Mitchell Air Quality Consulting

Air Quality and Greenhouse Gas/Energy Analysis Report
Parc West Residential Development
City of Fresno, California

Prepared for:
Crawford & Bowen Planning, Inc.
113 N. Church Avenue
Visalia, CA 93291
559.840.4414
Contact: Travis Crawford,
Principal Environmental Planner

Prepared by:
Mitchell Air Quality Consulting
1164 E. Decatur Avenue
Fresno, CA 93720
559.246.3732
Contact: Dave Mitchell,
Senior Air Quality Scientist

May 21, 2020

INTENTIONALLY LEFT BLANK

Table of Contents

Acronyms and Abbreviations v

Section 1: Executive Summary 1
1.1— Purpose and Methods of Analysis 1
1.2— Project Description 1
1.3— Summary of Analysis Results 1
1.4— Standard Conditions and Mitigation Measures Applied to the Project 2

Section 2: Air Quality Setting 13
2.1— Environmental Setting 13
2.2— Regulatory Setting 14
2.3— Existing Air Quality Conditions 22
2.4— Air Quality Plans and Regulations 27

Section 3: Climate Change Setting 39
3.1— Climate Change 39
3.2— Greenhouse Gases 42
3.3— Regulatory Environment 46

Section 4: Modeling Parameters and Assumptions 71
4.1— Model Selection and Guidance 71
4.2— Air Pollutants and GHGs Assessed 71
4.3— Construction Modeling Assumptions 72
4.4— Operation 74

Section 5: Air Quality Impact Analysis 77
5.1— CEQA Guidelines 77
5.2— Impact Analysis 77

Section 6: Greenhouse Gas Impact Analysis 97
6.1— CEQA Guidelines 97
6.2— Impact Analysis 97

Section 7: Energy 123
7.1— CEQA Guidelines 123
7.2— Impact Analysis 123

Section 8: References 131

Appendix A: Modeling Assumptions and Results

Appendix B: San Joaquin Valley Air Pollution Control District Amicus Brief on Friant Ranch Supreme Court Decision

List of Tables

Table 1: Description of Air Pollutants 16

Table 2: Air Quality Monitoring Summary 23

Table 3: Air Quality Index and Health Effects from Ozone 24

Table 4: Air Quality Index and Health Effects of Particulate Pollution 25
Table 5: San Joaquin Valley Air Basin Attainment Status 27
Table 6: Recommendations on Siting New Sensitive Land Uses 36
Table 7: Description of Greenhouse Gases 42
Table 8: Construction Air Pollutant Emissions Summary 81
Table 9: Operational Air Pollutant Emissions 82
Table 10: Maximum Daily Air Pollutant Emissions during Construction 88
Table 11: Maximum Daily Air Pollutant Emissions during Operations 89
Table 12: Screening Levels for Potential Odor Sources 94
Table 13: Construction Greenhouse Gas Emissions 102
Table 14: Reductions from Greenhouse Gas Regulations 104
Table 15: Project Operational Greenhouse Gases 2025 106
Table 16: Project Operational Greenhouse Gases 2030 107
Table 17: 2017 Scoping Plan Update Estimated Change in GHG Emissions by Sector 108
Table 18: Consistency with Fresno Greenhouse Gas Reduction Plan 110
Table 19: Project Consistency with AB 32 Scoping Plan 113
Table 20: Consistency with SB 32 2017 Scoping Plan Update 120
Table 21: Construction Energy Consumption 124
Table 22: Operational Energy Consumption 127

List of Figures

Figure 1: Regional Location Map 3
Figure 2: Vicinity Map 5
Figure 3: Conceptual Site Plan 7
Figure 4: Tract No. 6212 9
Figure 5: Tract No. 6276 11
Figure 6: San Joaquin Valley NO_X Emissions Forecast 32
Figure 7: Observed and Projected Temperatures for Climate Change in the Project Area 40
Figure 8: Greenhouse Gas Emissions by Geographic Area 45
Figure 9: Greenhouse Gas Emission Trends by Scoping Plan Category in California 45
Figure 10: California's Path to Achieving the 2050 Target 118

ACRONYMS AND ABBREVIATIONS

$\mu g/m^3$	micrograms per cubic meter
AB	Assembly Bill
AQMP	Air Quality Management Plan
ARB	California Air Resources Board
BAU	Business as Usual
CalEEMod	California Emissions Estimator Model
CAPCOA	California Air Pollution Control Officers Association
CEQA	California Environmental Quality Act
CO	carbon monoxide
CO_2	carbon dioxide
District	San Joaquin Valley Air Pollution Control District
DPM	diesel particulate matter
EMFAC	EMission FACtors Model
EPA	United States Environmental Protection Agency
Fresno COG	Fresno Council of Governments
GAMAQI	Guidance for Assessing and Mitigating Air Quality Impacts
GHG Rx	Greenhouse Gas Reduction Exchange
GHG(s)	greenhouse gas(es)
HAP	hazardous air pollutant
HRA	health risk assessment
IPCC	United Nations Intergovernmental Panel on Climate Change
MAQC	Mitchell Air Quality Consulting
$MMTCO_2e$	million metric tons of carbon dioxide equivalent
$MTCO_2e$	metric tons of carbon dioxide equivalent
NO_X	nitrogen oxides
PM_{10}	particulate matter less than 10 microns in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
ppb	parts per billion
ppm	parts per million
ROG	reactive organic gases
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SJVAPCD	San Joaquin Valley Air Pollution Control District
SMAQMD	Sacramento Metropolitan Air Quality Management District
SO_X	sulfur oxides
VOC	volatile organic compounds

INTENTIONALLY LEFT BLANK

SECTION 1: EXECUTIVE SUMMARY

1.1—Purpose and Methods of Analysis

The following air quality and greenhouse gas (GHG) and energy analyses were prepared to evaluate whether the estimated criteria air pollutants, toxic air contaminants (TACs), and GHG emissions generated from the Parc West Residential Development (project) would cause significant impacts to air resources in the project area. This assessment was conducted within the context of the California Environmental Quality Act (CEQA, California Public Resources Code Sections 21000, et seq.). The methodology follows the Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI) prepared by the San Joaquin Valley Air Pollution Control District (SJVAPCD or District) for quantification of emissions and evaluation of potential impacts to air resources (SJVAPCD 2015a), and the SJVAPCD's Guidance for Valley Land-Use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA (SJVAPCD 2009). An energy analysis was prepared to satisfy the requirements of CEQA Guidelines Appendix F: Energy Conservation.

1.2—Project Description

The project is an 844-unit residential development on 160 acres located on the northwest corner of West Shields Avenue and North Grantland Avenue. The site is within the city limits of Fresno (annexed in 2015) and occupies Assessor's Parcel Numbers 512-02-126 and 512-02-150S. The site is currently planted with relatively young almond trees but was previously vacant for several years. Most of the project site is designated by the City of Fresno General Plan as Medium Density Residential (5.0–12 DU/acre). There is a 10-acre portion of the site at the southeast corner of the lot that is zoned and designated Community Commercial; however, the Applicant is proposing to change this land use from commercial to residential (RS-5) to match the land use designation of the remainder of the 160 acres. The project includes a 1.8-acre park and installation of a trail system that will connect to the City's existing/future trail network in the area. The project will be built out in phases. Two tentative tract maps covering a portion of the project site are considered the first phase of development for analysis purposes.

The project's regional vicinity location is shown in Figure 1; an aerial view of the local vicinity is provided in Figure 2; the conceptual site plan for the entire site is provided in Figure 3; Tentative Tract Map 6212 is provided in Figure 4; and Tentative Tract Map 6276 is provided in Figure 5.

1.3—Summary of Analysis Results

The following is a summary of the analysis results. As shown below, the project would result in less than significant impacts for all air quality and GHG impact criteria analyzed.

Impact AIR-1: The project would not conflict with or obstruct implementation of the applicable air quality plan. **Less than significant impact.**

Impact AIR-2: The project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing

emissions, which exceed quantitative thresholds for ozone precursors). **Less than significant impact.**

Impact AIR-3: The project would not expose sensitive receptors to substantial pollutant concentrations. **Less than significant impact.**

Impact AIR-4: The project would not create objectionable odors affecting a substantial number of people. **Less than significant impact.**

Impact GHG-1: The project would not generate direct or indirect greenhouse gas emissions that would result in a significant impact on the environment. **Less than significant impact.**

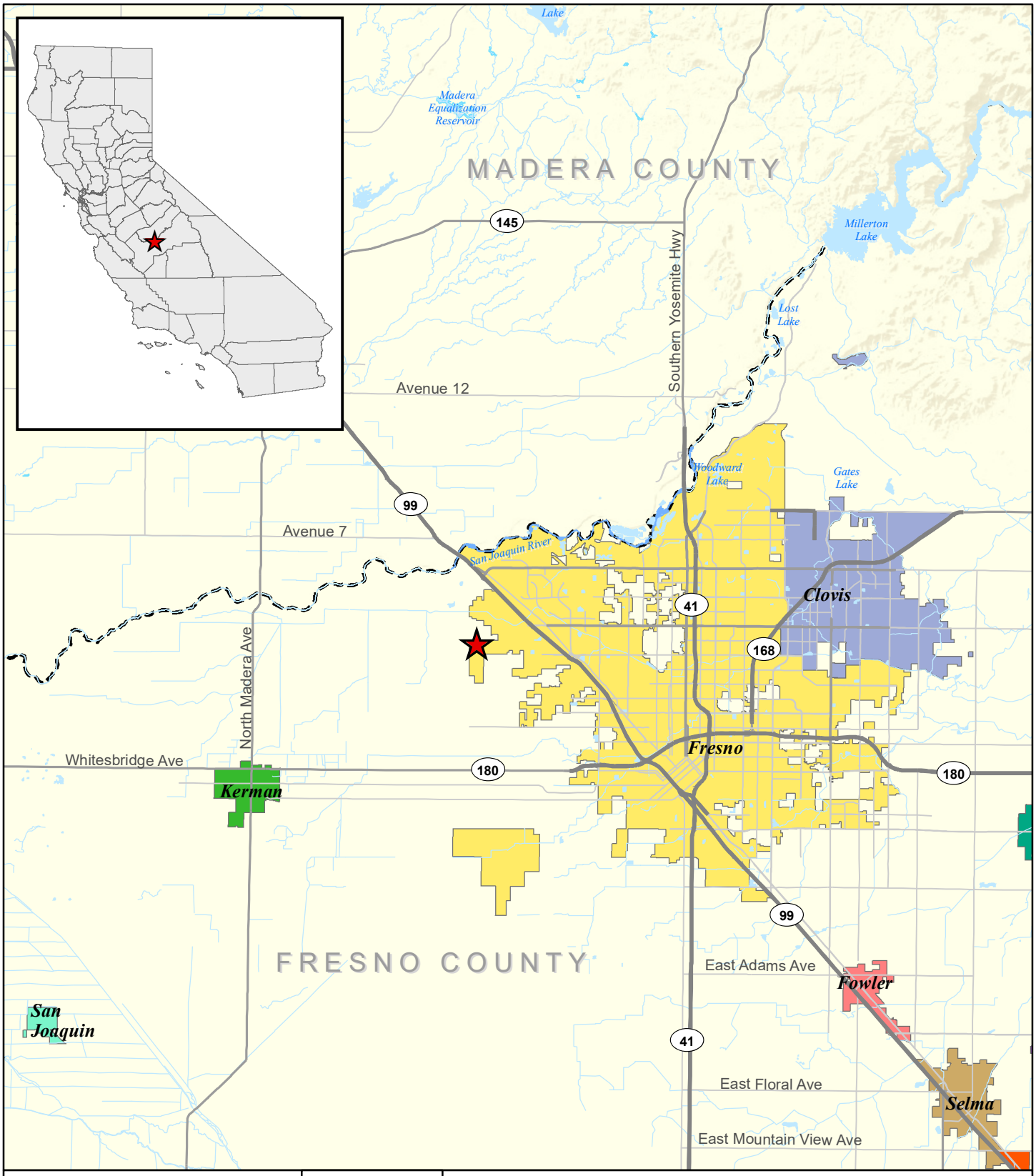
Impact GHG-2: The project would not conflict with any applicable plan, policy or regulation of an agency adopted to reduce the emissions of greenhouse gases. **Less than significant impact**.

Impact ENERGY-1: The project would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation. **Less than significant impact.**

Impact ENERGY-2: The project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. **Less than significant impact.**

1.4—Standard Conditions and Mitigation Measures Applied to the Project

No mitigation measures beyond compliance with mandatory regulations were required to demonstrate that the project would have less than significant for air quality, health risk, and GHG impacts.



Legend

Project Location

County Boundary

Sources: Fresno County GIS; Open StreetMap; CalAtlas. USFS. Map date: May 15, 2020.

0 2 4

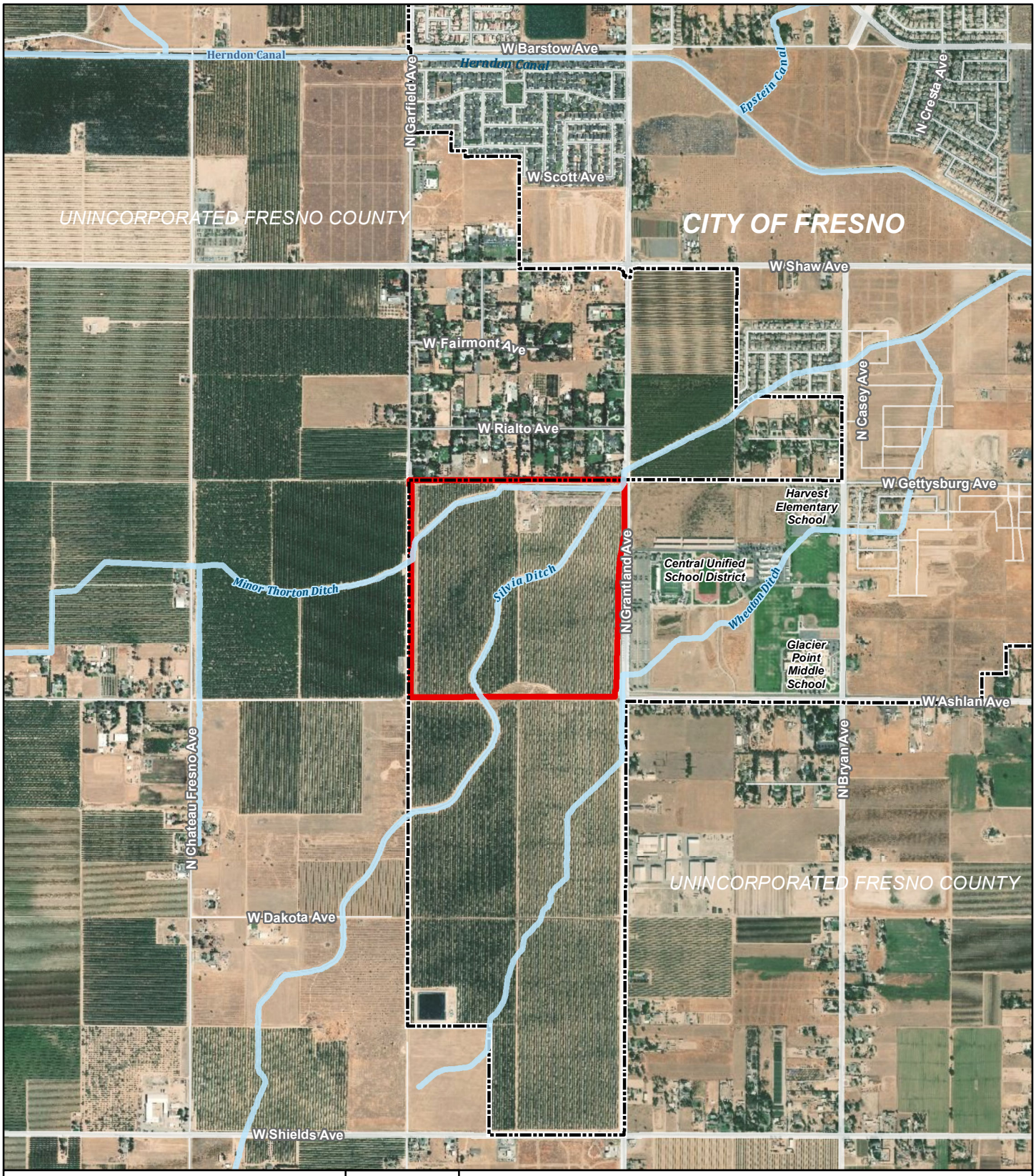
Miles

1:300,000

CRAWFORD & BOWEN PLANNING, INC.
AIR QUALITY AND GREENHOUSE GAS/ENERGY ANALYSIS REPORT
PARC WEST DEVELOPMENT PROJECT

Figure 1. Regional Location Map

INTENTIONALLY LEFT BLANK



Legend

- Project Boundary
- Fresno City Boundary
- Canal or Ditch

Source: Fresno County GIS; ArcGIS Online World Imagery Map Service. Map date: May 15, 2020.

