.90	5.90	0.01	0.63	0.64	—	965	965	0.01	0.11	0.06	999
Area	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	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
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	19.7	19.7	< 0.005	< 0.005	—	19.8
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.03	0.02	0.69	0.29	0.01	0.01	5.90	5.90	0.01	0.63	0.64	0.00	985	985	0.01	0.11	0.06	1,019
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.02	0.02	0.49	0.21	0.01	0.01	4.11	4.12	0.01	0.44	0.45	—	689	689	< 0.005	0.08	0.75	714
Area	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
Energy	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
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	19.7	19.7	< 0.005	< 0.005	—	19.8
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.02	0.02	0.49	0.21	0.01	0.01	4.11	4.12	0.01	0.44	0.45	0.00	709	709	0.01	0.08	0.75	734
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	0.09	0.04	< 0.005	< 0.005	0.75	0.75	< 0.005	0.08	0.08	—	114	114	< 0.005	0.01	0.12	118
Area	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
Energy	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
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	3.26	3.26	< 0.005	< 0.005	—	3.27
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	< 0.005	0.09	0.04	< 0.005	< 0.005	0.75	0.75	< 0.005	0.08	0.08	0.00	117	117	< 0.005	0.01	0.12	122

3. Construction Emissions Details

3.1. Site Preparation/Grading (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.60	3.03	25.4	27.6	0.06	1.09	—	1.09	1.01	—	1.01	—	6,465	6,465	0.26	0.05	—	6,487
Dust From Material Movement	—	—	—	—	—	—	8.67	8.67	—	3.60	3.60	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	4.42	4.42	< 0.005	0.44	0.44	—	11.7	11.7	< 0.005	< 0.005	0.02	12.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.60	3.03	25.4	27.6	0.06	1.09	—	1.09	1.01	—	1.01	—	6,465	6,465	0.26	0.05	—	6,487
Dust From Material Movement	—	—	—	—	—	—	8.67	8.67	—	3.60	3.60	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	4.42	4.42	< 0.005	0.44	0.44	—	11.7	11.7	< 0.005	< 0.005	< 0.005	12.3
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.30	1.09	9.15	9.95	0.02	0.39	—	0.39	0.36	—	0.36	—	2,328	2,328	0.09	0.02	—	2,336
Dust From Material Movement	—	—	—	—	—	—	3.12	3.12	—	1.30	1.30	—	—	—	—	—	—	—

Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	1.55	1.55	< 0.005	0.15	0.15	—	4.21	4.21	< 0.005	< 0.005	< 0.005	4.41
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24	0.20	1.67	1.82	< 0.005	0.07	—	0.07	0.07	—	0.07	—	385	385	0.02	< 0.005	—	387
Dust From Material Movement	—	—	—	—	—	—	0.57	0.57	—	0.24	0.24	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.28	0.28	< 0.005	0.03	0.03	—	0.70	0.70	< 0.005	< 0.005	< 0.005	0.73
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.40	0.37	0.34	6.48	0.00	0.00	33.4	33.4	0.00	3.44	3.44	—	907	907	0.04	0.03	2.97	919
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.62	0.62	< 0.005	0.06	0.07	—	61.8	61.8	< 0.005	0.01	0.15	64.5
Hauling	0.06	0.04	2.22	0.56	0.01	0.04	18.2	18.2	0.04	1.91	1.95	—	1,995	1,995	0.02	0.31	4.18	2,093
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.29	0.39	3.65	0.00	0.00	33.4	33.4	0.00	3.44	3.44	—	766	766	0.04	0.03	0.08	776
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.62	0.62	< 0.005	0.06	0.07	—	61.8	61.8	< 0.005	0.01	< 0.005	64.4
Hauling	0.06	0.04	2.44	0.57	0.01	0.04	18.2	18.2	0.04	1.91	1.95	—	1,997	1,997	0.02	0.31	0.11	2,091
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.14	1.67	0.00	0.00	11.8	11.8	0.00	1.21	1.21	—	297	297	0.01	0.01	0.46	301
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.22	0.22	< 0.005	0.02	0.02	—	22.2	22.2	< 0.005	< 0.005	0.02	23.2
Hauling	0.02	0.01	0.86	0.20	0.01	0.01	6.40	6.41	0.01	0.67	0.69	—	719	719	0.01	0.11	0.65	753
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.03	0.30	0.00	0.00	2.15	2.15	0.00	0.22	0.22	—	49.1	49.1	< 0.005	< 0.005	0.08	49.8

Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.04	0.04	< 0.005	< 0.005	< 0.005	—	3.68	3.68	< 0.005	< 0.005	< 0.005	3.84
Hauling	< 0.005	< 0.005	0.16	0.04	< 0.005	< 0.005	1.17	1.17	< 0.005	0.12	0.13	—	119	119	< 0.005	0.02	0.11	125

3.2. Site Preparation/Grading (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.60	3.03	25.4	27.6	0.06	1.09	—	1.09	1.01	—	1.01	—	6,465	6,465	0.26	0.05	—	6,487
Dust From Material Movement	—	—	—	—	—	—	3.38	3.38	—	1.40	1.40	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	1.11	1.11	< 0.005	0.11	0.11	—	11.7	11.7	< 0.005	< 0.005	0.02	12.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.60	3.03	25.4	27.6	0.06	1.09	—	1.09	1.01	—	1.01	—	6,465	6,465	0.26	0.05	—	6,487
Dust From Material Movement	—	—	—	—	—	—	3.38	3.38	—	1.40	1.40	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	1.11	1.11	< 0.005	0.11	0.11	—	11.7	11.7	< 0.005	< 0.005	< 0.005	12.3
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.30	1.09	9.15	9.95	0.02	0.39	—	0.39	0.36	—	0.36	—	2,328	2,328	0.09	0.02	—	2,336
Dust From Material Movement	—	—	—	—	—	—	1.22	1.22	—	0.51	0.51	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.39	0.39	< 0.005	0.04	0.04	—	4.21	4.21	< 0.005	< 0.005	< 0.005	4.41
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24	0.20	1.67	1.82	< 0.005	0.07	—	0.07	0.07	—	0.07	—	385	385	0.02	< 0.005	—	387
Dust From Material Movement	—	—	—	—	—	—	0.22	0.22	—	0.09	0.09	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.07	0.07	< 0.005	0.01	0.01	—	0.70	0.70	< 0.005	< 0.005	< 0.005	0.73
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.40	0.37	0.34	6.48	0.00	0.00	33.4	33.4	0.00	3.44	3.44	—	907	907	0.04	0.03	2.97	919
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.62	0.62	< 0.005	0.06	0.07	—	61.8	61.8	< 0.005	0.01	0.15	64.5
Hauling	0.06	0.04	2.22	0.56	0.01	0.04	18.2	18.2	0.04	1.91	1.95	—	1,995	1,995	0.02	0.31	4.18	2,093
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.29	0.39	3.65	0.00	0.00	33.4	33.4	0.00	3.44	3.44	—	766	766	0.04	0.03	0.08	776
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.62	0.62	< 0.005	0.06	0.07	—	61.8	61.8	< 0.005	0.01	< 0.005	64.4
Hauling	0.06	0.04	2.44	0.57	0.01	0.04	18.2	18.2	0.04	1.91	1.95	—	1,997	1,997	0.02	0.31	0.11	2,091
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.14	1.67	0.00	0.00	11.8	11.8	0.00	1.21	1.21	—	297	297	0.01	0.01	0.46	301

Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.22	0.22	< 0.005	0.02	0.02	—	22.2	22.2	< 0.005	< 0.005	0.02	23.2
Hauling	0.02	0.01	0.86	0.20	0.01	0.01	6.40	6.41	0.01	0.67	0.69	—	719	719	0.01	0.11	0.65	753
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.03	0.30	0.00	0.00	2.15	2.15	0.00	0.22	0.22	—	49.1	49.1	< 0.005	< 0.005	0.08	49.8
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.04	0.04	< 0.005	< 0.005	< 0.005	—	3.68	3.68	< 0.005	< 0.005	< 0.005	3.84
Hauling	< 0.005	< 0.005	0.16	0.04	< 0.005	< 0.005	1.17	1.17	< 0.005	0.12	0.13	—	119	119	< 0.005	0.02	0.11	125

3.3. Site Preparation/Grading (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.49	2.93	23.9	27.4	0.06	1.02	—	1.02	0.94	—	0.94	—	6,465	6,465	0.26	0.05	—	6,487
Dust From Material Movement	—	—	—	—	—	—	8.67	8.67	—	3.60	3.60	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	4.42	4.42	< 0.005	0.44	0.44	—	11.5	11.5	< 0.005	< 0.005	< 0.005	12.0
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.18	1.45	1.66	< 0.005	0.06	—	0.06	0.06	—	0.06	—	392	392	0.02	< 0.005	—	394

Dust From Material Movement	—	—	—	—	—	—	0.53	0.53	—	0.22	0.22	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.26	0.26	< 0.005	0.03	0.03	—	0.69	0.69	< 0.005	< 0.005	< 0.005	0.73
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.26	0.30	< 0.005	0.01	—	0.01	0.01	—	0.01	—	64.9	64.9	< 0.005	< 0.005	—	65.2
Dust From Material Movement	—	—	—	—	—	—	0.10	0.10	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.05	0.05	< 0.005	< 0.005	< 0.005	—	0.11	0.11	< 0.005	< 0.005	< 0.005	0.12
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.26	0.36	3.29	0.00	0.00	33.4	33.4	0.00	3.44	3.44	—	753	753	0.04	0.03	0.07	763
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.62	0.62	< 0.005	0.06	0.07	—	60.6	60.6	< 0.005	0.01	< 0.005	63.1
Hauling	0.06	0.04	2.38	0.56	0.01	0.04	18.2	18.2	0.04	1.91	1.95	—	1,951	1,951	0.02	0.31	0.10	2,045
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.25	0.00	0.00	1.98	1.98	0.00	0.20	0.20	—	49.1	49.1	< 0.005	< 0.005	0.07	49.7
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.04	0.04	< 0.005	< 0.005	< 0.005	—	3.67	3.67	< 0.005	< 0.005	< 0.005	3.83
Hauling	< 0.005	< 0.005	0.14	0.03	< 0.005	< 0.005	1.08	1.08	< 0.005	0.11	0.12	—	118	118	< 0.005	0.02	0.10	124
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.36	0.36	0.00	0.04	0.04	—	8.13	8.13	< 0.005	< 0.005	0.01	8.24

Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	0.61	0.61	< 0.005	< 0.005	< 0.005	0.63
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	19.6	19.6	< 0.005	< 0.005	0.02	20.5

3.4. Site Preparation/Grading (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.49	2.93	23.9	27.4	0.06	1.02	—	1.02	0.94	—	0.94	—	6,465	6,465	0.26	0.05	—	6,487
Dust From Material Movement	—	—	—	—	—	—	3.38	3.38	—	1.40	1.40	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	1.11	1.11	< 0.005	0.11	0.11	—	11.5	11.5	< 0.005	< 0.005	< 0.005	12.0
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.18	1.45	1.66	< 0.005	0.06	—	0.06	0.06	—	0.06	—	392	392	0.02	< 0.005	—	394
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.09	0.09	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.07	0.07	< 0.005	0.01	0.01	—	0.69	0.69	< 0.005	< 0.005	< 0.005	0.73

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.26	0.30	< 0.005	0.01	—	0.01	0.01	—	0.01	—	64.9	64.9	< 0.005	< 0.005	—	65.2
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	0.11	0.11	< 0.005	< 0.005	< 0.005	0.12
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.26	0.36	3.29	0.00	0.00	33.4	33.4	0.00	3.44	3.44	—	753	753	0.04	0.03	0.07	763
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.62	0.62	< 0.005	0.06	0.07	—	60.6	60.6	< 0.005	0.01	< 0.005	63.1
Hauling	0.06	0.04	2.38	0.56	0.01	0.04	18.2	18.2	0.04	1.91	1.95	—	1,951	1,951	0.02	0.31	0.10	2,045
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.25	0.00	0.00	1.98	1.98	0.00	0.20	0.20	—	49.1	49.1	< 0.005	< 0.005	0.07	49.7
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.04	0.04	< 0.005	< 0.005	< 0.005	—	3.67	3.67	< 0.005	< 0.005	< 0.005	3.83
Hauling	< 0.005	< 0.005	0.14	0.03	< 0.005	< 0.005	1.08	1.08	< 0.005	0.11	0.12	—	118	118	< 0.005	0.02	0.10	124
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.36	0.36	0.00	0.04	0.04	—	8.13	8.13	< 0.005	< 0.005	0.01	8.24
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	0.61	0.61	< 0.005	< 0.005	< 0.005	0.63
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.20	0.20	< 0.005	0.02	0.02	—	19.6	19.6	< 0.005	< 0.005	0.02	20.5