0 500 1,000
Feet

CRAWFORD & BOWEN PLANNING, INC.
AIR QUALITY AND GREENHOUSE GAS/ENERGY ANALYSIS REPORT
PARC WEST DEVELOPMENT PROJECT

Figure 2. Vicinity Map

INTENTIONALLY LEFT BLANK

0 100 200
Feet

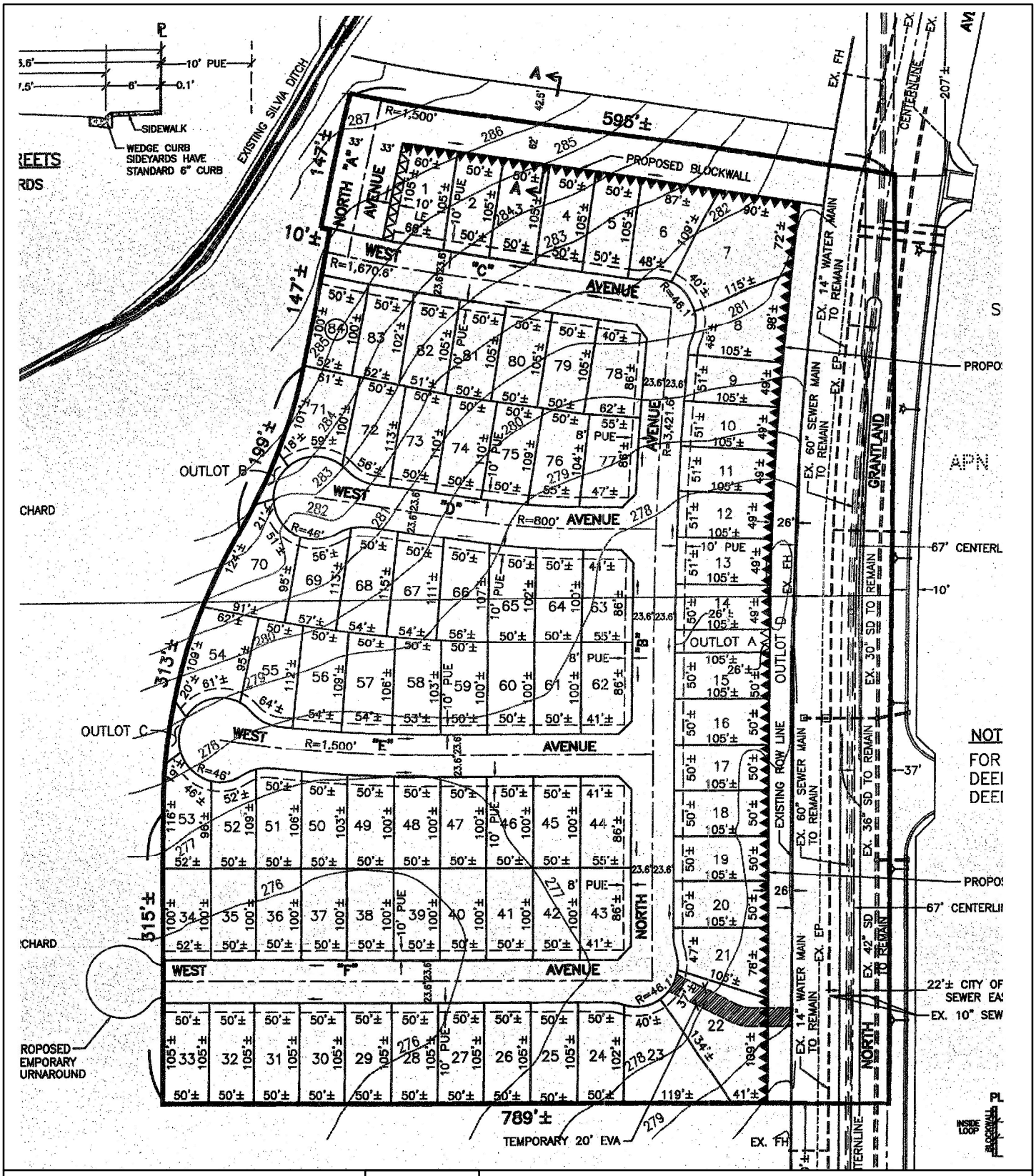
Scale approximate

Source: Crawford & Bowen Planning, Inc.; Fresno County. Map date: May 14, 2020.

CRAWFORD & BOWEN PLANNING, INC.
AIR QUALITY AND GREENHOUSE GAS/ENERGY ANALYSIS REPORT
PARC WEST DEVELOPMENT PROJECT

Figure 3. Conceptual Site Plan

INTENTIONALLY LEFT BLANK



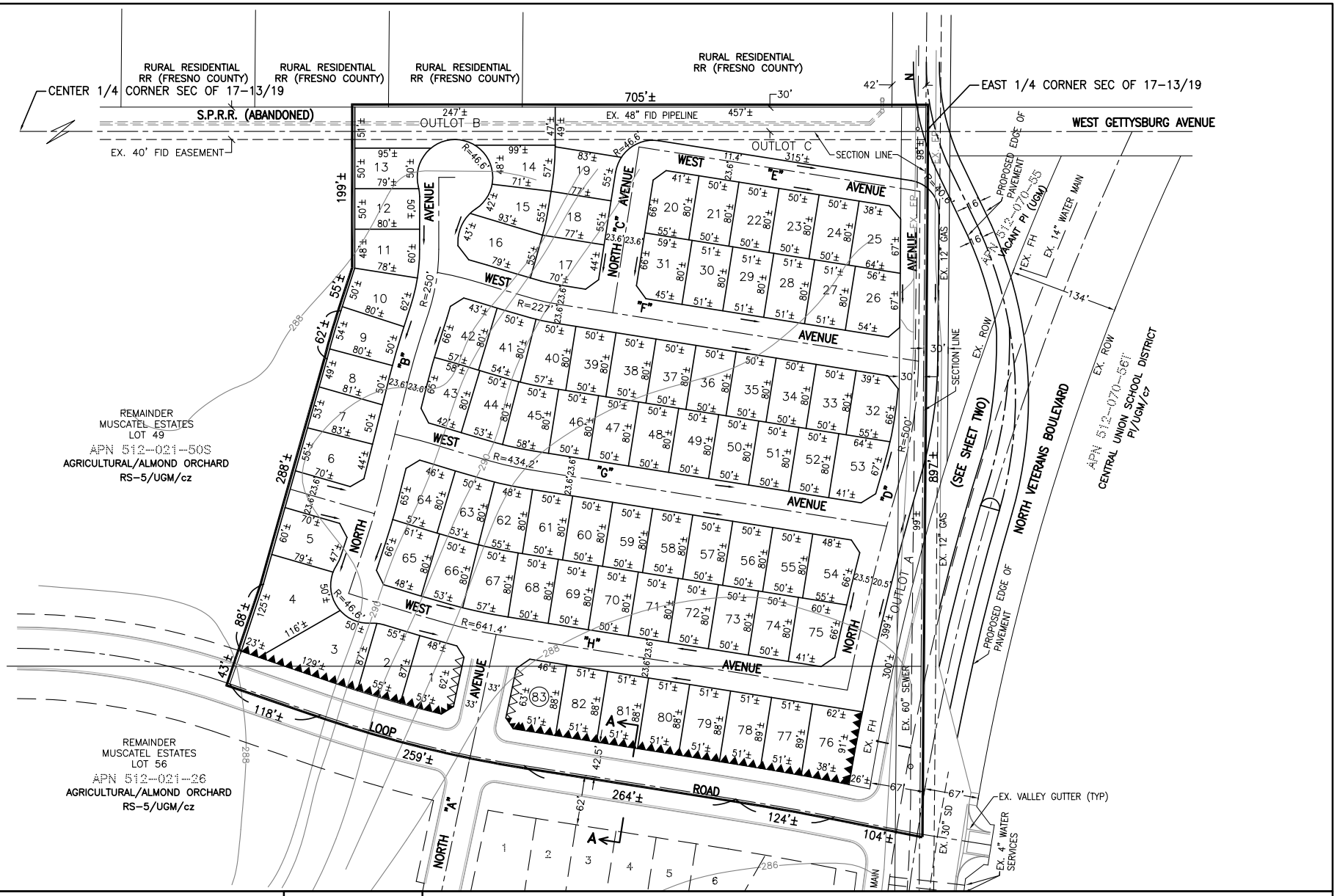
CRAWFORD & BOWEN PLANNING, INC.
AIR QUALITY AND GREENHOUSE GAS/ENERGY ANALYSIS REPORT
PARC WEST DEVELOPMENT PROJECT

Figure 4. Tract No. 6212

0 50 100
Feet

Source: Crawford & Bowen Planning, Inc.; Fresno County. Map date: May 14, 2020.

INTENTIONALLY LEFT BLANK



0 50 100
Feet

CRAWFORD & BOWEN PLANNING, INC.
AIR QUALITY AND GREENHOUSE GAS/ENERGY ANALYSIS REPORT
PARC WEST DEVELOPMENT PROJECT

Figure 5. Tract No. 6276

Source: Crawford & Bowen Planning, Inc.; Fresno County. Map date: May 14, 2020.

INTENTIONALLY LEFT BLANK

SECTION 2: AIR QUALITY SETTING

2.1—Environmental Setting

Air quality impacts are both local and regional. Regional and local air quality is impacted by topography, dominant airflows, atmospheric inversions, location, and season. The project is located in the San Joaquin Valley Air Basin (Air Basin), which experiences some of the most challenging environmental conditions for air quality in the nation. The following section describes these conditions as they pertain to the Air Basin. The information in this section is primarily from the SJVAPCD's GAMAQI (SJVAPCD 2015a).

2.1.1 - San Joaquin Valley Air Basin

Topography

The topography of a region is important for air quality because mountains can block airflow that would help disperse pollutants, and can channel air from upwind areas that transports pollutants to downwind areas. The SJVAPCD covers the entirety of the Air Basin. The Air Basin is generally shaped like a bowl. It is open in the north and is surrounded by mountain ranges on all other sides. The Sierra Nevada mountains are along the eastern boundary (8,000 to 14,000 feet in elevation), the Coast Ranges are along the western boundary (3,000 feet in elevation), and the Tehachapi Mountains are along the southern boundary (6,000 to 8,000 feet in elevation).

Climate

The climate is important for air quality because of differences in the atmosphere's ability to trap pollutants close to the ground, which creates adverse air quality; inversely, the atmosphere's ability to rapidly disperse pollutants over a wide area prevents high concentrations from accumulating under different climatic conditions. The Air Basin has an "inland Mediterranean" climate and is characterized by long, hot, dry summers and short, foggy winters. Sunlight can be a catalyst in the formation of some air pollutants (such as ozone); the Air Basin averages over 260 sunny days per year.

Inversion layers are significant in determining pollutant concentrations. Concentration levels can be related to the amount of mixing space below the inversion. Temperature inversions that occur on the summer days are usually encountered 2,000 to 2,500 feet above the valley floor. In winter months, overnight inversions occur 500 to 1,500 feet above the valley floor.

Dominant airflows provide the driving mechanism for transport and dispersion of air pollution. The mountains surrounding the Air Basin form natural horizontal barriers to the dispersion of air contaminants. The wind generally flows south-southeast through the valley, through the Tehachapi Pass and into the Mojave Desert Air Basin portion of Kern County. As the wind moves through the Air Basin, it mixes with the air pollution generated locally, generally transporting air pollutants from the north to the south in the summer and in a reverse flow in the winter.

The winds and unstable air conditions experienced during the passage of winter storms result in periods of low pollutant concentrations and excellent visibility. Between winter storms, high pressure and light winds allow cold moist air to pool on the San Joaquin Valley floor. This creates strong, low-

level temperature inversions and very stable air conditions, which can lead to Tule fog. Wintertime conditions favorable to fog formation are also conditions favorable to high concentrations of $PM_{2.5}$ and PM_{10}.

2.2—Regulatory Setting

Air pollutants are regulated to protect human health and for secondary effects such as visibility and building soiling. The Clean Air Act of 1970 tasks the United States Environmental Protection Agency (EPA) with setting air quality standards. The State of California also sets air quality standards, which are in some cases more stringent than federal standards, in addition to addressing additional pollutants. The following section describes these federal and state standards and the health effects of the regulated pollutants.

2.2.1 - Clean Air Act

Congress established much of the basic structure of the Clean Air Act (CAA) in 1970, and made major revisions in 1977 and 1990. Six common air pollutants (also known as criteria pollutants) are addressed in the CAA: particulate matter, ground-level ozone, carbon monoxide, sulfur oxides, nitrogen oxides, and lead. The EPA labels these pollutants as criteria air pollutants because they are regulated by developing human health-based and/or environmentally based criteria (science-based guidelines), which sets permissible levels. The set of limits based on human health are called primary standards. Another set of limits intended to prevent environmental and property damage are called secondary standards (EPA 2014). The federal standards are called National Ambient Air Quality Standards (NAAQS). The air quality standards provide benchmarks for determining whether air quality is healthy at specific locations and whether development activities will cause or contribute to a violation of the standards. The criteria pollutants are:

- Ozone
- Nitrogen dioxide (NO_2)
- Lead
- Particulate matter (PM_{10} and $PM_{2.5}$)
- Carbon monoxide (CO)
- Sulfur dioxide

The federal standards were set to protect public health, including that of sensitive individuals; thus, the EPA is tasked with updating the standards as more medical research is available regarding the health effects of the criteria pollutants. Primary federal standards are the levels of air quality necessary, with an adequate margin of safety, to protect the public health (ARB 2016).

2.2.2 - California Clean Air Act

The California Legislature enacted the California Clean Air Act (CCAA) in 1988 to address air quality issues of concern not adequately addressed by the federal CAA at the time. California's air quality problems were and continue to be some of the most severe in the nation, and required additional actions beyond the federal mandates. The California Air Resources Board (ARB) administers California Ambient Air Quality Standards (CAAQS) for the 10 air pollutants designated in the CCAA. The 10 state air pollutants are the six federal standards listed above as well visibility-reducing particulates, hydrogen sulfide, sulfates, and vinyl chloride. The EPA authorized California to adopt its own regulations for motor vehicles and other sources that are more stringent than similar federal regulations implementing the CAA. Generally, the planning requirements of the CCAA are less

stringent than the federal CAA; therefore, consistency with the CAA will also demonstrate consistency with the CCAA.

2.2.3 - Toxic Air Contaminants

A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations. There are no ambient air quality standards for TAC emissions. TACs are regulated in terms of health risks to individuals and populations exposed to the pollutants. The 1990 Clean Air Act Amendments significantly expanded the EPA's authority to regulate hazardous air pollutants (HAP). Section 112 of the Clean Air Act lists 187 hazardous air pollutants to be regulated by source category. Authority to regulate these pollutants was delegated to individual states. ARB and local air districts regulate TACs and HAPs in California.

2.2.4 - Air Pollutant Description and Health Effects

The federal and state ambient air quality standards, relevant effects, properties, and sources of the pollutants are summarized in Table 1.

Table 1: Description of Air Pollutants

Air Pollutant	Averaging Time	California Standard	Federal Standard[a]	Most Relevant Effects from Pollutant Exposure	Properties	Sources
Ozone	1 Hour	0.09 ppm	—	Irritate respiratory system; reduce lung function; breathing pattern changes; reduction of breathing capacity; inflame and damage cells that line the lungs; make lungs more susceptible to infection; aggravate asthma; aggravate other chronic lung diseases; cause permanent lung damage; some immunological changes; increased mortality risk; vegetation and property damage.	Ozone is a photochemical pollutant as it is not emitted directly into the atmosphere, but is formed by a complex series of chemical reactions between volatile organic compounds (VOC), NO_X, and sunlight. Ozone is a regional pollutant that is generated over a large area and is transported and spread by the wind.	Ozone is a secondary pollutant; thus, it is not emitted directly into the lower level of the atmosphere. The primary sources of ozone precursors (VOC and NO_X) are mobile sources (on-road and off-road vehicle exhaust).
	8 Hour	0.070 ppm	0.070 ppm[f]			
Carbon monoxide (CO)	1 Hour	20 ppm	35 ppm	Ranges depending on exposure: slight headaches; nausea; aggravation of angina pectoris (chest pain) and other aspects of coronary heart disease; decreased exercise tolerance in persons with peripheral vascular disease and lung disease; impairment of central nervous system functions; possible increased risk to fetuses; death.	CO is a colorless, odorless, toxic gas. CO is somewhat soluble in water; therefore, rainfall and fog can suppress CO conditions. CO enters the body through the lungs, dissolves in the blood, replaces oxygen as an attachment to hemoglobin, and reduces available oxygen in the blood.	CO is produced by incomplete combustion of carbon-containing fuels (e.g., gasoline, diesel fuel, and biomass). Sources include motor vehicle exhaust, industrial processes (metals processing and chemical manufacturing), residential wood burning, and natural sources.
	8 Hour	9.0 ppm	9 ppm			
Nitrogen dioxide[b] (NO_2)	1 Hour	0.18 ppm	0.100 ppm	Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; contribution to atmospheric discoloration; increased visits to hospital for respiratory illnesses.	During combustion of fossil fuels, oxygen reacts with nitrogen to produce nitrogen oxides—NO_X (NO, NO_2, NO_3, N_2O, N_2O_3, N_2O_4, and N_2O_5). NO_X is a precursor to ozone, PM_{10}, and $PM_{2.5}$ formation. NO_X can react with compounds to form nitric acid and related small particles and result in PM-related health effects.	NO_X is produced in motor vehicle internal combustion engines and fossil fuel-fired electric utility and industrial boilers. Nitrogen dioxide (NO_2) forms quickly from NO_X emissions. NO_2 concentrations near major roads can be 30 to 100 percent higher than those at monitoring stations.
	Annual	0.030 ppm	0.053 ppm			

Table 1 (cont.): Description of Air Pollutants

Air Pollutant	Averaging Time	California Standard	Federal Standard[a]	Most Relevant Effects from Pollutant Exposure	Properties	Sources
Sulfur dioxide[c] (SO_2)	1 Hour	0.25 ppm	0.075 ppm	Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma. Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient sulfur dioxide levels. It is not clear whether the two pollutants act synergistically or one pollutant alone is the predominant factor.	Sulfur dioxide is a colorless, pungent gas. At levels greater than 0.5 ppm, the gas has a strong odor, similar to rotten eggs. Sulfur oxides (SO_X) include sulfur dioxide and sulfur trioxide. Sulfuric acid is formed from sulfur dioxide, which can lead to acid deposition and can harm natural resources and materials. Although sulfur dioxide concentrations have been reduced to levels well below state and federal standards, further reductions are desirable because sulfur dioxide is a precursor to sulfate and PM_{10}.	Human-caused sources include fossil-fuel combustion, mineral ore processing, and chemical manufacturing. Volcanic emissions are a natural source of sulfur dioxide. The gas can also be produced in the air by dimethylsulfide and hydrogen sulfide. Sulfur dioxide is removed from the air by dissolution in water, chemical reactions, and transfer to soils and ice caps. The sulfur dioxide levels in the State are well below the maximum standards.
	3 Hour	—	0.5 ppm			
	24 Hour	0.04 ppm	0.14 (for certain areas)			
	Annual	—	0.030 ppm (for certain areas)			
Particulate matter (PM_{10})	24 Hour	50 µg/m^3	150 µg/m^3	• Short-term exposure (hours/days): irritation of the eyes, nose, throat; coughing; phlegm; chest tightness; shortness of breath; aggravates existing lung disease, causing asthma attacks and acute bronchitis; those with heart disease can suffer heart attacks and arrhythmias. • Long-term exposure: reduced lung function; chronic bronchitis; changes in lung morphology; death.	Suspended particulate matter is a mixture of small particles that consist of dry solid fragments, droplets of water, or solid cores with liquid coatings. The particles vary in shape, size, and composition. PM_{10} refers to particulate matter that is between 2.5 and 10 microns in diameter (1 micron is one-millionth of a meter). $PM_{2.5}$ refers to particulate matter that is 2.5 microns or less in diameter, about one-thirtieth the size of the average human hair.	Stationary sources include fuel or wood combustion for electrical utilities, residential space heating, and industrial processes; construction and demolition; metals, minerals, and petrochemicals; wood products processing; mills and elevators used in agriculture; erosion from tilled lands; waste disposal; and recycling. Mobile or transportation-related sources are from vehicle exhaust and road dust. Secondary particles form from reactions in the atmosphere.
	Mean	20 µg/m^3	—			
Particulate matter ($PM_{2.5}$)	24 Hour	—	35 µg/m^3			
	Annual	12 µg/m^3	12.0 µg/m^3			
Visibility-reducing particles	8 Hour	See note below[d]				

Table 1 (cont.): Description of Air Pollutants

Air Pollutant	Averaging Time	California Standard	Federal Standard[a]	Most Relevant Effects from Pollutant Exposure	Properties	Sources
Sulfates	24 Hour	25 µg/m^3	—	(a) Decrease in ventilatory function; (b) aggravation of asthmatic symptoms; (c) aggravation of cardio-pulmonary disease; (d) vegetation damage; (e) degradation of visibility; (f) property damage.	The sulfate ion is a polyatomic anion with the empirical formula SO_4^{2-}. Sulfates occur in combination with metal and/or hydrogen ions. Many sulfates are soluble in water.	Sulfates are particulates formed through the photochemical oxidation of sulfur dioxide. In California, the main source of sulfur compounds is combustion of gasoline and diesel fuel.
Lead[e]	30-day	1.5 µg/m^3	—	Lead accumulates in bones, soft tissue, and blood and can affect the kidneys, liver, and nervous system. It can cause impairment of blood formation and nerve conduction, behavior disorders, mental retardation, neurological impairment, learning deficiencies, and low IQ.	Lead is a solid heavy metal that can exist in air pollution as an aerosol particle component. Leaded gasoline was used in motor vehicles until around 1970. Lead concentrations have not exceeded state or federal standards at any monitoring station since 1982.	Lead ore crushing, lead-ore smelting, and battery manufacturing are currently the largest sources of lead in the atmosphere in the United States. Other sources include dust from soils contaminated with lead-based paint, solid waste disposal, and crustal physical weathering.
	Quarter	—	1.5 µg/m^3			
	Rolling 3-month average	—	0.15 µg/m^3			
Vinyl chloride[e]	24 Hour	0.01 ppm	—	Short-term exposure to high levels of vinyl chloride in the air causes central nervous system effects, such as dizziness, drowsiness, and headaches. Epidemiological studies of occupationally exposed workers have linked vinyl chloride exposure to development of a rare cancer, liver angiosarcoma, and have suggested a relationship between exposure and lung and brain cancers.	Vinyl chloride, or chloroethene, is a chlorinated hydrocarbon and a colorless gas with a mild, sweet odor. In 1990, ARB identified vinyl chloride as a toxic air contaminant and estimated a cancer unit risk factor.	Most vinyl chloride is used to make polyvinyl chloride plastic and vinyl products, including pipes, wire and cable coatings, and packaging materials. It can be formed when plastics containing these substances are left to decompose in solid waste landfills. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites.
Hydrogen sulfide	1 Hour	0.03 ppm	—	High levels of hydrogen sulfide can cause immediate respiratory arrest. It can irritate the eyes and respiratory tract and cause	Hydrogen sulfide (H_2S) is a flammable, colorless, poisonous gas that smells like rotten eggs.	Manure, storage tanks, ponds, anaerobic lagoons, and land application sites are the primary sources of hydrogen sulfide.

Table 1 (cont.): Description of Air Pollutants

Air Pollutant	Averaging Time	California Standard	Federal Standard[a]	Most Relevant Effects from Pollutant Exposure	Properties	Sources
				headache, nausea, vomiting, and cough. Long exposure can cause pulmonary edema.		Anthropogenic sources include the combustion of sulfur-containing fuels (oil and coal).
Volatile organic compounds (VOC)		There are no state or federal standards for VOCs because they are not classified as criteria pollutants.		Although health-based standards have not been established for VOCs, health effects can occur from exposures to high concentrations because of interference with oxygen uptake. In general, concentrations of VOCs are suspected to cause eye, nose, and throat irritation; headaches; loss of coordination; nausea; and damage to the liver, the kidneys, and the central nervous system. Many VOCs have been classified as toxic air contaminants.	Reactive organic gases (ROG), or VOCs, are defined as any compound of carbon—excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate—that participates in atmospheric photochemical reactions. Although there are slight differences in the definition of ROG and VOCs, the two terms are often used interchangeably.	Indoor sources of VOCs include paints, solvents, aerosol sprays, cleansers, tobacco smoke, etc. Outdoor sources of VOCs are from combustion and fuel evaporation. A reduction in VOC emissions reduces certain chemical reactions that contribute to the formulation of ozone. VOCs are transformed into organic aerosols in the atmosphere, which contribute to higher PM_{10} and lower visibility.
Diesel particulate matter (DPM)		There are no ambient air quality standards for DPM.		Some short-term (acute) effects of DPM exposure include eye, nose, throat, and lung irritation, coughs, headaches, light-headedness, and nausea. Studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems. Human studies on the carcinogenicity of DPM demonstrate an increased risk of lung cancer, although the increased risk cannot be clearly attributed to diesel exhaust exposure.	DPM is a source of $PM_{2.5}$—diesel particles are typically 2.5 microns and smaller. Diesel exhaust is a complex mixture of thousands of particles and gases that is produced when an engine burns diesel fuel. Organic compounds account for 80 percent of the total particulate matter mass, which consists of compounds such as hydrocarbons and their derivatives, and polycyclic aromatic hydrocarbons and their derivatives. Fifteen polycyclic aromatic hydrocarbons are confirmed carcinogens, a number of which are found in diesel exhaust.	Diesel exhaust is a major source of ambient particulate matter pollution in urban environments. Typically, the main source of DPM is from combustion of diesel fuel in diesel-powered engines. Such engines are in on-road vehicles such as diesel trucks, off-road construction vehicles, diesel electrical generators, and various pieces of stationary construction equipment.

Table 1 (cont.): Description of Air Pollutants

Air Pollutant	Averaging Time	California Standard	Federal Standard[a]	Most Relevant Effects from Pollutant Exposure	Properties	Sources

Notes:
ppm = parts per million (concentration) µg/m^3 = micrograms per cubic meter Annual = Annual Arithmetic Mean 30-day = 30-day average Quarter = Calendar quarter

[a] Federal standard refers to the primary national ambient air quality standard, or the levels of air quality necessary, with an adequate margin of safety to protect the public health. All standards listed are primary standards except for 3 Hour SO_2, which is a secondary standard. A secondary standard is the level of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[b] To attain the 1-hour NO_2 national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 parts per billion (ppb) (0.100 ppm).

[c] On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

[d] Visibility-reducing particles: In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are “extinction of 0.23 per kilometer” and “extinction of 0.07 per kilometer” for the statewide and Lake Tahoe Air Basin standards, respectively.

[e] The ARB has identified lead and vinyl chloride as “toxic air contaminants” with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[f] The EPA Administrator approved a revised 8-hour ozone standard of 0.07 ppb on October 1, 2015. The new standard went into effect 60 days after publication of the Final Rule in the Federal Register. The Final Rule was published in the Federal Register on October 26, 2015 and became effective on December 28, 2015.

Source of effects, properties, and sources: South Coast Air Quality Management District 2007; California Environmental Protection Agency 2002; California Air Resources Board 2009a; U.S. Environmental Protection Agency 2003, 2009a, 2009b, 2010, 2011, 2012a and 2012b; National Toxicology Program 2011 and 2016.
Source of standards: California Air Resources Board 2013a.

Several pollutants listed in Table 1 are not addressed in this analysis. Analysis of lead, hydrogen sulfide, sulfates, and vinyl chloride are not included in this report because no new sources of these pollutant emissions are anticipated with the project. Visibility-reducing particles are not explicitly addressed in this analysis because particulate matter is addressed as PM_{10} and $PM_{2.5}$.

Toxic Air Contaminants Health Effects

A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations. There are no ambient air quality standards for TAC emissions. TACs are regulated in terms of health risks to individuals and populations exposed to the pollutants. The 1990 Clean Air Act Amendments significantly expanded the EPA's authority to regulate hazardous air pollutants. Section 112 of the Clean Air Act lists 187 hazardous air pollutants to be regulated by source category. Authority to regulate these pollutants was delegated to individual states. ARB and local air districts regulate TACs and hazardous air pollutants in California.

Exposures to TACs emissions can have both chronic long-term (over a year or longer) and acute short-term (over a period of hours) health impacts. The TACs of greatest concern are those that cause serious health problems or affect many people. Health problems can include cancer, respiratory irritation, nervous system problems, and birth defects. Some health problems occur very soon after a person inhales a TAC. These immediate effects may be minor, such as watery eyes, or they may be serious, such as life-threatening lung damage. Other health problems may not appear until many months or years after a person's first exposure to the TAC. Cancer is one example of a delayed health problem.

A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations. The California Almanac of Emissions and Air Quality—2009 Edition (ARB 2009b) presents the relevant concentration and cancer risk data for the ten TACs that pose the most substantial health risk in California based on available data. The ten TACs are acetaldehyde, benzene, 1.3-butadiene, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, perchloroethylene, and diesel particulate matter (DPM).

Some studies indicate that DPM poses the greatest health risk among the TACs listed above. A 10-year research program (ARB 1998) demonstrated that DPM from diesel-fueled engines is a human carcinogen and that chronic (long-term) inhalation exposure to DPM poses a chronic health risk. In addition to increased risk of lung cancer, exposure to diesel exhaust can have other health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause a cough, headaches, lightheadedness, and nausea. Diesel exhaust is a major source of fine particulate pollution as well, and studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems.

DPM differs from other TACs in that it is not a single substance, but a complex mixture of hundreds of substances. Although DPM is emitted by diesel-fueled, internal combustion engines, the composition of the emissions varies, depending on: engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present. Unlike the other TACs, however, no ambient monitoring data are available for DPM because no routine measurement method currently exists. The ARB has made preliminary concentration estimates based on a DPM exposure method. This method uses the ARB emissions inventory's PM_{10} database, ambient PM_{10} monitoring data, and the results from several studies to estimate concentrations of DPM.

Health risks attributable to the top 10 TACs listed above are available from the ARB as part of its California Almanac of Emissions and Air Quality. As shown therein for data collected at the First Street air monitoring station in Fresno, cancer risks attributable to all of the listed TACs above with the exception of DPM have declined about 70 percent from the mid-1990s to 2007. Risks associated with DPM emissions are provided only for the year 2000 and have not been updated in the Almanac. Although more recent editions of the Almanac do not provide estimated risk, they do provide emission inventories for DPM for later years. The 2013 Almanac provides emission inventory trends for DPM from 2000 through 2035. The same Almanac reports that DPM emissions were reduced in the SJVAB from 16 tons per day in 2000 to 11 tons per day in 2010, a 31 percent decrease. DPM emissions in the San Joaquin Valley are projected to decrease to 6 tons per day by 2015, a 62 percent reduction from year 2000 levels. ARB predicts a reduction to three tons per day by 2035, which would be an 81 percent reduction from year 2000 levels. Continued implementation of the ARB's Diesel Risk Reduction Plan is expected to provide continued reductions in DPM through 2020 and beyond through regulations on this source (ARB 2013b).

Asbestos

Asbestos is the name given to a number of naturally occurring fibrous silicate minerals that have been mined for their useful properties such as thermal insulation, chemical and thermal stability, and high tensile strength. The three most common types of asbestos are chrysotile, amosite, and crocidolite. Chrysotile, also known as white asbestos, is the most common type of asbestos found in buildings. Chrysotile makes up approximately 90 to 95 percent of all asbestos contained in buildings in the United States. Exposure to asbestos is a health threat; exposure to asbestos fibers may result in health issues such as lung cancer, mesothelioma (a rare cancer of the thin membranes lining the lungs, chest, and abdominal cavity), and asbestosis (a non-cancerous lung disease that causes scarring of the lungs). Exposure to asbestos can occur during demolition or remodeling of buildings that were constructed prior to the 1977 ban on asbestos for use in buildings. Exposure to naturally occurring asbestos can occur during soil-disturbing activities in areas with deposits present. No naturally occurring asbestos is located near the project site.

2.3—Existing Air Quality Conditions

The local air quality can be evaluated by reviewing relevant air pollution concentrations near the project area. Table 2 summarizes 2016 through 2018 published monitoring data, which is the most recent three-year period available. Data was obtained from the closest air monitoring stations with data available. The table displays data from the Fresno-Sierra Sky Park monitoring station (located approximately 3.7 miles northeast of the project site) and from the Fresno-Garland Avenue

monitoring site (located approximately 7.5 miles east of the project site). The data show that during the past few years, the project area has exceeded the standards for ozone (state and national), PM_{10} (state), and $PM_{2.5}$ (national). The data in the table reflect the concentration of the pollutants in the air, measured using air monitoring equipment. This differs from emissions, which are calculations of a pollutant being emitted over a certain period. No recent monitoring data for Fresno County or the San Joaquin Valley Air Basin were available for CO or SO_2. Generally, no monitoring is conducted for pollutants that are no longer likely to exceed ambient air quality standards.

Table 2: Air Quality Monitoring Summary

Air Pollutant	Averaging Time	Item	2016	2017	2018
Ozone[1]	1 Hour	Max 1 Hour (ppm)	**0.108**	**0.128**	**0.100**
		Days > State Standard (0.09 ppm)	6	6	4
Ozone[1]	8 Hour	Max 8 Hour (ppm)	**0.089**	**0.106**	**0.087**
		Days > State Standard (0.07 ppm)	63	50	49
		Days > National Standard (0.070 ppm)	62	47	43
Carbon monoxide (CO)	8 Hour	Max 8 Hour (ppm)	ND	ND	ND
		Days > State Standard (9.0 ppm)	ND	ND	ND
		Days > National Standard (9 ppm)	ND	ND	ND
Nitrogen dioxide (NO_2)[2]	Annual	Annual Average (ppm)	0.010	0.011	0.011
	1 Hour	Max 1 Hour (ppm)	0.0561	0.0573	0.0681
		Days > State Standard (0.18 ppm)	0	0	0
Sulfur dioxide (SO_2)	Annual	Annual Average (ppm)	ND	ND	ND
	24 Hour	Max 24 Hour (ppm)	ND	ND	ND
		Days > State Standard (0.04 ppm)	ND	ND	ND
Inhalable coarse particles (PM_{10})[2]	Annual	Annual Average (µg/m^3)	**34.8**	**39.6**	**41.0**
	24 hour	24 Hour (µg/m^3)	**91.9**	**160.1**	**130.4**
		Days > State Standard (50 µg/m^3)	67.5	97.4	102.7
		Days > National Standard (150 µg/m^3)	0	1	0
Fine particulate matter ($PM_{2.5}$)[2]	Annual	Annual Average (µg/m^3)	**13.6**	**14.3**	**16.6**
	24 Hour	24 Hour (µg/m^3)	**52.7**	**86.0**	**95.7**
		Days > National Standard (35 µg/m^3)	16.0	31.1	36.0

Notes:
> = exceed ppm = parts per million µg/m^3 = micrograms per cubic meter
ID = insufficient data ND = no data max = maximum
Bold = exceedance
State Standard = California Ambient Air Quality Standard
National Standard = National Ambient Air Quality Standard
[1] Fresno-Sierra Sky Park Monitoring Station
[2] Fresno-Garland Monitoring Station
Source: California Air Resources Board 2017a.

The health impacts of the various air pollutants of concern can be presented in a number of ways. The clearest of these is comparable with the state and federal ozone standards. If concentrations are below the standard, it is safe to say that no significant health impact would occur to anyone. When concentrations exceed the standard, impacts will vary based on the amount by which the standard is exceeded. The EPA developed the Air Quality Index (AQI) as an easy-to-understand measure of health impacts compared with concentrations in the air. Table 3 provides a description of the health impacts of ozone at different concentrations.

Table 3: Air Quality Index and Health Effects from Ozone

Air Quality Index/ 8-hour Ozone Concentration	Health Effects Description
AQI 51–100—Moderate	**Sensitive Groups:** Children and people with asthma are the groups most at risk.
Concentration 55–70 ppb	**Health Effects Statements:** Unusually sensitive individuals may experience respiratory symptoms.
	Cautionary Statements: Unusually sensitive people should consider limiting prolonged outdoor exertion.
AQI 101–150—Unhealthy for Sensitive Groups	**Sensitive Groups:** Children and people with asthma are the groups most at risk.
Concentration 71–85 ppb	**Health Effects Statements:** Increasing likelihood of respiratory symptoms and breathing discomfort in active children and adults and people with respiratory disease, such as asthma.
	Cautionary Statements: Active children and adults, and people with respiratory disease, such as asthma, should limit prolonged outdoor exertion.
AQI 151–200—Unhealthy	**Sensitive Groups:** Children and people with asthma are the groups most at risk.
Concentration 86–105 ppb	**Health Effects Statements:** Greater likelihood of respiratory symptoms and breathing difficulty in active children and adults and people with respiratory disease, such as asthma; possible respiratory effects in general population.
	Cautionary Statements: Active children and adults, and people with respiratory disease, such as asthma, should avoid prolonged outdoor exertion; everyone else, especially children, should limit prolonged outdoor exertion.
AQI 201–300—Very Unhealthy	**Sensitive Groups:** Children and people with asthma are the groups most at risk.
Concentration 106–200 ppb	**Health Effects Statements:** Increasingly severe symptoms and impaired breathing likely in active children and adults and people with respiratory disease, such as asthma; increasing likelihood of respiratory effects in general population.
	Cautionary Statements: Active children and adults, and people with respiratory disease, such as asthma, should avoid all outdoor exertion; everyone else, especially children, should limit outdoor exertion.
Source: Air Now 2016.	

The AQI for the 8-hour ozone standard is based on the current NAAQS of 70 parts per billion (ppb). Based on the AQI scale for the 8-hour ozone standard, the project area experienced one day in the last three years that would be categorized as very unhealthy (AQI 201–250), and as many as 113 days that were unhealthy (AQI 151–200) or unhealthy for sensitive groups (AQI 101–150), violating the 70-ppb standard as measured at the Fresno-Sierra Sky Park monitoring station. The highest reading was 107 parts per billion (ppb) in 2017 (AQI 202), compared with the 105-ppb cutoff point for unhealthy (AQI 200). The most days over the standard were 44 days in 2017.

The other nonattainment pollutant of concern is $PM_{2.5}$. An AQI of 100 or lower is considered moderate and would be triggered by a 24-hour average concentration of 12.1 to 35.4 µg/m^3. An AQI of 101 to 105 or 35.5-55.4 µg/m^3 is considered unhealthful for sensitive groups. When concentrations reach this amount, it is considered an exceedance of the federal $PM_{2.5}$ standard. The monitoring station nearest the project exceeded the standard on approximately 83 days in the three-year period spanning from 2016 to 2018. The highest number of exceedances was recorded in 2018 with 36 days over the standard. People with respiratory or heart disease, the elderly, and children are the groups most at risk. Unusually sensitive people should consider reducing prolonged or heavy exertion. The AQI of 151 to 200 is classified as unhealthy for everyone. This AQI classification is triggered when $PM_{2.5}$ concentration ranges from 55.4 to 150.4 µg/m^3. At this concentration, there is increasing likelihood of respiratory symptoms in sensitive individuals, aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease, and in the elderly. People with respiratory or heart disease, the elderly, and children should limit prolonged exertion. Everyone else should reduce prolonged or heavy exertion. The highest concentration recorded at the Fresno-Garland monitoring station in the last three years was 95.7 µg/m^3 (AQI 172) in 2018. At this concentration, increased aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease and the elderly, and increased respiratory effects in general population would occur. People with respiratory or heart disease, the elderly, and children should avoid prolonged exertion; everyone else should limit prolonged exertion when the AQI exceeds this level. The relationship of the AQI to health effects in shown Table 4.