3.5. Trenching/Interconnection (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.62	1.35	13.2	18.7	0.03	0.45	—	0.45	0.42	—	0.42	—	3,423	3,423	0.14	0.03	—	3,435
Onsite truck	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	4.42	4.42	< 0.005	0.44	0.44	—	11.5	11.5	< 0.005	< 0.005	< 0.005	12.0
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	0.16	1.56	2.20	< 0.005	0.05	—	0.05	0.05	—	0.05	—	403	403	0.02	< 0.005	—	405
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.51	0.51	< 0.005	0.05	0.05	—	1.35	1.35	< 0.005	< 0.005	< 0.005	1.41
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.28	0.40	< 0.005	0.01	—	0.01	0.01	—	0.01	—	66.8	66.8	< 0.005	< 0.005	—	67.0
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.09	0.09	< 0.005	0.01	0.01	—	0.22	0.22	< 0.005	< 0.005	< 0.005	0.23
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.26	0.36	3.29	0.00	0.00	33.4	33.4	0.00	3.44	3.44	—	753	753	0.04	0.03	0.07	763
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.62	0.62	< 0.005	0.06	0.07	—	60.6	60.6	< 0.005	0.01	< 0.005	63.1
Hauling	0.06	0.04	2.38	0.56	0.01	0.04	18.2	18.2	0.04	1.91	1.95	—	1,951	1,951	0.02	0.31	0.10	2,045
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.49	0.00	0.00	3.85	3.85	0.00	0.40	0.40	—	95.4	95.4	< 0.005	< 0.005	0.14	96.6
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.07	0.07	< 0.005	0.01	0.01	—	7.13	7.13	< 0.005	< 0.005	0.01	7.44
Hauling	0.01	< 0.005	0.27	0.06	< 0.005	< 0.005	2.09	2.10	< 0.005	0.22	0.22	—	230	230	< 0.005	0.04	0.20	241
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.70	0.70	0.00	0.07	0.07	—	15.8	15.8	< 0.005	< 0.005	0.02	16.0
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	1.18	1.18	< 0.005	< 0.005	< 0.005	1.23
Hauling	< 0.005	< 0.005	0.05	0.01	< 0.005	< 0.005	0.38	0.38	< 0.005	0.04	0.04	—	38.0	38.0	< 0.005	0.01	0.03	39.9

3.6. Trenching/Interconnection (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.62	1.35	13.2	18.7	0.03	0.45	—	0.45	0.42	—	0.42	—	3,423	3,423	0.14	0.03	—	3,435
Onsite truck	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	1.11	1.11	< 0.005	0.11	0.11	—	11.5	11.5	< 0.005	< 0.005	< 0.005	12.0

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	0.16	1.56	2.20	< 0.005	0.05	—	0.05	0.05	—	0.05	—	403	403	0.02	< 0.005	—	405
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.13	0.13	< 0.005	0.01	0.01	—	1.35	1.35	< 0.005	< 0.005	< 0.005	1.41
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.28	0.40	< 0.005	0.01	—	0.01	0.01	—	0.01	—	66.8	66.8	< 0.005	< 0.005	—	67.0
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	0.22	0.22	< 0.005	< 0.005	< 0.005	0.23
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.26	0.36	3.29	0.00	0.00	33.4	33.4	0.00	3.44	3.44	—	753	753	0.04	0.03	0.07	763
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.62	0.62	< 0.005	0.06	0.07	—	60.6	60.6	< 0.005	0.01	< 0.005	63.1
Hauling	0.06	0.04	2.38	0.56	0.01	0.04	18.2	18.2	0.04	1.91	1.95	—	1,951	1,951	0.02	0.31	0.10	2,045
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.49	0.00	0.00	3.85	3.85	0.00	0.40	0.40	—	95.4	95.4	< 0.005	< 0.005	0.14	96.6
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.07	0.07	< 0.005	0.01	0.01	—	7.13	7.13	< 0.005	< 0.005	0.01	7.44
Hauling	0.01	< 0.005	0.27	0.06	< 0.005	< 0.005	2.09	2.10	< 0.005	0.22	0.22	—	230	230	< 0.005	0.04	0.20	241
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.70	0.70	0.00	0.07	0.07	—	15.8	15.8	< 0.005	< 0.005	0.02	16.0
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	1.18	1.18	< 0.005	< 0.005	< 0.005	1.23
Hauling	< 0.005	< 0.005	0.05	0.01	< 0.005	< 0.005	0.38	0.38	< 0.005	0.04	0.04	—	38.0	38.0	< 0.005	0.01	0.03	39.9

3.7. Substation/Switch Station (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.36	1.13	10.8	15.1	0.03	0.38	—	0.38	0.35	—	0.35	—	2,829	2,829	0.11	0.02	—	2,839
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	4.42	4.42	< 0.005	0.44	0.44	—	11.4	11.4	< 0.005	< 0.005	0.02	12.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.27	1.78	< 0.005	0.04	—	0.04	0.04	—	0.04	—	333	333	0.01	< 0.005	—	334
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.51	0.51	< 0.005	0.05	0.05	—	1.35	1.35	< 0.005	< 0.005	< 0.005	1.41
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.23	0.33	< 0.005	0.01	—	0.01	0.01	—	0.01	—	55.2	55.2	< 0.005	< 0.005	—	55.4
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.09	0.09	< 0.005	0.01	0.01	—	0.22	0.22	< 0.005	< 0.005	< 0.005	0.23
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.38	0.35	0.32	5.88	0.00	0.00	33.4	33.4	0.00	3.44	3.44	—	891	891	0.04	0.03	2.71	903
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.62	0.62	< 0.005	0.06	0.07	—	60.5	60.5	< 0.005	0.01	0.14	63.2
Hauling	0.06	0.04	2.16	0.55	0.01	0.04	18.2	18.2	0.04	1.91	1.95	—	1,950	1,950	0.02	0.31	3.88	2,047
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.49	0.00	0.00	3.85	3.85	0.00	0.40	0.40	—	95.4	95.4	< 0.005	< 0.005	0.14	96.6
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.07	0.07	< 0.005	0.01	0.01	—	7.13	7.13	< 0.005	< 0.005	0.01	7.44
Hauling	0.01	< 0.005	0.27	0.06	< 0.005	< 0.005	2.09	2.10	< 0.005	0.22	0.22	—	230	230	< 0.005	0.04	0.20	241
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.70	0.70	0.00	0.07	0.07	—	15.8	15.8	< 0.005	< 0.005	0.02	16.0
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	1.18	1.18	< 0.005	< 0.005	< 0.005	1.23
Hauling	< 0.005	< 0.005	0.05	0.01	< 0.005	< 0.005	0.38	0.38	< 0.005	0.04	0.04	—	38.0	38.0	< 0.005	0.01	0.03	39.9

3.8. Substation/Switch Station (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.36	1.13	10.8	15.1	0.03	0.38	—	0.38	0.35	—	0.35	—	2,829	2,829	0.11	0.02	—	2,839
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	1.11	1.11	< 0.005	0.11	0.11	—	11.4	11.4	< 0.005	< 0.005	0.02	12.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.27	1.78	< 0.005	0.04	—	0.04	0.04	—	0.04	—	333	333	0.01	< 0.005	—	334
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.13	0.13	< 0.005	0.01	0.01	—	1.35	1.35	< 0.005	< 0.005	< 0.005	1.41
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.23	0.33	< 0.005	0.01	—	0.01	0.01	—	0.01	—	55.2	55.2	< 0.005	< 0.005	—	55.4
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	0.22	0.22	< 0.005	< 0.005	< 0.005	0.23
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.38	0.35	0.32	5.88	0.00	0.00	33.4	33.4	0.00	3.44	3.44	—	891	891	0.04	0.03	2.71	903
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.62	0.62	< 0.005	0.06	0.07	—	60.5	60.5	< 0.005	0.01	0.14	63.2
Hauling	0.06	0.04	2.16	0.55	0.01	0.04	18.2	18.2	0.04	1.91	1.95	—	1,950	1,950	0.02	0.31	3.88	2,047
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.49	0.00	0.00	3.85	3.85	0.00	0.40	0.40	—	95.4	95.4	< 0.005	< 0.005	0.14	96.6
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.07	0.07	< 0.005	0.01	0.01	—	7.13	7.13	< 0.005	< 0.005	0.01	7.44
Hauling	0.01	< 0.005	0.27	0.06	< 0.005	< 0.005	2.09	2.10	< 0.005	0.22	0.22	—	230	230	< 0.005	0.04	0.20	241
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.70	0.70	0.00	0.07	0.07	—	15.8	15.8	< 0.005	< 0.005	0.02	16.0
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	1.18	1.18	< 0.005	< 0.005	< 0.005	1.23
Hauling	< 0.005	< 0.005	0.05	0.01	< 0.005	< 0.005	0.38	0.38	< 0.005	0.04	0.04	—	38.0	38.0	< 0.005	0.01	0.03	39.9

3.9. Solar Array Installation (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.46	2.07	18.5	28.7	0.05	0.61	—	0.61	0.56	—	0.56	—	5,802	5,802	0.24	0.05	—	5,822
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	4.42	4.42	< 0.005	0.44	0.44	—	11.4	11.4	< 0.005	< 0.005	0.02	12.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.46	2.07	18.5	28.7	0.05	0.61	—	0.61	0.56	—	0.56	—	5,802	5,802	0.24	0.05	—	5,822
Onsite truck	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	4.42	4.42	< 0.005	0.44	0.44	—	11.5	11.5	< 0.005	< 0.005	< 0.005	12.0
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.04	0.87	7.81	12.1	0.02	0.26	—	0.26	0.24	—	0.24	—	2,448	2,448	0.10	0.02	—	2,456
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	1.82	1.82	< 0.005	0.18	0.18	—	4.82	4.82	< 0.005	< 0.005	< 0.005	5.06
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	0.16	1.42	2.21	< 0.005	0.05	—	0.05	0.04	—	0.04	—	405	405	0.02	< 0.005	—	407

Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.33	0.33	< 0.005	0.03	0.03	—	0.80	0.80	< 0.005	< 0.005	< 0.005	0.84
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.38	0.35	0.32	5.88	0.00	0.00	33.4	33.4	0.00	3.44	3.44	—	891	891	0.04	0.03	2.71	903
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.62	0.62	< 0.005	0.06	0.07	—	60.5	60.5	< 0.005	0.01	0.14	63.2
Hauling	0.02	0.01	0.58	0.15	< 0.005	0.01	4.85	4.86	0.01	0.51	0.52	—	520	520	< 0.005	0.08	1.03	546
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.26	0.36	3.29	0.00	0.00	33.4	33.4	0.00	3.44	3.44	—	753	753	0.04	0.03	0.07	763
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.62	0.62	< 0.005	0.06	0.07	—	60.6	60.6	< 0.005	0.01	< 0.005	63.1
Hauling	0.02	0.01	0.63	0.15	< 0.005	0.01	4.85	4.86	0.01	0.51	0.52	—	520	520	< 0.005	0.08	0.03	545
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.13	0.14	1.76	0.00	0.00	13.8	13.8	0.00	1.42	1.42	—	342	342	0.01	0.01	0.49	346
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.25	0.25	< 0.005	0.03	0.03	—	25.5	25.5	< 0.005	< 0.005	0.02	26.6
Hauling	0.01	< 0.005	0.26	0.06	< 0.005	< 0.005	2.00	2.00	< 0.005	0.21	0.21	—	219	219	< 0.005	0.04	0.19	230
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.03	0.32	0.00	0.00	2.51	2.51	0.00	0.26	0.26	—	56.5	56.5	< 0.005	< 0.005	0.08	57.3
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.05	0.05	< 0.005	< 0.005	< 0.005	—	4.23	4.23	< 0.005	< 0.005	< 0.005	4.41
Hauling	< 0.005	< 0.005	0.05	0.01	< 0.005	< 0.005	0.36	0.37	< 0.005	0.04	0.04	—	36.3	36.3	< 0.005	0.01	0.03	38.1