Table 4: Air Quality Index and Health Effects of Particulate Pollution

Air Quality Index/ $PM_{2.5}$ Concentration	Health Effects Description
AQI 51–100—Moderate	**Sensitive Groups:** Some people who may be unusually sensitive to particle.
Concentration 12.1–35.4 µg/m^3	**Health Effects Statements:** Unusually sensitive people should consider reducing prolonged or heavy exertion.
	Cautionary Statements: Unusually sensitive people: Consider reducing prolonged or heavy exertion. Watch for symptoms such as coughing or shortness of breath. These are signs to take it easier.
AQI 101–150—Unhealthy for Sensitive Groups	**Sensitive Groups:** Sensitive groups include people with heart or lung disease, older adults, children, and teenagers.
Concentration 35.5–55.4 µg/m^2	**Health Effects Statements:** Increasing likelihood of respiratory symptoms in sensitive individuals, aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease, and the elderly.

Table 4 (cont.): Air Quality Index and Health Effects of Particulate Pollution

Air Quality Index/ $PM_{2.5}$ Concentration	Health Effects Description
	If you have heart disease: Symptoms such as palpitations, shortness of breath, or unusual fatigue may indicate a serious problem. If you have any of these, contact your health care provider.
AQI 151–200—Unhealthy	**Sensitive Groups:** Everyone
Concentration 55.5–150.4 µg/m^3	**Health Effects Statements:** Increased aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease and the elderly; increased respiratory effects in general population.
	Cautionary Statements: Sensitive groups: Avoid prolonged or heavy exertion. Consider moving activities indoors or rescheduling. Everyone else: Reduce prolonged or heavy exertion. Take more breaks during outdoor activities.
AQI 201–300—Very Unhealthy	**Sensitive Groups:** Everyone
Concentration 150.5–250.4 µg/m^3	**Health Effects Statements:** Significant aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease and the elderly; significant increase in respiratory effects in general population.
	Cautionary Statements: Sensitive groups: Avoid all physical activity outdoors. Move activities indoors or reschedule to a time when air quality is better. Everyone else: Avoid prolonged or heavy exertion. Consider moving activities indoors or rescheduling to a time when air quality is better.
Source: Air Now 2016.	

2.3.1 - Attainment Status

The EPA and the ARB designate air basins where ambient air quality standards are exceeded as "nonattainment" areas. If standards are met, the area is designated an "attainment" area. If there is inadequate or inconclusive data to make a definitive attainment designation, they are considered "unclassified." National nonattainment areas are further designated marginal, moderate, serious, severe, or extreme as a function of deviation from standards.

Each standard has a different definition, or "form" of what constitutes attainment, based on specific air quality statistics. For example, the federal 8-hour CO standard is not to be exceeded more than once per year; therefore, an area is in attainment of the CO standard if no more than one 8-hour ambient air monitoring values exceeds the threshold per year. In contrast, the federal annual $PM_{2.5}$ standard is met if the three-year average of the annual average $PM_{2.5}$ concentration is less than or equal to the standard.

The current attainment designations for the Air Basin are shown in Table 5. The Air Basin is designated nonattainment for ozone, PM_{10}, and $PM_{2.5}$.

Table 5: San Joaquin Valley Air Basin Attainment Status

Pollutant	State Status	National Status
Ozone—One Hour	Nonattainment/Severe	No Standard
Ozone—Eight Hour	Nonattainment	Nonattainment/Extreme
Carbon monoxide	Attainment/Unclassified	Merced, Madera, and Kings Counties are unclassified; others are in Attainment
Nitrogen dioxide	Attainment	Attainment/Unclassified
Sulfur dioxide	Attainment	Attainment/Unclassified
PM_{10}	Nonattainment	Attainment
$PM_{2.5}$	Nonattainment	Nonattainment
Lead	Attainment	No Designation/Classification
Source of State status: California Air Resources Board (ARB 2013c). Source of National status: U.S. Environmental Protection Agency (EPA 2016a). Source of additional status information (SJVAPCD 2017a).		

2.4—Air Quality Plans and Regulations

Air pollutants are regulated at the national, state, and air basin or county level, and each agency has a different level of regulatory responsibility: the EPA regulates at the national level, the ARB at the state level, and the SJVAPCD at the air basin level.

The EPA is responsible for national and interstate air pollution issues and policies. The EPA sets national vehicle and stationary source emission standards, oversees approval of all State Implementation Plans, provides research and guidance for air pollution programs, and sets National Ambient Air Quality Standards—also known as the federal standards described earlier.

A State Implementation Plan (SIP) is a document prepared by each state describing existing air quality conditions and measures that will be followed to attain and maintain federal standards. The SIP for the State of California is administered by the ARB, which has overall responsibility for statewide air quality maintenance and air pollution prevention. California's SIP incorporates individual federal attainment plans for regional air districts; specifically, an air district prepares their federal attainment plan, which is sent to ARB to be approved and incorporated into the California State Implementation Plan. Federal attainment plans include the technical foundation for understanding air quality (e.g., emission inventories and air quality monitoring), control measures and strategies, and enforcement mechanisms. The ARB then submits the SIP to the EPA for approval. After reviewing submitted SIPs, the EPA proposes to approve or disapprove all or part of each plan. The public has an opportunity to comment on the EPA's proposed action. The EPA considers public input before taking final action on a state's plan. If the EPA approves all or part of a SIP, those control measures are enforceable in federal court. If a state fails to submit an approvable plan or if the EPA disapproves a plan, the EPA is required to develop a federal implementation plan (FIP). The SIP approval process often takes several years. The most recent federally approved attainment plans for the SJVAPCD are the 2007 8-Hour Ozone Attainment Plan and the 2012 $PM_{2.5}$ Plan for the 2006 $PM_{2.5}$ standard.

Areas designated nonattainment must develop air quality plans and regulations to achieve standards by specified dates, depending on the severity of the exceedances. For much of the country, implementation of federal motor vehicle standards and compliance with federal permitting requirements for industrial sources are adequate to attain air quality standards on schedule. For many areas of California, however, additional state and local regulation is required to achieve the standards. Regulations adopted by California are described below.

2.4.1 - California Regulations

Low-Emission Vehicle Program

The ARB first adopted Low-Emission Vehicle (LEV) program standards in 1990. These first LEV standards ran from 1994 through 2003. LEV II regulations, running from 2004 through 2010, represent continuing progress in emission reductions. As the State's passenger vehicle fleet continues to grow and more sport utility vehicles and pickup trucks are used as passenger cars rather than work vehicles, the more stringent LEV II standards were adopted to provide reductions necessary for California to meet federally mandated clean air goals outlined in the 1994 State Implementation Plan. In 2012, ARB adopted the LEV III amendments to California's LEV regulations. These amendments, also known as the Advanced Clean Car Program include more stringent emission standards for model years 2017 through 2025 for both criteria pollutants and GHGs for new passenger vehicles (ARB 2012a).

On-Road Heavy-Duty Vehicle Program

The ARB has adopted standards for emissions from various types of new on-road heavy-duty vehicles. Section 1956.8, Title 13, California Code of Regulations contains California's emission standards for on-road heavy-duty engines and vehicles, as well as test procedures. ARB has also adopted programs to reduce emissions from in-use heavy-duty vehicles including the Heavy-Duty Diesel Vehicle Idling Reduction Program, the Heavy-Duty Diesel In-Use Compliance Program, the Public Bus Fleet Rule and Engine Standards, and the School Bus Program and others (ARB 2013b).

The regulation applies to nearly all privately and federally owned diesel-fueled trucks and buses and to privately and publicly owned school buses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds. The regulation provides a variety of flexibility options tailored to fleets operating low-use vehicles, fleets operating in selected vocations like agricultural and construction, and small fleets of three or fewer trucks (ARB 2015b).

ARB Truck and Bus Regulation

The latest amendments to the Truck and Bus regulation became effective on December 31, 2014. The amended regulation requires diesel trucks and buses that operate in California to be upgraded to reduce emissions. Newer heavier trucks and buses must meet PM filter requirements beginning January 1, 2012. Lighter and older heavier trucks must be replaced starting January 1, 2015. By January 1, 2023, nearly all trucks and buses will need to have 2010 model year engines or equivalent.

The regulation applies to nearly all privately and federally owned diesel-fueled trucks and buses and to privately and publicly owned school buses with a gross vehicle weight rating (GVWR) greater than

14,000 pounds. The regulation provides a variety of flexibility options tailored to fleets operating low-use vehicles, fleets operating in selected vocations like agricultural and construction, and small fleets of three or fewer trucks (ARB 2015a).

ARB Regulation for In-Use Off-Road Diesel Vehicles

On July 26, 2007, the ARB adopted a regulation to reduce DPM and nitrous oxide (NO_X) emissions from in-use (existing) off-road heavy-duty diesel vehicles in California. Such vehicles are used in construction, mining, and industrial operations. The regulation limits idling to no more than five consecutive minutes, requires reporting and labeling, and requires disclosure of the regulation upon vehicle sale. The ARB is enforcing that part of the rule with fines up to $10,000 per day for each vehicle in violation. Performance requirements of the rule are based on a fleet's average NO_X emissions, which can be met by replacing older vehicles with newer, cleaner vehicles or by applying exhaust retrofits. The regulation was amended in 2010 to delay the original timeline of the performance requirements, making the first compliance deadline January 1, 2014 for large fleets (over 5,000 horsepower), 2017 for medium fleets (2,501–5,000 horsepower), and 2019 for small fleets (2,500 horsepower or less).

ARB Regulation for Consumer Products

The ARB Consumer Products Regulation was last amended in January 2015. The ARB regulates the VOC content of a wide variety of consumer products sold and manufactured in California. The purpose of the regulation is to reduce the emission of ozone precursors, TACs, and GHG emissions in products that are used by homes and businesses. The regulated products include but are not limited to solvents, adhesives, air fresheners, soaps, aromatic compounds, windshield cleaners, charcoal lighter, dry cleaning fluids, floor polishes, and general cleaners and degreasers (ARB 2015b)

ARB Airborne Toxic Control Measure for Asbestos

In July 2001, the ARB approved an Air Toxic Control Measure for construction, grading, quarrying, and surface mining operations to minimize emissions of naturally occurring asbestos. The regulation requires application of best management practices to control fugitive dust in areas known to have naturally occurring asbestos and requires notification to the local air district prior to commencement of ground-disturbing activities. The measure establishes specific testing, notification and engineering controls prior to grading, quarrying, or surface mining in construction zones where naturally occurring asbestos is located on projects of any size. There are additional notification and engineering controls at work sites larger than one acre in size. These projects require the submittal of a "Dust Mitigation Plan" and approval by the air district prior to the start of a project.

Construction sometimes requires the demolition of existing buildings where construction occurs. The project includes no demolition. Asbestos is also found in a natural state, known as naturally occurring asbestos. Exposure and disturbance of rock and soil that naturally contain asbestos can result in the release of fibers into the air and consequent exposure to the public. Asbestos most commonly occurs in ultramafic rock that has undergone partial or complete alteration to serpentine rock (serpentinite) and often contains chrysotile asbestos. In addition, another form of asbestos, tremolite, can be found associated with ultramafic rock, particularly near faults. Sources of asbestos emissions include unpaved roads or driveways surfaced with ultramafic rock, construction activities in ultramafic rock deposits, or rock quarrying activities where ultramafic rock is present.

The ARB has an Air Toxic Control Measure for construction, grading, quarrying, and surface mining operations, requiring the implementation of mitigation measures to minimize emissions of asbestos-laden dust. The measure applies to road construction and maintenance, construction and grading operations, and quarries and surface mines when the activity occurs in an area where naturally occurring asbestos is likely to be found. Areas are subject to the regulation if they are identified on maps published by the Department of Conservation as ultramafic rock units or if the Air Pollution Control Officer or owner/operator has knowledge of the presence of ultramafic rock, serpentine, or naturally occurring asbestos on the site. The measure also applies if ultramafic rock, serpentine, or asbestos is discovered during any operation or activity. Review of the Department of Conservation maps indicates that no ultramafic rock has been found near the southeast Fresno area.

Diesel Risk Reduction Plan

The ARB's Diesel Risk Reduction Plan has led to the adoption of new state regulatory standards for all new on-road, off-road, and stationary diesel-fueled engines and vehicles to reduce DPM emissions by about 90 percent overall from year 2000 levels. The projected emission benefits associated with the full implementation of this plan, including federal measures, are reductions in DPM emissions and associated cancer risks of 75 percent by 2010, and 85 percent by 2020 (ARB 2000).

2.4.2 - San Joaquin Valley Air Pollution Control District

The District is responsible for controlling emissions primarily from stationary sources. The District, in coordination with the eight countywide transportation agencies, is also responsible for developing, updating, and implementing air quality attainment plans for the Air Basin. The District also has roles under CEQA.

Ozone Plans

The Air Basin is designated nonattainment of state and federal health-based air quality standards for ozone. To meet Clean Air Act requirements for the one-hour ozone standard, the District adopted an Extreme Ozone Attainment Demonstration Plan in 2004, with an attainment date of 2010. Although the EPA revoked the federal 1-hour ozone standard effective June 15, 2005 and replaced it with an 8-hour standard, the requirement to submit a plan for that standard remained in effect for the San Joaquin Valley.

The planning requirements for the 1-hour plan remain in effect until replaced by a federal 8-hour ozone attainment plan. On March 8, 2010, the EPA approved the 2004 Extreme Ozone Attainment Demonstration Plan, including revisions to the plan, effective April 7, 2010. However, the Air Basin failed to attain the standard in 2010 and was subject to a $29 million Clean Air Act penalty. The penalty is being collected through an additional $12 motor vehicle registration surcharge for each passenger vehicle registered in the Air Basin that will be applied to pollution reduction programs in the region. The District also instituted a more robust ozone episodic program to reduce emissions on days with the potential to exceed the ozone standards. On July 18, 2016, the EPA published in the Federal Register a final action determining that the San Joaquin Valley has attained the 1-hour ozone national ambient air quality standard. This determination is based on the most recent three-year period (2012-2014) of sufficient, quality-assured, and certified data. The penalty fees remain in place pending submittal of a demonstration that the San Joaquin Valley will maintain the 1-hour standard for 10 years (EPA 2016b).

The EPA originally classified the Air Basin as serious nonattainment for the 1997 federal 8-hour ozone standard with an attainment date of 2013. On April 30, 2007, the District's Governing Board adopted the 2007 Ozone Plan, which contained analysis showing a 2013 attainment target to be infeasible. The 2007 Ozone Plan details the plan for achieving attainment on schedule with an "extreme nonattainment" deadline of 2024. At its adoption of the 2007 Ozone Plan, the District also requested a reclassification to extreme nonattainment. ARB approved the plan in June 2007, and the EPA approved the request for reclassification to extreme nonattainment on April 15, 2010.

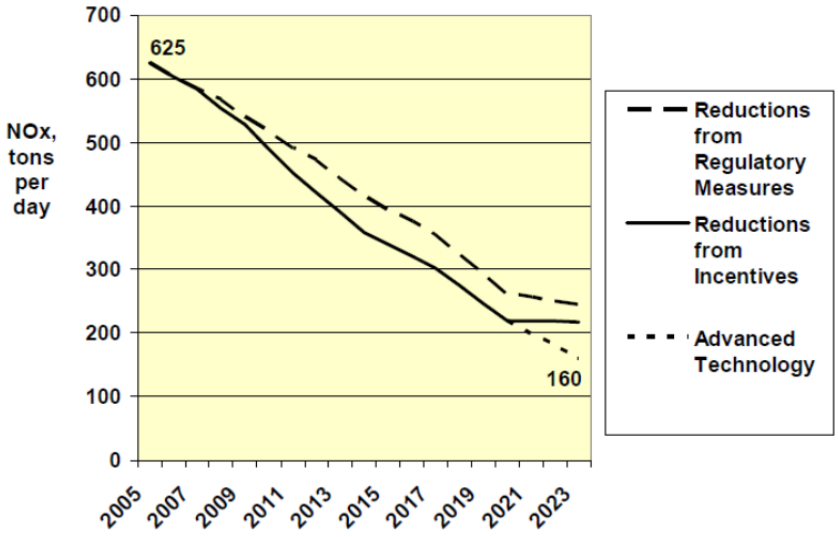
The 2007 Ozone Plan contains measures to reduce ozone and particulate matter precursor emissions to bring the Basin into attainment with the federal 8-hour ozone standard. The 2007 Ozone Plan calls for a 75 percent reduction of NO_X and a 25 percent reduction of reactive organic gases (ROG). Figure 6 displays the anticipated NO_X reductions attributed in the 2007 Ozone Plan (Source: 2007 Ozone Plan). The plan, with innovative measures and a "dual path" strategy, assures expeditious attainment of the federal 8-hour ozone standard for all Air Basin residents. The District Governing Board adopted the 2007 Ozone Plan on April 30, 2007. The ARB approved the plan on June 14, 2007. The 2007 Ozone Plan requires yet to be determined "Advanced Technology" to achieve additional reductions after 2021, in order to attain the standard at all monitoring stations in the Air Basin by 2024 as allowed for areas designated extreme nonattainment by the federal Clean Air Act.

The Air Basin is designated an extreme ozone nonattainment area for the EPA's 2008 8-hour ozone standard of 75 ppb. The District's Governing Board approved the 2016 Plan for the 2008 8-Hour Ozone Standard on June 16, 2016. The ARB approved the attainment demonstration plan for the San Joaquin Valley on July 21, 2016 and transmitted the plan to EPA on August 24, 2016. The comprehensive strategy in this plan will reduce NO_X emissions by over 60 percent between 2012 and 2031, and will bring the San Joaquin Valley into attainment of the EPA's 2008 8-hour ozone standard as expeditiously as practicable, no later than December 31, 2031. The 2016 Ozone Plan predicts attainment of the 2008 standard by 2031 (SJVAPCD 2018a). To ensure that the plan is approvable with the necessary contingencies, the plan includes a "Black Box" that will require implementation of new advanced technologies and controls prior to the 2031 deadline.

The EPA Administrator signed the Final Rule revising the 8-hour ozone standard to 70 ppm on October 1, 2015. The new standard will require the SJVAPCD to prepare a new attainment to achieve the more stringent emission level within 20 years from the effective date of designation (EPA 2018).

State ozone standards do not have an attainment deadline but require implementation of all feasible measures to achieve attainment at the earliest date possible. This is achieved through compliance with the federal deadlines and control measure requirements.

Figure 6: San Joaquin Valley NO_X Emissions Forecast



Particulate Matter Plans

The Air Basin was designated nonattainment of state and federal health-based air quality standards for PM_{10}. The Air Basin is also designated nonattainment of state and federal standards for $PM_{2.5}$.

To meet Clean Air Act requirements for the PM_{10} standard, the District adopted a PM_{10} Attainment Demonstration Plan (Amended 2003 PM_{10} Plan and 2006 PM_{10} Plan), which has an attainment date of 2010. The District adopted the 2007 PM_{10} Maintenance Plan in September 2007 to assure the San Joaquin Valley's continued attainment of the EPA's PM_{10} standard. The EPA designated the valley as an attainment/maintenance area for PM_{10} on September 25, 2008. Although the San Joaquin Valley has exceeded the standard since then, those days were considered exceptional events that are not considered a violation of the standard for attainment purposes.