3.10. Solar Array Installation (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.46	2.07	18.5	28.7	0.05	0.61	—	0.61	0.56	—	0.56	—	5,802	5,802	0.24	0.05	—	5,822
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	1.11	1.11	< 0.005	0.11	0.11	—	11.4	11.4	< 0.005	< 0.005	0.02	12.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.46	2.07	18.5	28.7	0.05	0.61	—	0.61	0.56	—	0.56	—	5,802	5,802	0.24	0.05	—	5,822
Onsite truck	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	1.11	1.11	< 0.005	0.11	0.11	—	11.5	11.5	< 0.005	< 0.005	< 0.005	12.0
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.04	0.87	7.81	12.1	0.02	0.26	—	0.26	0.24	—	0.24	—	2,448	2,448	0.10	0.02	—	2,456
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.46	0.46	< 0.005	0.05	0.05	—	4.82	4.82	< 0.005	< 0.005	< 0.005	5.06
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	0.16	1.42	2.21	< 0.005	0.05	—	0.05	0.04	—	0.04	—	405	405	0.02	< 0.005	—	407
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.08	0.08	< 0.005	0.01	0.01	—	0.80	0.80	< 0.005	< 0.005	< 0.005	0.84
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.38	0.35	0.32	5.88	0.00	0.00	33.4	33.4	0.00	3.44	3.44	—	891	891	0.04	0.03	2.71	903
Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.62	0.62	< 0.005	0.06	0.07	—	60.5	60.5	< 0.005	0.01	0.14	63.2
Hauling	0.02	0.01	0.58	0.15	< 0.005	0.01	4.85	4.86	0.01	0.51	0.52	—	520	520	< 0.005	0.08	1.03	546
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.26	0.36	3.29	0.00	0.00	33.4	33.4	0.00	3.44	3.44	—	753	753	0.04	0.03	0.07	763
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	0.62	0.62	< 0.005	0.06	0.07	—	60.6	60.6	< 0.005	0.01	< 0.005	63.1
Hauling	0.02	0.01	0.63	0.15	< 0.005	0.01	4.85	4.86	0.01	0.51	0.52	—	520	520	< 0.005	0.08	0.03	545
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.13	0.14	1.76	0.00	0.00	13.8	13.8	0.00	1.42	1.42	—	342	342	0.01	0.01	0.49	346
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.25	0.25	< 0.005	0.03	0.03	—	25.5	25.5	< 0.005	< 0.005	0.02	26.6
Hauling	0.01	< 0.005	0.26	0.06	< 0.005	< 0.005	2.00	2.00	< 0.005	0.21	0.21	—	219	219	< 0.005	0.04	0.19	230
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.03	0.32	0.00	0.00	2.51	2.51	0.00	0.26	0.26	—	56.5	56.5	< 0.005	< 0.005	0.08	57.3
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.05	0.05	< 0.005	< 0.005	< 0.005	—	4.23	4.23	< 0.005	< 0.005	< 0.005	4.41
Hauling	< 0.005	< 0.005	0.05	0.01	< 0.005	< 0.005	0.36	0.37	< 0.005	0.04	0.04	—	36.3	36.3	< 0.005	0.01	0.03	38.1

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

User Defined Industrial	0.03	0.02	0.62	0.29	0.01	0.01	5.90	5.90	0.01	0.63	0.64	—	965	965	0.01	0.11	2.43	1,001
Total	0.03	0.02	0.62	0.29	0.01	0.01	5.90	5.90	0.01	0.63	0.64	—	965	965	0.01	0.11	2.43	1,001
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	0.03	0.02	0.69	0.29	0.01	0.01	5.90	5.90	0.01	0.63	0.64	—	965	965	0.01	0.11	0.06	999
Total	0.03	0.02	0.69	0.29	0.01	0.01	5.90	5.90	0.01	0.63	0.64	—	965	965	0.01	0.11	0.06	999
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	< 0.005	< 0.005	0.09	0.04	< 0.005	< 0.005	0.75	0.75	< 0.005	0.08	0.08	—	114	114	< 0.005	0.01	0.12	118
Total	< 0.005	< 0.005	0.09	0.04	< 0.005	< 0.005	0.75	0.75	< 0.005	0.08	0.08	—	114	114	< 0.005	0.01	0.12	118

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	0.03	0.02	0.62	0.29	0.01	0.01	5.90	5.90	0.01	0.63	0.64	—	965	965	0.01	0.11	2.43	1,001
Total	0.03	0.02	0.62	0.29	0.01	0.01	5.90	5.90	0.01	0.63	0.64	—	965	965	0.01	0.11	2.43	1,001
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	0.03	0.02	0.69	0.29	0.01	0.01	5.90	5.90	0.01	0.63	0.64	—	965	965	0.01	0.11	0.06	999

Total	0.03	0.02	0.69	0.29	0.01	0.01	5.90	5.90	0.01	0.63	0.64	—	965	965	0.01	0.11	0.06	999
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	< 0.005	< 0.005	0.09	0.04	< 0.005	< 0.005	0.75	0.75	< 0.005	0.08	0.08	—	114	114	< 0.005	0.01	0.12	118
Total	< 0.005	< 0.005	0.09	0.04	< 0.005	< 0.005	0.75	0.75	< 0.005	0.08	0.08	—	114	114	< 0.005	0.01	0.12	118

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	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

Total	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	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
Total	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	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
Total	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

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	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
Total	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	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
Total	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

User Defined Industrial	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
Total	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

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	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
Total	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural Coatings	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	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
Total	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

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landscape Equipm	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
Total	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	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
Total	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

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	19.7	19.7	< 0.005	< 0.005	—	19.8
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	19.7	19.7	< 0.005	< 0.005	—	19.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	19.7	19.7	< 0.005	< 0.005	—	19.8
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	19.7	19.7	< 0.005	< 0.005	—	19.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	3.26	3.26	< 0.005	< 0.005	—	3.27
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	3.26	3.26	< 0.005	< 0.005	—	3.27

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	19.7	19.7	< 0.005	< 0.005	—	19.8
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	19.7	19.7	< 0.005	< 0.005	—	19.8

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	19.7	19.7	< 0.005	< 0.005	—	19.8
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	19.7	19.7	< 0.005	< 0.005	—	19.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	3.26	3.26	< 0.005	< 0.005	—	3.27
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	3.26	3.26	< 0.005	< 0.005	—	3.27

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipm Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation/Grading	Grading	7/1/2026	1/31/2027	5.00	153	—
Trenching/Interconnection	Building Construction	2/1/2027	3/31/2027	5.00	43.0	—
Substation/Switch Station	Building Construction	4/1/2027	5/31/2027	5.00	43.0	—
Solar Array Installation	Building Construction	6/1/2027	12/31/2027	5.00	154	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation/Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38

Site Preparation/Grading	Graders	Diesel	Average	2.00	8.00	148	0.41
Site Preparation/Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Site Preparation/Grading	Scrapers	Diesel	Average	1.00	8.00	423	0.48
Site Preparation/Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Site Preparation/Grading	Off-Highway Trucks	Diesel	Average	1.00	8.00	376	0.38
Trenching/Interconnection	Cranes	Diesel	Average	1.00	8.00	367	0.29
Trenching/Interconnection	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Trenching/Interconnection	Generator Sets	Diesel	Average	2.00	8.00	14.0	0.74
Trenching/Interconnection	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Trenching/Interconnection	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Trenching/Interconnection	Skid Steer Loaders	Diesel	Average	1.00	8.00	71.0	0.37
Trenching/Interconnection	Skid Steer Loaders	Diesel	Average	1.00	8.00	71.0	0.37
Trenching/Interconnection	Skid Steer Loaders	Diesel	Average	1.00	8.00	71.0	0.37
Trenching/Interconnection	Skid Steer Loaders	Diesel	Average	1.00	8.00	71.0	0.37
Substation/Switch Station	Cranes	Diesel	Average	1.00	8.00	367	0.29
Substation/Switch Station	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Substation/Switch Station	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74