The 2008 $PM_{2.5}$ Plan builds upon the comprehensive strategy adopted in the 2007 Ozone Plan to bring the Air Basin into attainment of the 1997 national standards for $PM_{2.5}$. The EPA has identified NO_X and SO_2as precursors that must be addressed in air quality plans for the 1997 $PM_{2.5}$ standards. The 2008 $PM_{2.5}$ Plan is a continuation of the District's strategy to improve the air quality in the Air Basin. The EPA issued final approval of the 2008 $PM_{2.5}$ Plan on November 9, 2011, which became effective on January 9, 2012. The EPA approved the emissions inventory, the reasonably available control measures/reasonably available control technology demonstration, reasonable further progress demonstration, attainment demonstration and associated air quality modeling, and the transportation conformity motor vehicle emissions budgets. The EPA also granted California's request to extend the attainment deadline for the San Joaquin Valley to April 5, 2015 and approved commitments to measures and reductions by the District and the ARB. Finally, it disapproved the State Implementation Plan's contingency provisions and issued a protective finding for transportation conformity determinations.

In December 2012, the District adopted the 2012 $PM_{2.5}$ Plan to bring the San Joaquin Valley into attainment of the EPA's 2006 24-hour $PM_{2.5}$ standard of 35 $\mu g/m^3$. The ARB approved the District's 2012 $PM_{2.5}$ Plan for the 2006 standard at a public hearing on January 24, 2013 (SJVAPCD 2012). This

plan seeks to bring the Valley into attainment with the standard by 2019, with the expectation that most areas will achieve attainment before that time.

The 2015 Plan for the 1997 $PM_{2.5}$ Standard approved by the District Governing Board on April 16, 2015—will bring the Valley into attainment of the EPA's 1997 $PM_{2.5}$ standard as expeditiously as practicable, but no later than December 31, 2020. The plan was required to request reclassification to Serious nonattainment and to extend the attainment date from 2018 to 2020 (SJVAPCD 2015b).

The 2016 Moderate Area Plan for the 2012 $PM_{2.5}$ Standard was adopted on September 15, 2016. This plan includes an attainment impracticability demonstration and request for reclassification of the Valley from Moderate nonattainment to Serious nonattainment (SJVAPCD 2017b).

The SJVAPCD adopted the 2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards on November 15, 2018. This plan provides a combined strategy to address the EPA federal 1997 annual $PM_{2.5}$ standard of 15 µg/m³ and 24-hour $PM_{2.5}$ standard of 65 µg/m³; the 2006 24-hour $PM_{2.5}$ standard of 35 µg/m³; and the 2012 annual $PM_{2.5}$ standard of 12 µg/m³. This plan demonstrates attainment of the federal $PM_{2.5}$ standards as expeditiously as practicable (SJVAPCD 2018b).

SJVAPCD Rules and Regulations

The SJVAPCD rules and regulations that may apply to projects that will occur during buildout of the project include but are not limited to the following:

Rule 4102—Nuisance. The purpose of this rule is to protect the health and safety of the public, and applies to any source operation that emits or may emit air contaminants or other materials. This rule is enforced on a complaint basis.

Rule 4601—Architectural Coatings. The purpose of this rule is to limit Volatile Organic Compounds (VOC) emissions from architectural coatings. Emissions are reduced by limits on VOC content and providing requirements on coatings storage, cleanup, and labeling. Only compliant components are available for purchase in the San Joaquin Valley.

Rule 4641—Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations. The purpose of this rule is to limit VOC emissions from asphalt paving and maintenance operations. If asphalt paving will be used, then the paving operations will be subject to Rule 4641. This regulation is enforced on the asphalt provider

Rule 4901—Wood-Burning Fireplaces and Wood-Burning Heaters. The purposes of this rule are to limit emissions of carbon monoxide and particulate matter from wood-burning fireplaces, wood-burning heaters, and outdoor wood-burning devices, and to establish a public education program to reduce wood-burning emissions. All development that includes wood-burning devices are subject to this rule.

Rule 4902—Residential Water Heaters. In 2009, the District amended Rule 4902 to strengthen the rule by lowering the limit to 10 nanograms per joule (ng/J) for new or replacement water heaters, and to a limit of 14 ng/J for instantaneous water heaters. Retailer compliance dates ranged from 2010 to 2012, depending on the unit type.

Regulation VIII—Fugitive PM_{10} Prohibitions. Rules 8011–8081 are designed to reduce PM_{10} emissions (predominantly dust/dirt) generated by human activity, including construction and demolition activities, road construction, bulk materials storage, paved and unpaved roads, carryout and trackout, etc. All development projects that involve soil disturbance are subject to at least one provision of the Regulation VIII series of rules.

Rule 9510—Indirect Source Review. This rule reduces the impact of NO_X and PM_{10} emissions from growth within the Air Basin. The rule places application and emission reduction requirements on development projects meeting applicability criteria in order to reduce emissions through on-site mitigation, off-site District-administered projects, or a combination of the two. This project is subject to Rule 9510 because it would develop more than 50 residential dwelling units.

CEQA

The District has three roles under CEQA:

1. **Lead Agency:** Responsible for preparing environmental analyses for its own projects (adoption of rules, regulations, or plans) or permit projects filed with the District where the District has primary approval authority over the project.
2. **Responsible Agency:** The discretionary authority of a responsible agency is more limited than a lead agency; having responsibility for mitigating or avoiding only the environmental effects of those parts of the project which it decides to approve, carry out, or finance. The District defers to the lead agency for preparation of environmental documents for land use projects that also have discretionary air quality permits, unless no document is prepared by the lead agency and potentially significant impacts related to the permit are possible. The District regularly submits comments on documents prepared by lead agencies to ensure that District concerns are addressed.
3. **Commenting Agency:** The District reviews and comments on air quality analyses prepared by other public agencies (such as the project).

The District also provides guidance and thresholds for CEQA air quality and GHG analyses. The result of this guidance, as well as state regulations to control air pollution, is an overall improvement in the Air Basin. In particular, the District's 2015 GAMAQI states the following:

1. The District's Air Quality Attainment Plans include measures to promote air quality elements in county and city general plans as one of the primary indirect source programs. The general plan is the primary long-range planning document used by cities and counties to direct development. Since air districts have no authority over land use decisions, it is up to cities and counties to ensure that their general plans help achieve air quality goals. Section 65302.1 of the California Government Code requires cities and counties in the San Joaquin Valley to amend appropriate elements of their general plans to include data, analysis, comprehensive goals, policies, and feasible implementation strategies to improve air quality in their next housing element revisions.
2. The Air Quality Guidelines for General Plans (AQGGP), adopted by the District in 1994 and amended in 2005, is a guidance document containing goals and policy examples that cities and counties may want to incorporate into their General Plans to satisfy Section 65302.1.

When adopted in a general plan and implemented, the suggestions in the AQGGP can reduce vehicle trips and miles traveled and improve air quality. The specific suggestions in the AQGGP are voluntary. The District strongly encourages cities and counties to use their land use and transportation planning authority to help achieve air quality goals by adopting the suggested policies and programs.

2.4.3 - Local

The Fresno General Plan was adopted on December 18, 2014 (City of Fresno 2014a). The City's applicable air quality goals and policies from the Air Quality section are listed below.

City of Fresno Air Quality Goals and Policies

The General Plan lists the following policies that are supportive of improved air quality:

- **Objective RC-4.** In cooperation with other jurisdictions and agencies in the San Joaquin Valley Air Basin, take necessary actions to achieve and maintain compliance with State and federal air quality standards for criteria pollutants.
- **RC-4-a Support Regional Efforts.** Support and lead, where appropriate, regional, State and federal programs and actions for the improvement of air quality, especially the SJVAPCD's efforts to monitor and control air pollutants from both stationary and mobile sources and implement Reasonably Available Control Measures in the Ozone Attainment Plan.
- **RC-4-b Conditions of Approval.** Develop and incorporate air quality maintenance requirements, compatible with Air Quality Attainment and Maintenance Plans, as conditions of approval for General Plan amendments, community plans, Specific Plans, neighborhood plans, Concept Plans, and development proposals.
- **RC-4-c Evaluate Impacts with Models**. Continue to require the use of computer models used by SJVAPCD to evaluate the air quality impacts of plans and projects that require such environmental review by the City.
- **RC-4-d Forward Information.** Forward information regarding proposed General Plan amendments, community plans, Specific Plans, neighborhood plans, Concept Plans, and development proposals that require air quality evaluation, and amendments to development regulations to the SJVAPCD for their review of potential air quality and health impacts.
- **RC-4-k Electric Vehicle Charging.** Develop standards to facilitate electric vehicle charging infrastructure in both new and existing public and private buildings, in order to accommodate these vehicles as the technology becomes more widespread.
  1. The idling time of all construction equipment used in the plan area shall not exceed ten minutes when practicable.
  2. The hours of operation of heavy-duty equipment shall be minimized when practicable.
  3. All equipment shall be properly tuned and maintained in accord with manufacturer's specifications when practicable.
  4. When feasible, alternative fueled or electrical construction equipment shall be used at the project site.
  5. The minimum practical engine size for construction equipment shall be used when practicable.
  6. When feasible, electric carts or other smaller equipment shall be used at the project site.
  7. Gasoline-powered equipment shall be equipped with catalytic converters when practicable.

2.4.4 - Existing Sources of Toxic Emissions

No existing sources were identified that exceed ARB recommendations in its Air Quality Land Use Handbook for siting sensitive land uses impact the project.

2.4.5 - ARB Air Quality Land Use Handbook

Table 6 lists the following ARB advisory recommendations that address the issue of siting "sensitive land uses" near specific sources of air pollution (ARB 2005):

- High traffic freeways and roads
- Distribution centers
- Rail yards
- Ports
- Refineries
- Chrome plating facilities
- Dry cleaners
- Large gas dispensing facilities

The analysis examines the area around the site to determine if potential sources of TAC emissions may impact the project, based on the ARB recommended screening distances.

Table 6: Recommendations on Siting New Sensitive Land Uses

Source Category	Advisory Recommendations
Freeways and High-Traffic Roads	Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day.
Distribution Centers	Avoid siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units (TRUs) per day, or where TRU unit operations exceed 300 hours per week). Take into account the configuration of existing distribution centers and avoid locating residences and other new sensitive land uses near entry and exit points.
Rail Yards	Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard. Within one mile of a rail yard, consider possible siting limitations and mitigation approaches.
Ports	Avoid siting of new sensitive land uses immediately downwind of ports in the most heavily impacted zones. Consult local air districts or the ARB on the status of pending analyses of health risks.
Refineries	Avoid siting new sensitive land uses immediately downwind of petroleum refineries. Consult with local air districts and other local agencies to determine an appropriate separation.
Chrome Platers	Avoid siting new sensitive land uses within 1,000 feet of a chrome plater.
Dry Cleaners Using Perchloroethylene	Avoid siting new sensitive land uses within 300 feet of any dry-cleaning operation. For operations with two or more machines, provide 500 feet. For operations with three or more machines, consult with the local air district. Do not site new sensitive land uses in the same building with perchloroethylene dry cleaning operations.

Table 6 (cont.): Recommendations on Siting New Sensitive Land Uses

Source Category	Advisory Recommendations
Gasoline Dispensing Facilities	Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50-foot separation is recommended for typical gas dispensing facilities.
Note: These recommendations are advisory. Land use agencies have to balance other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues.	

INTENTIONALLY LEFT BLANK

SECTION 3: CLIMATE CHANGE SETTING

3.1—Climate Change

Climate change is a change in the average weather of the earth that is measured by alterations in wind patterns, storms, precipitation, and temperature. These changes are assessed using historical records of temperature changes occurring in the past, such as during previous ice ages. Many of the concerns regarding climate change use this data to extrapolate a level of statistical significance, specifically focusing on temperature records from the last 150 years (the Industrial Age) that differ from previous climate changes in rate and magnitude.

The United Nations Intergovernmental Panel on Climate Change (IPCC) constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. In its Fourth Assessment Report, the IPCC predicted that the global mean temperature change from 1990 to 2100, given six scenarios, could range from 1.1 degrees Celsius (°C) to 6.4°C. Regardless of analytical methodology, global average temperatures and sea levels are expected to rise under all scenarios (IPCC 2007a). The report also concluded that "[w]arming of the climate system is unequivocal," and that "[m]ost of the observed increase in global average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations."

An individual project cannot generate enough GHG emissions to cause a discernible change in global climate. However, the project participates in the potential for global climate change by its incremental contribution of GHGs—and when combined with the cumulative increase of all other sources of GHGs—constitute potential influences on global climate change.

3.1.1 - Consequences of Climate Change in California

In California, climate change may result in consequences such as the following (from CCCC 2006 and Moser et al. 2009):

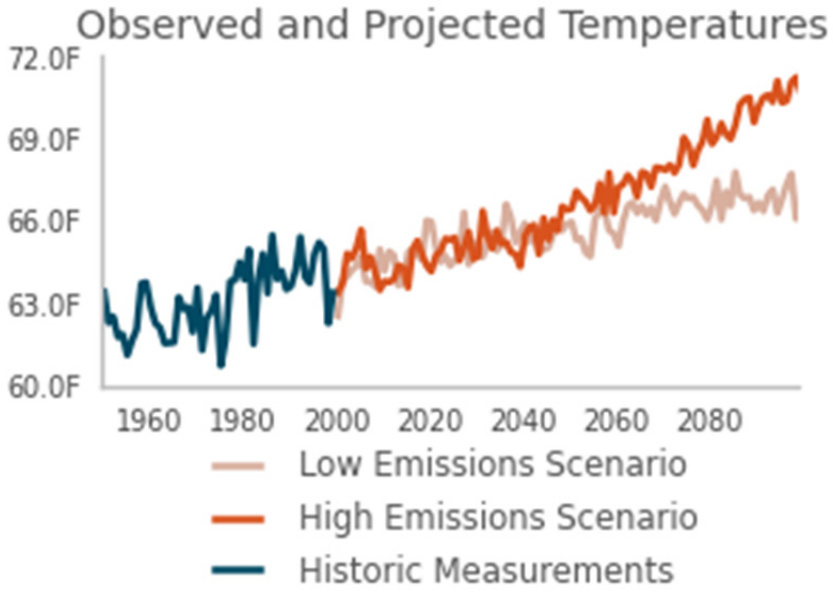
- **A reduction in the quality and supply of water from the Sierra snowpack.** If heat-trapping emissions continue unabated, more precipitation will fall as rain instead of snow, and the snow that does fall will melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90 percent. This can lead to challenges in securing adequate water supplies. It can also lead to a potential reduction in hydropower.
- **Increased risk of large wildfires.** If rain increases as temperatures rise, wildfires in the grasslands and chaparral ecosystems of southern California are estimated to increase by approximately 30 percent toward the end of the 21st century because more winter rain will stimulate the growth of more plant "fuel" available to burn in the fall. In contrast, a hotter, drier climate could promote up to 90 percent more northern California fires by the end of the century by drying out and increasing the flammability of forest vegetation.
- **Reductions in the quality and quantity of certain agricultural products.** The crops and products likely to be adversely affected include wine grapes, fruit, nuts, and milk.

- **Exacerbation of air quality problems.** If temperatures rise to the medium warming range, there could be 75 to 85 percent more days with weather conducive to ozone formation in Los Angeles and the San Joaquin Valley, relative to today's conditions. This is more than twice the increase expected if rising temperatures remain in the lower warming range. This increase in air quality problems could result in an increase in asthma and other health-related problems.
- **A rise in sea levels resulting in the displacement of coastal businesses and residences.** During the past century, sea levels along California's coast have risen about seven inches. If emissions continue unabated and temperatures rise into the higher anticipated warming range, sea level is expected to rise an additional 22 to 35 inches by the end of the century. Elevations of this magnitude would inundate coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats.
- **An increase in temperature and extreme weather events.** Climate change is expected to lead to increases in the frequency, intensity, and duration of extreme heat events and heat waves in California. More heat waves can exacerbate chronic disease or heat-related illness.
- **A decrease in the health and productivity of California's forests.** Climate change can cause an increase in wildfires, an enhanced insect population, and establishment of non-native species.

Consequences of Climate Change in the Fresno Area

Figure 7 displays a chart of measured historical and projected annual average temperatures in the project area. As shown in the figure, temperatures are expected to rise in the low and high GHG emissions scenarios. The results indicate that temperatures are predicted to increase by 3.7 degrees Fahrenheit (°F) under the low emission scenario and 6.5°F under the high emissions scenario (CalAdapt 2019).

Figure 7: Observed and Projected Temperatures for Climate Change in the Project Area



Source: CalAdapt 2019

Water Supply

The City of Fresno Department of Public Utilities would provide water for the project. The City relies on groundwater and treated surface water for potable water supplies. The availability of surface water and the rate of groundwater recharge could decline if climate change were to result in reduced snowpack in the Sierra Nevada.

Wildfires

The project site is within an urbanizing area with limited fuels that would be subject to a wildfire. Foothill and mountain areas located to the north and east of the Fresno area subject to wildfire. The potential for increased temperatures and drought conditions due to climate change would result in increased risk from wildfire in those areas.

Human Health Effects of GHG Emissions

GHG emissions from development projects would not result in concentrations that would directly impact public health. However, the cumulative effects of GHG emissions on climate change have the potential to cause adverse effects to human health.

In its report, Global Climate Change Impacts in the U.S. (2009), the U.S. Global Change Research Program has analyzed the degree to which impacts on human health are expected to impact the United States.

Potential effects of climate change on public health include:

- Direct Temperature Effects: Climate change may directly affect human health through increases in average temperatures, which are predicted to increase the incidence of heat waves and hot extremes.
- Extreme Events: Climate change may affect the frequency and severity of extreme weather events, such as hurricanes and extreme heat and floods, which can be destructive to human health and well-being.
- Climate-Sensitive Diseases: Climate change may increase the risk of some infectious diseases, particularly those diseases that appear in warm areas and are spread by mosquitoes and other insects, such as malaria, dengue fever, yellow fever, and encephalitis.
- Air Quality: Respiratory disorders may be exacerbated by warming-induced increases in the frequency of smog (ground-level ozone) events and particulate air pollution (EPA 2009a).

Although there could be health effects resulting from changes in the climate and the consequences that can occur, inhalation of GHGs at levels currently in the atmosphere would not result in adverse health effects, with the exception of ozone and aerosols (particulate matter). The potential health effects of ozone and particulate matter are discussed in criteria pollutant analyses. At very high indoor concentrations (not at levels existing outside), carbon dioxide, methane, sulfur hexafluoride, and some chlorofluorocarbons can cause suffocation as the gases can displace oxygen (CDC 2010 and OSHA 2003).

3.2—Greenhouse Gases

Gases that trap heat in the atmosphere are referred to as GHGs. The effect is analogous to the way a greenhouse retains heat. Common GHGs include water vapor, carbon dioxide, methane, NO_X, chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, ozone, and aerosols. Natural processes and human activities emit GHGs. The presence of GHGs in the atmosphere affects the earth's temperature. It is believed that emissions from human activities, such as electricity production and vehicle use, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations.