Substation/Switch Station	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Substation/Switch Station	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Substation/Switch Station	Skid Steer Loaders	Diesel	Average	1.00	8.00	71.0	0.37
Substation/Switch Station	Skid Steer Loaders	Diesel	Average	1.00	8.00	71.0	0.37
Solar Array Installation	Cranes	Diesel	Average	1.00	8.00	367	0.29
Solar Array Installation	Forklifts	Diesel	Average	5.00	8.00	82.0	0.20
Solar Array Installation	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Solar Array Installation	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Solar Array Installation	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Solar Array Installation	Bore/Drill Rigs	Diesel	Average	2.00	8.00	83.0	0.50
Solar Array Installation	Bore/Drill Rigs	Diesel	Average	2.00	8.00	83.0	0.50
Solar Array Installation	Off-Highway Trucks	Diesel	Average	1.00	8.00	376	0.38

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation/Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Site Preparation/Grading	Graders	Diesel	Average	2.00	8.00	148	0.41
Site Preparation/Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Site Preparation/Grading	Scrapers	Diesel	Average	1.00	8.00	423	0.48
Site Preparation/Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Site Preparation/Grading	Off-Highway Trucks	Diesel	Average	1.00	8.00	376	0.38

Trenching/Interconnec	Cranes	Diesel	Average	1.00	8.00	367	0.29
Trenching/Interconnection	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Trenching/Interconnection	Generator Sets	Diesel	Average	2.00	8.00	14.0	0.74
Trenching/Interconnection	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Trenching/Interconnection	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Trenching/Interconnection	Skid Steer Loaders	Diesel	Average	1.00	8.00	71.0	0.37
Trenching/Interconnection	Skid Steer Loaders	Diesel	Average	1.00	8.00	71.0	0.37
Trenching/Interconnection	Skid Steer Loaders	Diesel	Average	1.00	8.00	71.0	0.37
Trenching/Interconnection	Skid Steer Loaders	Diesel	Average	1.00	8.00	71.0	0.37
Substation/Switch Station	Cranes	Diesel	Average	1.00	8.00	367	0.29
Substation/Switch Station	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Substation/Switch Station	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Substation/Switch Station	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Substation/Switch Station	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Substation/Switch Station	Skid Steer Loaders	Diesel	Average	1.00	8.00	71.0	0.37
Substation/Switch Station	Skid Steer Loaders	Diesel	Average	1.00	8.00	71.0	0.37
Solar Array Installation	Cranes	Diesel	Average	1.00	8.00	367	0.29
Solar Array Installation	Forklifts	Diesel	Average	5.00	8.00	82.0	0.20
Solar Array Installation	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74

Solar Array Installation	Tractors/Loaders/Back	Diesel	Average	3.00	8.00	84.0	0.37
Solar Array Installation	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Solar Array Installation	Bore/Drill Rigs	Diesel	Average	2.00	8.00	83.0	0.50
Solar Array Installation	Bore/Drill Rigs	Diesel	Average	2.00	8.00	83.0	0.50
Solar Array Installation	Off-Highway Trucks	Diesel	Average	1.00	8.00	376	0.38

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation/Grading	—	—	—	—
Site Preparation/Grading	Worker	60.0	18.5	LDA,LDT1,LDT2
Site Preparation/Grading	Vendor	2.00	10.2	HHDT,MHDT
Site Preparation/Grading	Hauling	30.0	20.0	HHDT
Site Preparation/Grading	Onsite truck	1.00	3.00	HHDT
Trenching/Interconnection	—	—	—	—
Trenching/Interconnection	Worker	60.0	18.5	LDA,LDT1,LDT2
Trenching/Interconnection	Vendor	2.00	10.2	HHDT,MHDT
Trenching/Interconnection	Hauling	30.0	20.0	HHDT
Trenching/Interconnection	Onsite truck	1.00	3.00	HHDT
Substation/Switch Station	—	—	—	—
Substation/Switch Station	Worker	60.0	18.5	LDA,LDT1,LDT2
Substation/Switch Station	Vendor	2.00	10.2	HHDT,MHDT
Substation/Switch Station	Hauling	30.0	20.0	HHDT
Substation/Switch Station	Onsite truck	1.00	3.00	HHDT
Solar Array Installation	—	—	—	—
Solar Array Installation	Worker	60.0	18.5	LDA,LDT1,LDT2
Solar Array Installation	Vendor	2.00	10.2	HHDT,MHDT

Solar Array Installation	Hauling	8.00	20.0	HHDT
Solar Array Installation	Onsite truck	1.00	3.00	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation/Grading	—	—	—	—
Site Preparation/Grading	Worker	60.0	18.5	LDA,LDT1,LDT2
Site Preparation/Grading	Vendor	2.00	10.2	HHDT,MHDT
Site Preparation/Grading	Hauling	30.0	20.0	HHDT
Site Preparation/Grading	Onsite truck	1.00	3.00	HHDT
Trenching/Interconnection	—	—	—	—
Trenching/Interconnection	Worker	60.0	18.5	LDA,LDT1,LDT2
Trenching/Interconnection	Vendor	2.00	10.2	HHDT,MHDT
Trenching/Interconnection	Hauling	30.0	20.0	HHDT
Trenching/Interconnection	Onsite truck	1.00	3.00	HHDT
Substation/Switch Station	—	—	—	—
Substation/Switch Station	Worker	60.0	18.5	LDA,LDT1,LDT2
Substation/Switch Station	Vendor	2.00	10.2	HHDT,MHDT
Substation/Switch Station	Hauling	30.0	20.0	HHDT
Substation/Switch Station	Onsite truck	1.00	3.00	HHDT
Solar Array Installation	—	—	—	—
Solar Array Installation	Worker	60.0	18.5	LDA,LDT1,LDT2
Solar Array Installation	Vendor	2.00	10.2	HHDT,MHDT
Solar Array Installation	Hauling	8.00	20.0	HHDT
Solar Array Installation	Onsite truck	1.00	3.00	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation/Grading	0.00	0.00	300	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
User Defined Industrial	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00	457	0.03	< 0.005
2027	0.00	457	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
User Defined Industrial	16.2	0.00	0.00	4,224	376	0.00	0.00	98,127

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
User Defined Industrial	16.2	0.00	0.00	4,224	376	0.00	0.00	98,127

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	0.00	0.00	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
User Defined Industrial	0.00	457	0.0330	0.0040	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
User Defined Industrial	0.00	457	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
User Defined Industrial	0.00	4,887,771

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
User Defined Industrial	0.00	4,887,771

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
User Defined Industrial	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
User Defined Industrial	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	22.4	annual days of extreme heat
Extreme Precipitation	0.00	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	55.4
AQ-PM	19.3
AQ-DPM	3.04
Drinking Water	25.7
Lead Risk Housing	17.5
Pesticides	61.6
Toxic Releases	9.45
Traffic	9.11
Effect Indicators	—
CleanUp Sites	85.6
Groundwater	30.9
Haz Waste Facilities/Generators	16.6
Impaired Water Bodies	100.0
Solid Waste	9.67
Sensitive Population	—
Asthma	25.4
Cardio-vascular	17.1
Low Birth Weights	20.3
Socioeconomic Factor Indicators	—

Education	91.6
Housing	—
Linguistic	69.5
Poverty	48.0
Unemployment	80.4

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	—
Employed	—
Median HI	—
Education	—
Bachelor's or higher	—
High school enrollment	—
Preschool enrollment	—
Transportation	—
Auto Access	—
Active commuting	—
Social	—
2-parent households	—
Voting	—
Neighborhood	—
Alcohol availability	—
Park access	—
Retail density	—
Supermarket access	—

Tree canopy	—
Housing	—
Homeownership	—
Housing habitability	—
Low-inc homeowner severe housing cost burden	—
Low-inc renter severe housing cost burden	—
Uncrowded housing	—
Health Outcomes	—
Insured adults	—
Arthritis	0.0
Asthma ER Admissions	57.9
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	0.0
Cognitively Disabled	4.9
Physically Disabled	4.1
Heart Attack ER Admissions	44.2
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	0.0
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—

Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	98.0
Elderly	98.1
English Speaking	0.0
Foreign-born	0.0
Outdoor Workers	4.9
Climate Change Adaptive Capacity	—
Impervious Surface Cover	97.4
Traffic Density	0.0
Traffic Access	23.0
Other Indices	—
Hardship	0.0
Other Decision Support	—
2016 Voting	0.0

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	36.0
Healthy Places Index Score for Project Location (b)	—
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Project acreage totals 270
Construction: Construction Phases	18 month construction period
Construction: Off-Road Equipment	Anticipated equipment
Construction: Dust From Material Movement	no import or export anticipated
Construction: Trips and VMT	Anticipated trips during construction
Construction: On-Road Fugitive Dust	unpaved roads to the project
Operations: Vehicle Data	approx 15 trips during maintenance events
Operations: Fleet Mix	90% MHD and 10% HHD
Operations: Architectural Coatings	no painting
Operations: Water and Waste Water	15 afy for panel cleaning
Operations: Road Dust	Access to the site will be from the north on Highway 78 and assumed to be mostly paved

APPENDIX B

Seville 5 Solar Energy Assessment

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ENERGY CONSUMPTION

California relies on a regional power system comprised of a diverse mix of natural gas, renewable, hydroelectric, and nuclear generation resources. Natural gas provides California with a majority of its electricity followed by renewables, nuclear, and large hydroelectric (California Energy Commission [CEC] 2023a). Imperial Irrigation District (IID), the sixth largest electrical utility in California serving more than 150,000 customers in the Imperial Valley and parts of Riverside and San Diego Counties, provides electrical services to the Seville 4 and 5 Solar project area. IID controls more than 1,100 megawatts of energy derived from a diverse resource portfolio that includes its own generation, and long- and short-term power purchases. Located in a region with abundant sunshine, enviable geothermal capacity, wind, and other renewable potential, IID has met or exceeded all Renewable Portfolio Standard (RPS) requirements to date, procuring renewable energy from diverse sources, including biomass, biowaste, geothermal, hydroelectric, solar, and wind.

The Southern California Gas Company provides natural gas services to Imperial County. As the nation's largest natural gas distribution utility, the Southern California Gas Company delivers natural gas energy to 21.8 million consumers through 5.9 million meters in more than 500 communities. The Southern California Gas Company's service territory encompasses approximately 24,000 square miles throughout Central and Southern California, from Visalia to the Mexican border.

Electricity use is measured in kilowatt-hours (kWh), and natural gas use is measured in therms. Vehicle fuel use is typically measured in gallons (e.g., of gasoline or diesel fuel), although energy use for electric vehicles is measured in kWh.

The non-residential electricity consumption associated with all uses in Imperial County from 2017 to 2022 is shown in Table 1. As indicated, the demand has increased since 2017.

Table 1. Non-Residential Electricity Consumption in Imperial County 2017–2022

Year	Electricity Consumption (kilowatt hours)
2022	890,667,882
2021	841,302,847
2020	834,483,019
2019	839,095,659
2018	831,318,925
2017	817,450,656

Source: CEC 2023b

The non-residential natural gas consumption associated with all uses in Imperial County from 2017 to 2022 is shown in Table 2. As indicated, the demand has remained relatively constant since 2017.

Table 2. Non-Residential Natural Gas Consumption in Imperial County 2017–2022

Year	Natural Gas Consumption (therms)
2022	33,322,740
2021	33,421,848
2020	33,813,700
2019	34,736,596
2018	31,159,562
2017	33,090,927

Source: CEC 2023b

Gasoline and diesel fuel sales in Imperial County from 2017 to 2023 is shown in Table 3. Fuel sales have decreased between 2017 and 2023.

Table 3. Automotive Fuel Sales in Imperial County 2017–2023

Year	Total Gasoline Fuel Sales (million gallons)	Total Diesel Fuel Sales (million gallons)
2017	74	11
2018	78	20
2019	73	21
2020	59	22
2021	56	27
2022	48	23
2023	69	26

Source: CEC 2024

ENERGY CONSUMPTION IMPACT ASSESSMENT

Thresholds of Significance

The impact analysis provided below is based on the following California Environmental Quality Act (CEQA) Guidelines Appendix G thresholds of significance. The project would result in a significant impact to energy if it would do any of the following:

1. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

2. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

The impact analysis focuses on the four sources of energy that are relevant to the proposed project: electricity, natural gas, the equipment fuel necessary for project construction, and the automotive fuel necessary for project operations. Addressing energy impacts requires an agency to make a determination as to what constitutes a significant impact. There are no established thresholds of significance, statewide or locally, for what constitutes a wasteful, inefficient, and unnecessary consumption of energy for a proposed land use. For the purposes of this analysis, the amount of electricity and natural gas estimated to be consumed by the project are quantified and compared to that consumed by all land uses in Imperial County.