Climate change is driven by forcings and feedbacks. Radiative forcing is the difference between the incoming energy and outgoing energy in the climate system. Positive forcing tends to warm the surface while negative forcing tends to cool it. Radiative forcing values are typically expressed in watts per square meter. A feedback is a climate process that can strengthen or weaken a forcing. For example, when ice or snow melts, it reveals darker land underneath which absorbs more radiation and causes more warming. The global warming potential is the potential of a gas or aerosol to trap heat in the atmosphere. The global warming potential of a gas is essentially a measurement of the radiative forcing of a GHG compared with the reference gas, CO_2.

Individual GHG compounds have varying global warming potential and atmospheric lifetimes. CO_2, the reference gas for global warming potential, has a global warming potential of one. The global warming potential of a GHG is a measure of how much a given mass of a GHG is estimated to contribute to global warming. To describe how much global warming a given type and amount of GHG may cause, the carbon dioxide equivalent is used. The calculation of the carbon dioxide equivalent is a consistent methodology for comparing GHG emissions since it normalizes various GHG emissions to a consistent reference gas, CO_2. For example, CH_4's warming potential of 25 indicates that CH_4 has 25 times greater warming effect than CO_2 on a molecule-per-molecule basis. A carbon dioxide equivalent is the mass emissions of an individual GHG multiplied by its global warming potential. GHGs defined by Assembly Bill (AB) 32 (see the Climate Change Regulatory Environment section for a description) include CO_2, CH_4, NO_X, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. They are described in Table 7. A seventh GHG, nitrogen trifluoride, was added to Health and Safety Code section 38505(g)(7) as a GHG of concern. The global warming potential amounts are from IPCC Fourth Assessment Report (AR4). The new amounts are incorporated into the CalEEMod 2016.3.2 used in this analysis.

Table 7: Description of Greenhouse Gases

Greenhouse Gas	Description and Physical Properties	Sources
Nitrous oxide	Nitrous oxide (laughing gas) is a colorless GHG. It has a lifetime of 114 years. Its global warming potential is 298.	Microbial processes in soil and water, fuel combustion, and industrial processes.
Methane	Methane is a flammable gas and is the main component of natural gas. It has a lifetime of 12 years. Its global warming potential is 25.	Methane is extracted from geological deposits (natural gas fields). Other sources are landfills, fermentation of manure, and decay of organic matter.

Table 7 (cont.): Description of Greenhouse Gases

Greenhouse Gas	Description and Physical Properties	Sources
Carbon dioxide	Carbon dioxide (CO_2) is an odorless, colorless, natural GHG. Carbon dioxide's global warming potential is 1. The concentration in 2005 was 379 parts per million (ppm), which is an increase of about 1.4 ppm per year since 1960.	Natural sources include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources are from burning coal, oil, natural gas, and wood.
Chlorofluorocarbons	These are gases formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms. They are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). Global warming potentials range from 124 to 14,800.	Chlorofluorocarbons were synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. They destroy stratospheric ozone. The Montreal Protocol on Substances that Deplete the Ozone Layer prohibited their production in 1987.
Perfluorocarbons	Perfluorocarbons have stable molecular structures and only break down by ultraviolet rays about 60 kilometers above Earth's surface. Because of this, they have long lifetimes, between 10,000 and 50,000 years. Global warming potentials range from 7,390 to 12,200.	Two main sources of perfluorocarbons are primary aluminum production and semiconductor manufacturing.
Sulfur hexafluoride	Sulfur hexafluoride (SF_6) is an inorganic, odorless, colorless, and nontoxic, nonflammable gas. It has a lifetime of 3,200 years. It has a high global warming potential of 22,800.	This gas is man-made and used for insulation in electric power transmission equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas.
Nitrogen trifluoride	Nitrogen trifluoride (NF_3) was added to Health and Safety Code section 38505(g)(7) as a GHG of concern. It has a high global warming potential of 17,200.	This gas is used in electronics manufacture for semiconductors and liquid crystal displays.
Sources: Compiled from a variety of sources, primarily Intergovernmental Panel on Climate Change 2007a and 2007b.		

The State has begun addressing pollutants referred to as short-lived climate pollutants. Senate Bill (SB) 605, approved by the governor on September 14, 2014 required the ARB to complete a comprehensive strategy to reduce emissions of short-lived climate pollutants by January 1, 2016. ARB was required to complete an emission inventory of these pollutants, identify research needs, identify existing and potential new control measures that offer co-benefits, and coordinated with other state agencies and districts to develop measures. The Short-Lived Climate Pollutant Strategy was approved by the ARB on March 24, 2017. The strategy calls for reductions of 50 percent from black carbon, 40 percent from methane, and 40 percent from HFCs from the 2030 Business as Usual (BAU) inventory for these pollutants (ARB 2017b).

The short-lived climate pollutants include three main components: black carbon, fluorinated gases, and methane. Fluorinated gases and methane are described in Table 7 and are already included in the California GHG inventory. Black carbon has not been included in past GHG inventories; however, ARB will include it in its comprehensive strategy (ARB 2015c).

Ozone is another short-lived climate pollutant that will be part of the strategy. Ozone affects evaporation rates, cloud formation, and precipitation levels. Ozone is not directly emitted, so its precursor emissions, volatile organic compounds (VOC) and oxides of nitrogen (NO_X) on a regional scale and CH_4 on a hemispheric scale will be subject of the strategy (ARB 2015c).

Black carbon is a component of fine particulate matter. Black carbon is formed by incomplete combustion of fossil fuels, biofuels, and biomass. Sources of black carbon within a jurisdiction may include exhaust from diesel trucks, vehicles, and equipment, as well as smoke from biogenic combustion. Biogenic combustion sources of black carbon include the burning of biofuels used for transportation, the burning of biomass for electricity generation and heating, prescribed burning of agricultural residue, and natural and unnatural wildfires. Black carbon is not a gas but an aerosol—particles or liquid droplets suspended in air. Black carbon only remains in the atmosphere for days to weeks, whereas other GHGs can remain in the atmosphere for years. Black carbon can be deposited on snow, where it absorbs sunlight, reduces sunlight reflectivity, and hastens snowmelt. Direct effects include absorbing incoming and outgoing radiation; indirectly, black carbon can also affect cloud reflectivity, precipitation, and surface dimming (cooling).

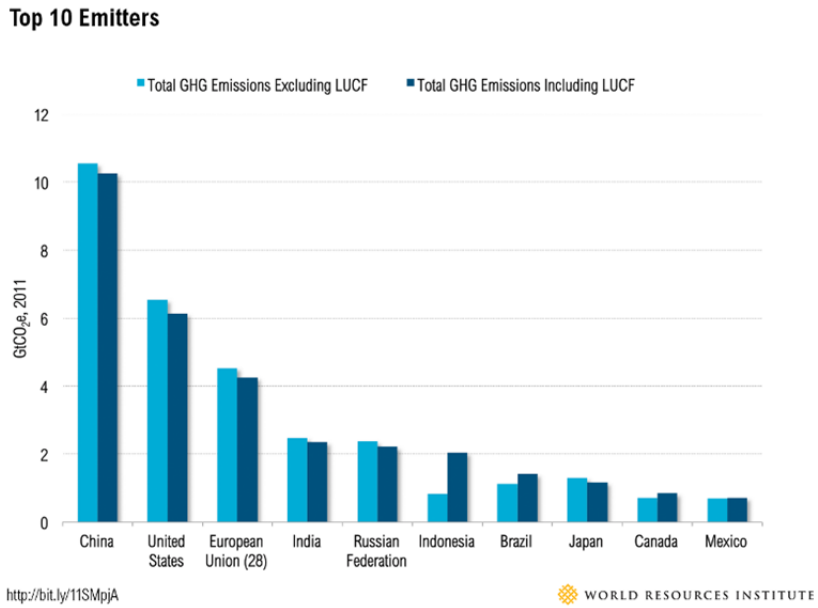
Global warming potentials for black carbon were not defined by the IPCC in its Fourth Assessment Report. The ARB has identified a global warming potential of 3,200 using a 20-year time horizon and 900 using a 100-year time horizon from the IPCC Fifth Assessment. Sources of black carbon are already regulated by ARB, and air district criteria pollutant and toxic regulations that control fine particulate emissions from diesel engines and other combustion sources (ARB 2015d). Additional controls on the sources of black carbon specifically for their GHG impacts beyond those required for toxic and fine particulates are not likely to be needed.

Water vapor is also considered a GHG. Water vapor is an important component of our climate system and is not regulated. Increasing water vapor leads to warmer temperatures, which causes more water vapor to be absorbed into the air. Warming and water absorption increase in a spiraling cycle. Water vapor feedback can also amplify the warming effect of other GHGs, such that the warming brought about by increased carbon dioxide allows more water vapor to enter the atmosphere (NASA 2015b).

3.2.1 - Emissions Inventories

An emissions inventory is a database that lists, by source, the amount of air pollutants discharged into the atmosphere of a geographic area during a given time period. Emissions worldwide were approximately 43,286 million metric tons of carbon dioxide equivalents ($MMTCO_2e$) in 2012. As shown in Figure 8, China was the largest GHG emitter with over 10 billion metric tons of CO_2e, and the United States was the second-largest GHG emitter with over 6 billion metric tons of CO_2e (WRI 2014).

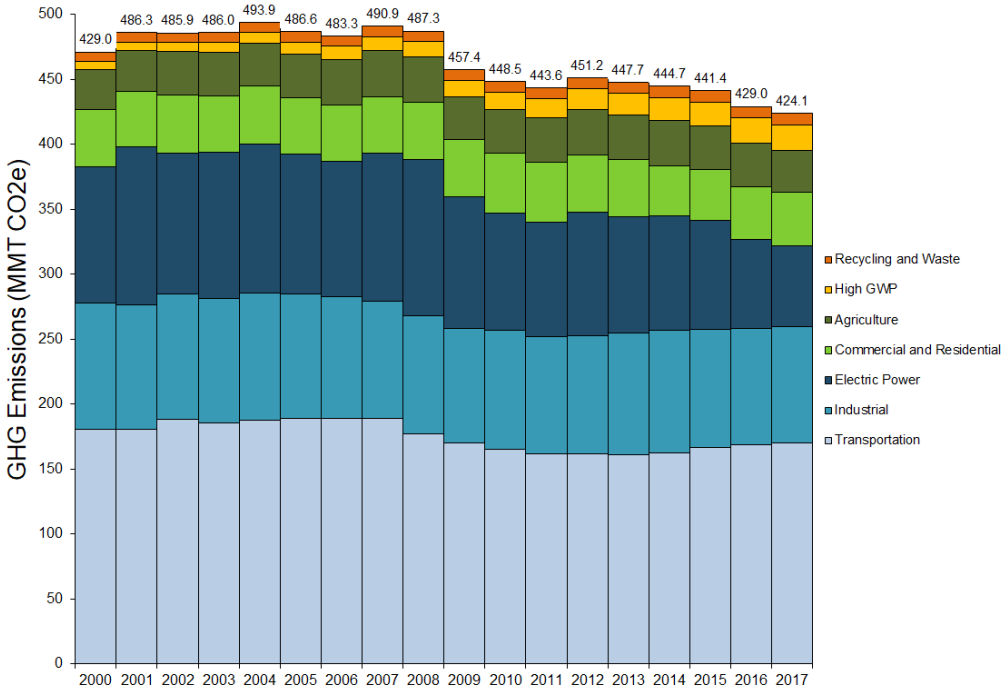
Figure 8: Greenhouse Gas Emissions by Geographic Area



Source: WRI 2014.

Figure 9 shows the contributors of GHG emissions in California between years 2000 and 2017 by Scoping Plan category. The main contributor was transportation. The second highest sector was industrial, which includes sources from refineries, general fuel use, oil and gas extraction, cement plants, and cogeneration heat output. ARB reported that California's GHG emissions inventory was 424.1 $MMTCO_2e$ in 2017 (ARB 2018a).

Figure 9: Greenhouse Gas Emission Trends by Scoping Plan Category in California



Source: ARB 2018a.

3.3—Regulatory Environment

3.3.1 - International

International organizations, such as the ones discussed below, have made substantial efforts to reduce GHGs. Preventing human-induced climate change will require the participation of all nations in solutions to address the issue.

Intergovernmental Panel on Climate Change. In 1988, the United Nations and the World Meteorological Organization established the Intergovernmental Panel on Climate Change. The panel was tasked with assessing the scientific, technical, and socioeconomic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts, and options for adaptation and mitigation.

United Nations Framework Convention on Climate Change (Convention). On March 21, 1994, the United States joined a number of countries around the world in signing the Convention. Under the Convention, governments gather and share information on GHG emissions, national policies, and best practices; launch national strategies for addressing GHG emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change.

Kyoto Protocol. The Kyoto Protocol is an international agreement linked to the United Nations Framework Convention on Climate Change. The major feature of the Kyoto Protocol is that it sets binding targets for 37 industrialized countries and the European community for reducing GHG emissions at average of five percent against 1990 levels over the five-year period from 2008–2012. The Convention (as discussed above) encouraged industrialized countries to stabilize emissions; however, the Protocol commits them to do so. Developed countries have contributed more emissions over the last 150 years; therefore, the Protocol places a heavier burden on developed nations under the principle of “common but differentiated responsibilities.”

In 2001, President George W. Bush indicated that he would not submit the treaty to the U.S. Senate for ratification, which effectively ended American involvement in the Kyoto Protocol. In December 2009, international leaders met in Copenhagen to address the future of international climate change commitments post-Kyoto. No binding agreement was reached in Copenhagen; however, the Committee identified the long-term goal of limiting the maximum global average temperature increase to no more than 2°C above pre-industrial levels, subject to a review in 2015. The UN Climate Change Committee held additional meetings in Durban, South Africa in November 2011; Doha, Qatar in November 2012; and Warsaw, Poland in November 2013. The meetings are gradually gaining consensus among participants on individual climate change issues.

On September 23, 2014, more than 100 heads of state and government, along with leaders from the private sector and civil society met at the Climate Summit in New York hosted by the United Nations. At the Summit, heads of government, business, and civil society announced actions in areas that would have the greatest impact on reducing emissions, including: climate finance, energy, transport, industry, agriculture, cities, forests, and building resilience.

Paris Agreement. Parties to the United Nations Framework Convention on Climate Change (UNFCCC) reached a landmark agreement on December 12, 2015 in Paris, charting a fundamentally new course in the two-decade-old global climate effort. Culminating in a 4-year negotiating round, the new treaty ends the strict differentiation between developed and developing countries that characterized earlier efforts, replacing it with a common framework that commits all countries to put forward their best efforts and to strengthen those efforts in the years ahead. This includes, for the first time, requirements that all parties report regularly on their emissions and implementation efforts, and undergo international review.

The agreement and a companion decision by parties were the key outcomes of the conference, known as the 21st session of the UNFCCC Conference of the Parties, or COP 21. Together, the Paris Agreement and the accompanying COP decision:

- Reaffirm the goal of limiting global temperature increase well below 2 degrees Celsius, while urging efforts to limit the increase to 1.5 degrees;
- Establish binding commitments by all parties to make "nationally determined contributions" (NDCs), and to pursue domestic measures aimed at achieving them;
- Commit all countries to report regularly on their emissions and "progress made in implementing and achieving" their NDCs, and to undergo international review;
- Commit all countries to submit new NDCs every five years, with the clear expectation that they will "represent a progression" beyond previous ones;
- Reaffirm the binding obligations of developed countries under the UNFCCC to support the efforts of developing countries, while for the first time encouraging voluntary contributions by developing countries too;
- Extend the current goal of mobilizing $100 billion a year in support by 2020 through 2025, with a new, higher goal to be set for the period after 2025;
- Extend a mechanism to address "loss and damage" resulting from climate change, which explicitly will not "involve or provide a basis for any liability or compensation;"
- Require parties engaging in international emissions trading to avoid "double counting;" and
- Call for a new mechanism, similar to the Clean Development Mechanism under the Kyoto Protocol, enabling emission reductions in one country to be counted toward another country's NDC (C2ES 2015a).

On June 1, 2017, President Trump announced the decision for the United States to withdraw from the Paris Climate Accord (White House 2017). The earliest possible effective withdrawal date by the United States cannot be before November 4, 2020. California remains committed to combating climate change through programs designed to reduce GHGs.

3.3.2 - Federal Regulations

Prior to the last decade, there were no concrete federal regulations of GHGs or major planning for climate change adaptation. Since then, federal activity has increased. The following are actions regarding the federal government, GHGs, and fuel efficiency.

Greenhouse Gas Endangerment. *Massachusetts v. EPA* (Supreme Court Case 05-1120) was argued before the United States Supreme Court on November 29, 2006, in which it was petitioned that the EPA regulate four GHGs, including carbon dioxide, under Section 202(a)(1) of the Clean Air Act. A decision was made on April 2, 2007, in which the Supreme Court found that GHGs are air pollutants covered by the Clean Air Act. The Court held that the Administrator must determine whether emissions of GHGs from new motor vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. On December 7, 2009, the EPA Administrator signed two distinct findings regarding GHGs under section 202(a) of the Clean Air Act:

- Endangerment Finding: The Administrator finds that the current and projected concentrations of the six key well-mixed greenhouse gases—carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride—in the atmosphere threaten the public health and welfare of current and future generations.
- Cause or Contribute Finding: The Administrator finds that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution, which threatens public health and welfare.

These findings do not impose requirements on industry or other entities. However, this was a prerequisite for implementing GHG emissions standards for vehicles, as discussed in the section "Clean Vehicles" below. After a lengthy legal challenge, the United States Supreme Court declined to review an Appeals Court ruling upholding the EPA Administrator findings (EPA 2009c).

Clean Vehicles. Congress first passed the Corporate Average Fuel Economy law in 1975 to increase the fuel economy of cars and light duty trucks. The law has become more stringent over time. On May 19, 2009, President Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the United States. On April 1, 2010, the EPA and the Department of Transportation's National Highway Safety Administration announced a joint final rule establishing a national program that would reduce GHG emissions and improve fuel economy for new cars and trucks sold in the United States.

The first phase of the national program applies to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. They require these vehicles to meet an estimated combined average emissions level of 250 grams of CO_2 per mile, equivalent to 35.5 miles per gallon; that is, if the automobile industry were to meet this CO_2 level solely through fuel economy improvements. Together, these standards would cut CO_2 emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012–2016). The EPA and the National Highway Safety Administration issued final rules on a second-phase joint rulemaking, establishing national standards for light-duty vehicles for model years 2017 through 2025 in August 2012 (EPA 2012b). The new standards for model years

2017 through 2025 apply to passenger cars, light-duty trucks, and medium duty passenger vehicles. The final standards are projected to result in an average industry fleetwide level of 163 grams/mile of CO_2 in model year 2025, which is equivalent to 54.5 miles per gallon if achieved exclusively through fuel economy improvements.