Similarly, the amount of fuel necessary for project construction and operations is calculated and compared to that consumed in Imperial County.

Methodology

Levels of construction-related and operational energy consumption estimated to be consumed by the project include the number of kWh of electricity, therms of natural gas, and gallons of gasoline. Modeling was based on project specific information such as construction timing and equipment as well as site operations. Energy consumption estimates were calculated using the California Emissions Estimator Model (CalEEMod), version 2022.1.1.29. CalEEMod is a statewide land use computer model designed to quantify resources associated with both construction and operations from a variety of land use projects (California Air Pollution Control Officers Association 2023).

Impact Analysis

Energy Consumption

The project proposes to construct a 65-megawatt solar energy project with accompanying battery storage on approximately 270 acres of land. Operations of the proposed project would not result in the consumption of electricity or natural gas and thus, would not contribute to the countywide usage. Instead, the project would directly support the RPS goal of increasing the percentage of electricity procured from renewable sources.

Therefore, this impact analysis focuses on the two sources of energy that are most relevant to the project: the equipment fuel necessary for construction and the automotive fuel necessary for ongoing maintenance activities. The amount of total construction-related and operational fuel use was estimated using the 2023 default emission factors from The Climate Registry (The Climate Registry 2023).

Energy consumption associated with the proposed project is summarized in Table 4. Project increases in automotive fuel consumption are compared with the countywide fuel sales in 2023, the most recent full year of data.

Table 4. Proposed Project Energy and Fuel Consumption

Energy Type	Annual Energy Consumption	Percentage Increase Countywide
Electricity Consumption*	0 kWh	0.0
Natural Gas*	0 therms	0.0
Automotive Fuel Consumption		
Construction†	137,610 gallons	0.001
Operations†	11,949 gallons	0.0001

Source: *CAPCOA 2023; †Climate Registry 2023

Notes: The project increases in electricity and natural gas consumption are compared with all uses in Imperial County in 2022, the latest data available. The project increases in automotive fuel consumption are compared with the countywide fuel sales in 2023, the most recent full year of data.

Fuel necessary for project construction would be required for the operation of construction equipment, workers and the transportation of materials to the project site. The fuel expenditure necessary to construct the solar facility and infrastructure would be temporary, lasting only as long as project construction. As indicated in Table 4, the project’s gasoline fuel consumption during construction is estimated to be 137,610 gallons, which would increase the annual countywide gasoline fuel usage by 0.001%. As such, all of the project's construction options would have a nominal effect on local and regional energy supplies. No unusual project characteristics would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in the region or the state. Construction contractors would purchase their own gasoline and diesel fuel from local suppliers and would judiciously use fuel supplies to minimize costs due to waste and subsequently maximize profits. Additionally, construction equipment fleet turnover and increasingly stringent state and federal regulations on engine efficiency combined with state regulations limiting engine idling times and requiring recycling of construction debris, would further reduce the amount of transportation fuel demand during project construction. For these reasons, it is expected that construction fuel consumption associated with the project would not be any more inefficient, wasteful, or unnecessary than other similar development projects of this nature.

Once construction is completed the project would be remotely controlled. No employees would be based at the project sites. The only operational emissions associated with the project would be associated with motor vehicle use for routine maintenance work and site security as well as panel upkeep and cleaning. A conservative estimate of 16 vehicle trips per day was assumed. This is a conservative estimate as most days would require no operational vehicle trips. As indicated in Table 4, this would estimate to a consumption of approximately 11,949 gallons of automotive fuel per year, which would increase the annual countywide automotive fuel consumption by 0.0001%. Fuel consumption associated with both the construction equipment needed to construct the project and the vehicle trips generated by the project during ongoing maintenance activities would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region.

State and Local Plans for Renewable Energy/Energy Efficiency

The purpose of the proposed project is the construction of a renewable energy and storage facility in Imperial County. Once in operation, it will decrease the need for energy from fossil fuel–based power plants in the state. The result would be a net increase in electricity resources available to the regional grid, generated from a renewable source. Therefore, the project would directly support the RPS goal of increasing the percentage of electricity procured from renewable sources. Additionally, the project would also be consistent with Imperial County's General Plan Conservation and Open Space Element, Objective 9.2 which encourages renewable energy developments. Therefore, the project would directly support state and local plans for renewable energy development.

The amount of total construction-related and operational fuel use was estimated using the 2023 default emission factors from The Climate Registry in Table 5 (The Climate Registry 2023).

Table 5. Total Construction-Related and Operational Fuel Usage

Action	Carbon Dioxide Equivalent (CO_2e) in Metric Tons*	Conversion of Metric Tons to Kilograms	Construction Equipment Emission Factor†
Construction	1,405	1,405,000	10.21
Total Gallons Consumed During Project Construction			137,610
Operations	122	122,000	10.21
Total Gallons Consumed During Project Operations			11,949

Source: *CAPCOA 2023; †Climate Registry 2023

Notes: The project increases in electricity and natural gas consumption are compared with all uses in Imperial County in 2022, the latest data available. The project increases in automotive fuel consumption are compared with the countywide fuel sales in 2023, the most recent full year of data.

References

California Air Pollution Control Officers Association (CAPCOA). 2023. California Emission Estimator Model (CalEEMod) and User Guide. Version 2022.1.1.29. Available at: http://www.caleemod.com/. Accessed February 2025.

California Energy Commission (CEC). 2023a. 2023 Total System Electric Generation. Available at: https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2023-total-system-electric-generation. Accessed February, 2025.

______. 2023b. California Energy and Natural Gas Consumption Database. Available at: http://www.ecdms.energy.ca.gov/. Accessed February, 2025.

______. 2024. California Retail Fuel Outlet Annual Reporting (CEC-A15) Results. Available at: http: //view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fwww.energy.ca.gov%2Fsites%2Fdefault%2Ffiles%2F2024-10%2F2010-2023_CEC-A15_Results_and_Analysis_ADA.xlsx&wdOrigin=BROWSELINK. Accessed February, 2025.

Climate Registry. 2023. General Reporting Protocol for the Voluntary Reporting Program version 3.0. May 2019. Available at: https://theclimateregistry.org/wp-content/uploads/2023/06/2023-Default-Emission-Factors-Final-1.pdf. Accessed February, 2025.