The EPA and the U.S. Department of Transportation issued final rules for the first national standards to reduce GHG emissions and improve fuel efficiency of heavy-duty trucks and buses on September 15, 2011, which became effective November 14, 2011. For combination tractors, the agencies are proposing engine and vehicle standards that began in the 2014 model year and achieve up to a 20-percent reduction in CO_2 emissions and fuel consumption by the 2018 model year. For heavy-duty pickup trucks and vans, the agencies are proposing separate gasoline and diesel truck standards, which phase in starting in the 2014 model year and achieve up to a 10-percent reduction for gasoline vehicles, and a 15-percent reduction for diesel vehicles by 2018 model year (12 and 17 percent respectively if accounting for air conditioning leakage). Lastly, for vocational vehicles, the engine and vehicle standards would achieve up to a 10-percent reduction in fuel consumption and CO_2 emissions from the 2014 to 2018 model years.

Mandatory Reporting of Greenhouse Gases. The Consolidated Appropriations Act of 2008, passed in December 2007, requires the establishment of mandatory GHG reporting requirements. On September 22, 2009, the EPA issued the Final Mandatory Reporting of Greenhouse Gases Rule, which became effective January 1, 2010. The rule requires reporting of GHG emissions from large sources and suppliers in the United States, and is intended to collect accurate and timely emissions data to inform future policy decisions. Under the rule, suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions are required to submit annual reports to the EPA.

New Source Review. The EPA issued a final rule on May 13, 2010 that establishes thresholds for GHGs, which will define when permits under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit programs are required for new and existing industrial facilities. This final rule “tailors” the requirements of these Clean Air Act permitting programs to limit which facilities will be required to obtain Prevention of Significant Deterioration and Title V permits. In the preamble to the revisions to the federal code of regulations, the EPA states:

> This rulemaking is necessary because without it the Prevention of Significant Deterioration and Title V requirements would apply, as of January 2, 2011, at the 100 or 250 tons per year levels provided under the Clean Air Act, greatly increasing the number of required permits, imposing undue costs on small sources, overwhelming the resources of permitting authorities, and severely impairing the functioning of the programs. EPA is relieving these resource burdens by phasing in the applicability of these programs to greenhouse gas sources, starting with the largest greenhouse gas emitters. This rule establishes two initial steps of the phase-in. The rule also commits the agency to take certain actions on future steps addressing smaller sources, but excludes certain smaller sources from Prevention of Significant Deterioration and Title V permitting for greenhouse gas emissions until at least April 30, 2016.

The EPA estimates that facilities responsible for nearly 70 percent of the national GHG emissions from stationary sources will be subject to permitting requirements under this rule. This includes the nation's largest GHG emitters—power plants, refineries, and cement production facilities.

Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units. As required by a settlement agreement, the EPA proposed new performance standards for emissions of carbon dioxide for new, affected, fossil fuel-fired electric utility generating units on March 27, 2012. New sources greater than 25 megawatts would be required to meet an output based standard of 1,000 pounds of carbon dioxide per megawatt-hour, based on the performance of widely used natural gas combined cycle technology. President Trump signed the Executive Order on Energy Independence (E.O. 13783), which calls for a review of the Clean Power Plan. On October 16, 2017, the EPA issued the proposed rule Repeal of Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units an Energy Independence (EPA 2017).

Cap-and-Trade. Cap-and-Trade refers to a policy tool where emissions are limited to a certain amount and can be traded, or provides flexibility on how the emitter can comply. There is no federal GHG Cap-and-Trade program currently; however, some states have joined to create initiatives to provide a mechanism for Cap-and-Trade.

The Regional Greenhouse Gas Initiative is an effort to reduce GHGs among the states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont. Each state caps carbon dioxide emissions from power plants, auctions carbon dioxide emission allowances, and invests the proceeds in strategic energy programs that further reduce emissions, save consumers money, create jobs, and build a clean energy economy. The Initiative began in 2008.

The Western Climate Initiative partner jurisdictions have developed a comprehensive initiative to reduce regional GHG emissions to 15 percent below 2005 levels by 2020. The partners are California, British Columbia, Manitoba, Ontario, and Quebec. Currently only California and Quebec are participating in the Cap-and-Trade program (C2ES 2015).

3.3.3 - California

Legislative Actions to Reduce GHGs

The State of California legislature has enacted a series of bills that constitute the most aggressive program to reduce GHGs of any state in the nation. Some legislation such as the landmark AB 32 California Global Warming Solutions Act of 2006 was specifically enacted to address GHG emissions. Other legislation such as Title 24 and Title 20 energy standards were originally adopted for other purposes such as energy and water conservation, but also provide GHG reductions. This section describes the major provisions of the legislation.

AB 32. The California State Legislature enacted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires that GHGs emitted in California be reduced to 1990 levels by the year 2020. "Greenhouse gases" as defined under AB 32 include carbon dioxide, methane, NO_X, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Since AB 32 was enacted, a seventh

chemical, nitrogen trifluoride, has also been added to the list of GHGs. The ARB is the state agency charged with monitoring and regulating sources of GHGs. AB 32 states the following:

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

The ARB approved the 1990 GHG emissions level of 427 $MMTCO_2e$ on December 6, 2007 (ARB 2007). Therefore, to meet the State's target, emissions generated in California in 2020 are required to be equal to or less than 427 $MMTCO_2e$. Emissions in 2020 in a BAU scenario were estimated to be 596 $MMTCO_2e$, which do not account for reductions from AB 32 regulations (ARB 2008a). At that rate, a 28 percent reduction was required to achieve the 427 $MMTCO_2e$ 1990 inventory. In October 2010, ARB prepared an updated 2020 forecast to account for the effects of the 2008 recession and slower forecasted growth. The 2020 inventory without the benefits of adopted regulation is now estimated at 545 $MMTCO_2e$. Therefore, under the updated forecast, a 21.7 percent reduction from BAU is required to achieve 1990 levels (ARB 2010a).

Progress in Achieving AB 32 Targets and Remaining Reductions Required

The State has made steady progress in implementing AB 32 and achieving targets included in Executive Order S-3-05. The progress is evident in updated emission inventories prepared by ARB, which showed that the State inventory dropped below 1990 levels for the first time in 2016 (ARB 2018b). The 2017 Scoping Plan Update includes projections indicating that the State will meet or exceed the 2020 target with adopted regulations (ARB 2017c).

ARB 2008 Scoping Plan. The ARB's Climate Change Scoping Plan (Scoping Plan) contains measures designed to reduce the State's emissions to 1990 levels by the year 2020 to comply with AB 32 (ARB 2008). The Scoping Plan identifies recommended measures for multiple GHG emission sectors and the associated emission reductions needed to achieve the year 2020 emissions target—each sector has a different emission reduction target. Most of the measures target the transportation and electricity sectors. As stated in the Scoping Plan, the key elements of the strategy for achieving the 2020 GHG target include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a statewide renewables energy mix of 33 percent;
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- Establishing targets for transportation-related GHG emissions for regions throughout California and pursuing policies and incentives to achieve those targets;

- Adopting and implementing measures pursuant to existing State laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the State's long-term commitment to AB 32 implementation.

In addition, the Scoping Plan differentiates between "capped" and "uncapped" strategies. Capped strategies are subject to the proposed Cap-and-Trade program. The Scoping Plan states that the inclusion of these emissions within the Cap-and-Trade program will help ensure that the year 2020 emission targets are met despite some degree of uncertainty in the emission reduction estimates for any individual measure. Implementation of the capped strategies is calculated to achieve a sufficient amount of reductions by 2020 to achieve the emission target contained in AB 32. Uncapped strategies that will not be subject to the Cap-and-Trade emissions caps and requirements are provided as a margin of safety by accounting for additional GHG emission reductions (ARB 2008).

Cap-and-Trade Program. The Cap-and-Trade Program is a key element of the Scoping Plan. It sets a statewide limit on sources responsible for 85 percent 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 program is designed to provide covered entities the flexibility to seek out and implement the lowest cost options to reduce emissions. The program conducted its first auction in November 2012. Compliance obligations began for power plants and large industrial sources in January 2013. Other significant milestones include linkage to Quebec's Cap-and-Trade system in January 2014 and starting the compliance obligation for distributors of transportation fuels, natural gas, and other fuels in January 2015 (ARB 2015d).

The Cap-and-Trade Program provides a firm cap, ensuring that the 2020 statewide emission limit will not be exceeded. An inherent feature of the Cap-and-Trade program is that it does not guarantee GHG emissions reductions in any discrete location or by any particular source. Rather, GHG emissions reductions are guaranteed only on an accumulative basis. As summarized by ARB in the First Update:

> The Cap-and-Trade Regulation gives companies the flexibility to trade allowances with others or take steps to cost-effectively reduce emissions at their own facilities. Companies that emit more have to turn in more allowances or other compliance instruments. Companies that can cut their GHG emissions have to turn in fewer allowances. But as the cap declines, aggregate emissions must be reduced. In other words, a covered entity theoretically could increase its GHG emissions every year and still comply with the Cap-and-Trade Program if there is a reduction in GHG emissions from other covered entities. Such a focus on aggregate GHG emissions is considered appropriate because climate change is a global phenomenon, and the effects of GHG emissions are considered cumulative (ARB 2014b).

The Cap-and-Trade Program works with other direct regulatory measures and provides an economic incentive to reduce emissions. If California's direct regulatory measures reduce GHG emissions more than expected, then the Cap-and-Trade Program will be responsible for relatively fewer emissions reductions. If California's direct regulatory measures reduce GHG emissions less than expected, then the Cap-and-Trade Program will be responsible for relatively more emissions reductions. Thus, the Cap-and-Trade Program assures that California will meet its 2020 GHG emissions reduction mandate:

> The Cap-and-Trade Program establishes an overall limit on GHG emissions from most of the California economy—the "capped sectors." Within the capped sectors, some of the reductions are being accomplished through direct regulations, such as improved building and appliance efficiency standards, the [Low Carbon Fuel Standard] LCFS, and the 33 percent [Renewables Portfolio Standard] RPS. Whatever additional reductions are needed to bring emissions within the cap is accomplished through price incentives posed by emissions allowance prices. Together, direct regulation and price incentives assure that emissions are brought down cost-effectively to the level of the overall cap. The Cap-and-Trade Regulation provides assurance that California's 2020 limit will be met because the regulation sets a firm limit on 85 percent of California's GHG emissions. In sum, the Cap-and-Trade Program will achieve aggregate, rather than site specific or project-level, GHG emissions reductions. Also, due to the regulatory architecture adopted by ARB in AB 32, the reductions attributed to the Cap-and-Trade Program can change over time depending on the State's emissions forecasts and the effectiveness of direct regulatory measures (ARB 2014b).

AB 398. The Governor signed AB 398 on July 25, 2017 to extend the Cap-and-Trade Program to 2030. The legislation includes provisions to ensure that offsets used by sources are limited to 4 percent of their compliance obligation from 2021 through 2025 and 6 percent from 2026 through 2030. AB 398 also prevents Air Districts from adopting or implementing emission reduction rules from stationary sources that are also subject to the Cap-and-Trade Program (CAR 2017).

SB 32. The Governor signed SB 32 on September 8, 2016. SB 32 now gives ARB the statutory responsibility to include the 2030 target previously contained in Executive Order B-30-15 in the 2017 Scoping Plan Update. SB 32 states that "In adopting rules and regulations to achieve the maximum technologically feasible and cost-effective greenhouse gas emissions reductions authorized by this division, the state [air resources] board shall ensure that statewide greenhouse gas emissions are reduced to at least 40 percent below the statewide greenhouse gas emissions limit no later than December 31, 2030." The 2017 Climate Change Scoping Plan Update addressing the SB 32 targets was adopted on December 14, 2017. The major elements of the framework proposed to achieve the 2030 target are as follows:

1. SB 350
   - Achieve 50 percent Renewables Portfolio Standard (RPS) by 2030.
   - Doubling of energy efficiency savings by 2030.
2. Low Carbon Fuel Standard (LCFS)
   - Increased stringency (reducing carbon intensity 18 percent by 2030, up from 10 percent in 2020).

3. Mobile Source Strategy (Cleaner Technology and Fuels Scenario)
   - Maintaining existing GHG standards for light- and heavy-duty vehicles.
   - Put 4.2 million zero-emission vehicles (ZEVs) on the roads.
   - Increase ZEV buses, delivery and other trucks.
4. Sustainable Freight Action Plan
   - Improve freight system efficiency.
   - Maximize use of near-zero emission vehicles and equipment powered by renewable energy.
   - Deploy over 100,000 zero-emission trucks and equipment by 2030.
5. Short-Lived Climate Pollutant (SLCP) Reduction Strategy
   - Reduce emissions of methane and hydrofluorocarbons 40 percent below 2013 levels by 2030.
   - Reduce emissions of black carbon 50 percent below 2013 levels by 2030.
6. SB 375 Sustainable Communities Strategies
   - Increased stringency of 2035 targets.
7. Post-2020 Cap-and-Trade Program
   - Declining caps, continued linkage with Québec, and linkage to Ontario, Canada.
   - ARB will look for opportunities to strengthen the program to support more air quality co-benefits, including specific program design elements. In Fall 2016, ARB staff described potential future amendments including reducing the offset usage limit, redesigning the allocation strategy to reduce free allocation to support increased technology and energy investment at covered entities and reducing allocation if the covered entity increases criteria or toxics emissions over some baseline.
8. 20 percent reduction in greenhouse gas emissions from the refinery sector.
9. By 2018, develop Integrated Natural and Working Lands Action Plan to secure California's land base as a net carbon sink (ARB 2017c).

SB 375—The Sustainable Communities and Climate Protection Act of 2008. SB 375 was signed into law on September 30, 2008. According to SB 375, the transportation sector is the largest contributor of GHG emissions, which emits over 40 percent of the total GHG emissions in California. SB 375 states, "Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32." SB 375 does the following: (1) requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing GHG emissions, (2) aligns planning for transportation and housing, and (3) creates specified incentives for the implementation of the strategies.

Concerning CEQA, SB 375—as codified in Public Resources Code Section 21159.28—states that CEQA findings determinations for certain projects are not required to reference, describe, or discuss (1) growth-inducing impacts or (2) any project-specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network if the project:

1. Is in an area with an approved Sustainable Communities Strategy or an alternative planning strategy that the ARB accepts as achieving the greenhouse gas emission reduction targets;
2. Is consistent with that strategy (in designation, density, building intensity, and applicable policies); and
3. Incorporates the mitigation measures required by an applicable prior environmental document.

The ARB has prepared the Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets. The update includes an increase in the 2035 target for Fresno County from 10 percent to 13 percent (ARB 2017c).

AB 1493 Pavley Regulations and Fuel Efficiency Standards. California AB 1493, enacted on July 22, 2002, required the ARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Implementation of the regulation was delayed by lawsuits filed by automakers and by the EPA's denial of an implementation waiver. The EPA subsequently granted the requested waiver in 2009, which was upheld by the by the U.S. District Court for the District of Columbia in 2011 (ARB 2013d).

The standards were phased in during the 2009 through 2016 model years. When fully phased in, the near-term (2009–2012) standards resulted in an approximately 22 percent reduction compared with the 2002 fleet, and the mid-term (2013–2016) standards resulted in about a 30 percent reduction. Several technologies stand out as providing significant reductions in emissions at favorable costs. These include discrete variable valve lift or camless valve actuation to optimize valve operation, rather than relying on fixed valve timing and lift as has historically been done; turbocharging to boost power and allow for engine downsizing; improved multi-speed transmissions; and improved air conditioning systems that operate optimally, leak less, and/or use an alternative refrigerant (ARB 2013e).

The second phase of the implementation for the Pavley bill was incorporated into Amendments to the Low-Emission Vehicle Program referred to as LEV III or the Advanced Clean Cars program. The Advanced Clean Car program combines the control of smog-causing pollutants and GHG emissions into a single coordinated package of requirements for model years 2017 through 2025. The regulation will reduce GHGs from new cars by 34 percent from 2016 levels by 2025. The rules will reduce pollutants from gasoline and diesel-powered cars, and deliver increasing numbers of zero-emission technologies, such as full battery electric cars, newly emerging plug-in hybrid electric vehicles, and hydrogen fuel cell cars. The regulations will also ensure adequate fueling infrastructure is available for the increasing numbers of hydrogen fuel cell vehicles planned for deployment in California (ARB 2017e).

SB 1368—Emission Performance Standards. In 2006, the State Legislature adopted SB 1368, which was subsequently signed into law by the governor. SB 1368 directs the California Public Utilities Commission to adopt a performance standard for GHG emissions for the future power purchases of California utilities. SB 1368 seeks to limit carbon emissions associated with electrical energy consumed in California by forbidding procurement arrangements for energy longer than 5 years from resources that exceed the emissions of a relatively clean, combined cycle natural gas power plant. Because of the carbon content of its fuel source, a coal-fired plant cannot meet this standard

because such plants emit roughly twice as much carbon as natural gas, combined cycle plants. Accordingly, the new law effectively prevents California's utilities from investing in, otherwise financially supporting, or purchasing power from new coal plants located in or out of the State. The California Public Utilities Commission adopted the regulations required by SB 1368 on August 29, 2007. The regulations implementing SB 1368 establish a standard for baseload generation owned by, or under long-term contract to publicly owned utilities, of 1,100 lbs. CO_2 per megawatt-hour (MWh).

SB 1078—Renewable Electricity Standards. On September 12, 2002, Governor Gray Davis signed SB 1078, requiring California to generate 20 percent of its electricity from renewable energy by 2017. SB 107 changed the due date to 2010 instead of 2017. On November 17, 2008, Governor Arnold Schwarzenegger signed Executive Order S-14-08, which established a Renewable Portfolio Standard target for California requiring that all retail sellers of electricity serve 33 percent of their load with renewable energy by 2020. Governor Schwarzenegger also directed the ARB (Executive Order S-21-09) to adopt a regulation by July 31, 2010, requiring the State's load serving entities to meet a 33 percent renewable energy target by 2020 The ARB approved the Renewable Electricity Standard on September 23, 2010 by Resolution 10-23. In 2011, the state legislature adopted this higher standard in SB X1-2. Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas.

SB 350—Clean Energy and Pollution Reduction Act of 2015. The legislature approved and the governor then signed SB 350 on October 7, 2015, which reaffirms California's commitment to reducing its GHG emissions and addressing climate change. Key provisions include an increase in the RPS, higher energy efficiency requirements for buildings, initial strategies towards a regional electricity grid, and improved infrastructure for electric vehicle charging stations. Provisions for a 50 percent reduction in the use of petroleum statewide were removed from the Bill because of opposition and concern that it would prevent the Bill's passage. Specifically, SB 350 requires the following to reduce statewide GHG emissions:

- Increase the amount of electricity procured from renewable energy sources from 33 percent to 50 percent by 2030, with interim targets of 40 percent by 2024, and 25 percent by 2027.
- Double the energy efficiency in existing buildings by 2030. This target will be achieved through the California Public Utility Commission (CPUC), the California Energy Commission (CEC), and local publicly owned utilities.
- Reorganize the Independent System Operator (ISO) to develop more regional electricity transmission markets and improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States (California Leginfo 2015).

SB 100—California Renewables Portfolio Standard Program. The Governor approved SB 100 on September 10, 2018. The legislation revised the Renewable Portfolio Standard goals to achieve the 50 percent renewable resources target by December 31, 2026, and to achieve a 60 percent target by December 31, 2030. The bill would require that retail sellers and local publicly owned electric utilities procure a minimum quantity of electricity products from eligible renewable energy resources so that the total kilowatt hours of those products sold to their retail end-use customers achieve 44 percent of retail sales by December 31, 2024, 52 percent by December 31, 2027, and 60 percent by December 31, 2030 (California Leginfo 2018).

SBX 7-7—The Water Conservation Act of 2009. The legislation directs urban retail water suppliers to set individual 2020 per capita water use targets and begin implementing conservation measures to achieve those goals. Meeting this statewide goal of 20 percent decrease in demand will result in a reduction of almost 2 million acre-feet in urban water use in 2020.

Executive Orders Related to GHG Emissions

California's Executive Branch has taken several actions to reduce GHGs through the use of executive orders. Although not regulatory, they set the tone for the State and guide the actions of state agencies.

Executive Order S-3-05. On June 1, 2005, former California Governor Arnold Schwarzenegger announced through Executive Order S-3-05, the following reduction targets for GHG emissions:

- By 2010, reduce greenhouse gas emissions to 2000 levels.
- By 2020, reduce greenhouse gas emissions to 1990 levels.
- By 2050, reduce greenhouse gas emissions to 80 percent below 1990 levels.

The 2050 reduction goal represents what some scientists believe is necessary to reach levels that will stabilize the climate. The 2020 goal was established to be a mid-term target. Because this is an executive order, the goals are not legally enforceable for local governments or the private sector.

Executive Order B-30-15. On April 29, 2015, Governor Edmund G. Brown Jr. issued an executive order to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. The Governor's executive order aligns California's GHG reduction targets with those of leading international governments ahead of the United Nations Climate Change Conference in Paris late 2015. The executive order sets a new interim statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030 in order to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050, and directs the ARB to update the Climate Change Scoping Plan to express the 2030 target in terms of $MMTCO_2e$. The executive order also requires the State's climate adaptation plan to be updated every three years and for the State to continue its climate change research program, among other provisions. As with Executive Order S-3-05, this executive order is not legally enforceable against local governments and the private sector. Legislation that would update AB 32 to provide post-2020 targets was signed by the Governor in 2016. SB 32 includes a 2030 mandate matching the requirements of the Executive Order.

Executive Order S-01-07—Low Carbon Fuel Standard. The governor signed Executive Order S 01-07 on January 18, 2007. The order mandates that a statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020. In particular, the executive order established a Low Carbon Fuel Standard (LCFS) and directed the Secretary for Environmental Protection to coordinate the actions of the California Energy Commission, the ARB, the University of California, and other agencies to develop and propose protocols for measuring the "life-cycle carbon intensity" of transportation fuels. This analysis supporting development of the protocols was included in the State Implementation Plan for alternative fuels (State Alternative Fuels Plan adopted by California Energy Commission on December 24, 2007) and was submitted to ARB for consideration as an "early action" item under AB 32. The ARB adopted the Low Carbon Fuel Standard on April 23, 2009.

The Low Carbon Fuel Standard was subject to legal challenge in 2011. Ultimately, ARB was required to bring a new LCFS regulation to the Board for consideration in February 2015. The proposed LCFS regulation was required to contain revisions to the 2010 LCFS as well as new provisions designed to foster investments in the production of the low-carbon fuels, offer additional flexibility to regulated parties, update critical technical information, simplify and streamline program operations, and enhance enforcement. The Office of Administrative Law (OAL) approved the regulation on November 16, 2015 (ARB 2015e).

Executive Order S-13-08. Executive Order S-13-08 states that "climate change in California during the next century is expected to shift precipitation patterns, accelerate sea level rise and increase temperatures, thereby posing a serious threat to California's economy, to the health and welfare of its population and to its natural resources." Pursuant to the requirements in the order, the 2009 California Climate Adaptation Strategy (California Natural Resources Agency 2009) was adopted, which is the ". . . first statewide, multi-sector, region-specific, and information-based climate change adaptation strategy in the United States." Objectives include analyzing risks of climate change in California, identifying and exploring strategies to adapt to climate change, and specifying a direction for future research.

Executive Order B-55-18. Executive Order B-55-18 issued by Governor Brown on September 10, 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. The executive order directs ARB to work with relevant state agencies to develop a framework for implementation and accounting that tracks progress toward this goal (Brown 2018).

California Regulations and Building Codes

California has a long history of adopting regulations to improve energy efficiency in new and remodeled buildings. These regulations have kept California's energy consumption relatively flat even with rapid population growth.

Title 20 Appliance Efficiency Regulations. California Code of Regulations, Title 20: Division 2, Chapter 4, Article 4, Sections 1601–1608: Appliance Efficiency Regulations regulates the sale of appliances in California. The Appliance Efficiency Regulations include standards for both federally regulated appliances and non-federally regulated appliances. Twenty-three categories of appliances are included in the scope of these regulations including lighting, air conditioning, and most home appliances. The standards within these regulations apply to appliances that are sold or offered for sale in California, except those sold wholesale in California for final retail sale outside the State and those designed and sold exclusively for use in recreational vehicles or other mobile equipment (CEC 2018a).

Title 24 Energy Efficiency Standards. California Code of Regulations Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. The most current

2016 Building Energy Efficiency Standards went into effect on January 1, 2017 (CEC 2016). The 2019 Building Energy Efficiency Standards are scheduled to go into effect on January 1, 2020 (CEC 2018b).

Title 24 California Green Building Standards Code (California Code of Regulations Title 24, Part 11 code) is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect January 1, 2011. The code is updated on a regular basis, with the most recent update consisting of the 2016 California Green Building Code Standards that became effective January 1, 2017. Local jurisdictions are permitted to adopt more stringent requirements, as state law provides methods for local enhancements. The Code recognizes that many jurisdictions have developed existing construction and demolition ordinances, and defers to them as the ruling guidance provided they provide a minimum 50-percent diversion requirement. The code also provides exemptions for areas not served by construction and demolition recycling infrastructure. State building code provides the minimum standard that buildings need to meet in order to be certified for occupancy, which is generally enforced by the local building official.

The California Green Building Standards Code (California Code of Regulations Title 24, Part 11 code) requires:

- **Short-term bicycle parking.** If a commercial project is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for five percent of visitor motorized vehicle parking capacity, with a minimum of one two-bike capacity rack (5.106.4.1.1).
- **Long-term bicycle parking.** For buildings with over 10 tenant-occupants, provide secure bicycle parking for five percent of tenant-occupied motorized vehicle parking capacity, with a minimum of one space (5.106.4.1.2).
- **Designated parking.** Provide designated parking in commercial projects for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table 5.106.5.2 (5.106.5.2).
- **Recycling by Occupants.** Provide readily accessible areas that serve the entire building and are identified for the depositing, storage, and collection of nonhazardous materials for recycling. (5.410.1).
- **Construction waste.** A minimum 50-percent diversion of construction and demolition waste from landfills, increasing voluntarily to 65 and 80 percent for new homes and 80-percent for commercial projects. (5.408.1, A5.408.3.1 [nonresidential], A5.408.3.1 [residential]). All (100 percent) of trees, stumps, rocks and associated vegetation and soils resulting from land clearing shall be reused or recycled (5.408.3).
- **Wastewater reduction.** Each building shall reduce the generation of wastewater by one of the following methods:
    1. The installation of water-conserving fixtures or
    2. Using nonpotable water systems (5.303.4).
- **Water use savings.** Twenty percent mandatory reduction in indoor water use with voluntary goal standards for 30, 35, and 40 percent reductions (5.303.2, A5303.2.3 [nonresidential]).

- **Water meters.** Separate water meters for buildings in excess of 50,000 square feet or buildings projected to consume more than 1,000 gallons per day (5.303.1).
- **Irrigation efficiency.** Moisture-sensing irrigation systems for larger landscaped areas (5.304.3).
- **Materials pollution control.** Low-pollutant emitting interior finish materials such as paints, carpet, vinyl flooring, and particleboard (5.404).
- **Building commissioning.** Mandatory inspections of energy systems (i.e., heat furnace, air conditioner, mechanical equipment) for nonresidential buildings over 10,000 square feet to ensure that all are working at their maximum capacity according to their design efficiencies (5.410.2).

Model Water Efficient Landscape Ordinance. The Model Water Efficient Landscape Ordinance (Ordinance) was required by AB 1881 Water Conservation Act. The bill required local agencies to adopt a local landscape ordinance at least as effective in conserving water as the Model Ordinance by January 1, 2010. Reductions in water use of 20 percent consistent with (SBX-7-7) 2020 mandate are expected for the ordinance. Governor Brown's Drought Executive Order of April 1, 2015 (EO B-29-15) directed DWR to update the ordinance through expedited regulation. The California Water Commission approved the revised ordinance on July 15, 2015, which became effective on December 15, 2015. New development projects that include landscaped areas of 500 square feet or more are subject to the ordinance. The update requires:

- More efficient irrigation systems
- Incentives for graywater usage
- Improvements in on-site stormwater capture
- Limiting the portion of landscapes that can be planted with high water use plants
- Reporting requirements for local agencies.

SB 97 and the CEQA Guidelines Update. Passed in August 2007, SB 97 added Section 21083.05 to the Public Resources Code. The code states: "(a) On or before July 1, 2009, the Office of Planning and Research shall prepare, develop, and transmit to the Resources Agency guidelines for the mitigation of GHG emissions or the effects of GHG emissions as required by this division, including, but not limited to, effects associated with transportation or energy consumption. (b) On or before January 1, 2010, the Resources Agency shall certify and adopt guidelines prepared and developed by the Office of Planning and Research pursuant to subdivision (a)."

Section 21097 was also added to the Public Resources Code. This provided an exemption until January 1, 2010 for transportation projects funded by the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006, or projects funded by the Disaster Preparedness and Flood Prevention Bond Act of 2006—in stating that the failure to analyze adequately the effects of GHGs would not violate CEQA. The Natural Resources Agency completed the approval process and the Amendments became effective on March 18, 2010. The Natural Resources Agency adopted additional amendments related to greenhouse gases in the 2019 CEQA Guidelines Update adopted on December 28, 2018.

The 2010 CEQA Amendments along with the 2018 CEQA Amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in CEQA documents. The CEQA Amendments fit within the existing CEQA framework by amending existing CEQA Guidelines to reference climate change.

Section 15064.4(b) of the CEQA Guidelines provides direction for lead agencies for assessing the significance of impacts of GHG emissions:

- The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;
- Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; or
- 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. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must include specific requirements that reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project. In determining the significance of impacts, the lead agency may consider a project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is not cumulatively considerable.

Section 15064.4(c) states that a lead agency may use a model or methodology to estimate greenhouse gas emissions resulting from a project. The lead agency has discretion to select the model or methodology it considers most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change. The lead agency must support its selection of a model or methodology with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use.

The 2018 CEQA Guidelines include the following discussion regarding thresholds of significance.

> (d) Using environmental standards as thresholds of significance promotes consistency in significance determinations and integrates environmental review with other environmental program planning and regulation. Any public agency may adopt or use an environmental standard as a threshold of significance. In adopting or using an environmental standard as a threshold of significance, a public agency shall explain how the particular requirements of that environmental standard reduce project impacts, including cumulative impacts, to a level that is less than significant, and why the environmental standard is relevant to the analysis of the project under consideration. For the purposes of this subdivision, an "environmental standard" is a rule of general application that is adopted by a public agency through a public review process and that is all of the following:

(1) a quantitative, qualitative or performance requirement found in an ordinance, resolution, rule, regulation, order, plan or other environmental requirement;
(2) adopted for the purpose of environmental protection;
(3) addresses the environmental effect caused by the project; and,
(4) applies to the project under review.

In addition, the 2018 amendments revised Appendix G Checklist questions to include a new question specifically on energy conservation.

CEQA emphasizes that the effects of GHG emissions are cumulative and should be analyzed in the context of CEQA's requirements for cumulative impacts analysis (see CEQA Guidelines Section 15130(f)).

California Supreme Court GHG Ruling

A November 30, 2015 ruling, the *California Supreme Court in Center for Biological Diversity (CBD) v. California Department of Fish and Wildlife (CDFW)* on the Newhall Ranch project, concluded that whether the project was consistent with meeting statewide emission reduction goals is a legally permissible criterion of significance, but the significance finding for the project was not supported by a reasoned explanation based on substantial evidence. The Court offered potential solutions on pages 25 to 27 of the ruling to address this issue summarized below.

Specifically, the Court advised that:

- **Substantiation of Project Reductions from BAU.** A lead agency may use a BAU comparison based on the Scoping Plan's methodology if it also substantiates the reduction a particular project must achieve to comply with statewide goals. The Court suggested a lead agency could examine the "data behind the Scoping Plan's business-as-usual model" to determine the necessary project-level reductions from new land use development at the proposed location (p. 25).
- **Compliance with Regulatory Programs or Performance Based Standards.** "A lead agency might assess consistency with A.B. 32's goal in whole or part by looking to compliance with regulatory programs designed to reduce greenhouse gas emissions from particular activities. (See Final Statement of Reasons, supra, at p. 64 [greenhouse gas emissions 'may be best analyzed and mitigated at a programmatic level.'].) To the extent a project's design features comply with or exceed the regulations outlined in the Scoping Plan and adopted by the Air Resources Board or other state agencies, a lead agency could appropriately rely on their use as showing compliance with 'performance based standards' adopted to fulfill 'a statewide . . . plan for the reduction or mitigation of greenhouse gas emissions.' (CEQA Guidelines § 15064.4(a)(2), (b)(3); see also id., § 15064(h)(3) [determination that impact is not cumulatively considerable may rest on compliance with previously adopted plans or regulations, including 'plans or regulations for the reduction of greenhouse gas emissions'].)" (p. 26).
- **Compliance with GHG Reduction Plans or Climate Action Plans (CAPs).** A lead agency may utilize "geographically specific GHG emission reduction plans" such as climate action plans or greenhouse gas emission reduction plans to provide a basis for the tiering or streamlining of project-level CEQA analysis (p. 26).

- **Compliance with Local Air District Thresholds.** A lead agency may rely on "existing numerical thresholds of significance for greenhouse gas emissions" adopted by, for example, local air districts (p. 27).

Therefore, consistent with CEQA Guidelines Appendix G, the three factors identified in CEQA Guidelines Section 15064.4 and the recently issued Newhall Ranch opinion, the GHG impacts would be considered significant if the project would:

- Conflict with a compliant GHG Reduction Plan if adopted by the lead agency;
- Exceed the SJVAPCD GHG Reduction Threshold; or
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emission of GHGs.

3.3.4 - San Joaquin Valley Air Pollution Control District

Climate Change Action Plan

On August 21, 2008, the SJVAPCD Governing Board approved a proposal called the Climate Change Action Plan (CCAP). The CCAP began with a public process bringing together stakeholders, land use agencies, environmental groups, and business groups to conduct public workshops to develop comprehensive policies for CEQA guidelines, a carbon exchange bank, and voluntary GHG emissions mitigation agreements for the Board's consideration. The CCAP contains the following goals and actions:

- Develop GHG significance thresholds to address CEQA projects with GHG emission increases.
- Develop the San Joaquin Valley Carbon Exchange for banking and trading GHG reductions.
- Authorize use of the SJVAPCD's existing inventory reporting system to allow use for GHG reporting required by AB 32 regulations.
- Develop and administer GHG reduction agreements to mitigate proposed emission increases from new projects.
- Support climate protection measures that reduce greenhouse gas emissions as well as toxic and criteria pollutants. Oppose measures that result in a significant increase in toxic or criteria pollutant emissions in already impacted areas.

On December 17, 2009, the SJVAPCD Governing Board adopted "Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA," and the policy "District Policy—Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency." The SJVAPCD concluded that the existing science is inadequate to support quantification of the impacts that project-specific GHG emissions have on global climatic change. The SJVAPCD found the effects of project-specific emissions to be cumulative, and without mitigation, their incremental contribution to global climatic change could be considered cumulatively considerable. The SJVAPCD found that this cumulative impact is best addressed by requiring all projects to reduce their GHG emissions, whether through project design elements or mitigation.

The SJVAPCD's approach is intended to streamline the process of determining if project-specific GHG emissions would have a significant effect. Projects exempt from the requirements of CEQA, and projects complying with an approved plan or mitigation program would be determined to have a less than significant cumulative impact. Such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources, and must have a certified final CEQA document.

For non-exempt projects, those projects for which there is no applicable approved plan or program, or those projects not complying with an approved plan or program, the lead agency must evaluate the project against performance-based standards and would require the adoption of design elements, known as a Best Performance Standard, to reduce GHG emissions. The Best Performance Standards (BPS) have not yet fully been established, though they must be designed to achieve a 29 percent reduction when compared with the BAU projections identified in ARB's AB 32 Scoping Plan.

BAU represents the emissions that would occur in 2020 if the average baseline emissions during the 2002–2004 period were grown to 2020 levels, without control. Thus, these standards would carry with them pre-quantified emissions reductions, eliminating the need for project-specific quantification. Therefore, projects incorporating BPS would not require specific quantification of GHG emissions, and automatically would be determined to have a less than significant cumulative impact for GHG emissions.

For stationary source permitting projects, BPS means, "The most stringent of the identified alternatives for control of GHG emissions, including type of equipment, design of equipment and operational and maintenance practices, which are achieved-in-practice for the identified service, operation, or emissions unit class." The SJVAPCD has identified BPS for the following sources: boilers; dryers and dehydrators; oil and gas extraction; storage, transportation, and refining operations; cogeneration; gasoline dispensing facilities; volatile organic compound control technology; and steam generators.

For development projects, BPS means, "Any combination of identified GHG emission reduction measures, including project design elements and land use decisions that reduce project-specific GHG emission reductions by at least 29 percent compared with business as usual."

Projects not incorporating BPS would require quantification of GHG emissions and demonstration that BAU GHG emissions have been reduced or mitigated by 29 percent. As stated earlier, ARB's adjusted inventory reduced the amount required by the State to achieve 1990 emission levels from 29 percent to 21.7 percent to account for slower growth experienced since the 2008 recession. According to SJVAPCD guidance, quantification of GHG emissions would be required for all projects for which the lead agency has determined that an environmental impact report is required, regardless of whether the project incorporates BPS. The SJVAPCD has not yet adopted BPS for development projects, so quantification of project emissions is required.

San Joaquin Valley Carbon Exchange

The SJVAPCD initiated work on the San Joaquin Valley Carbon Exchange in November 2008. The purpose of the carbon exchange is to quantify, verify, and track voluntary GHG emissions reductions generated within the San Joaquin Valley. However, the SJVAPCD has pursued an alternative strategy

that incorporates the GHG emissions into its existing Rule 2301—Emission Reduction Credit Offset Banking that formerly only addressed criteria pollutants. The SJVAPCD is also participating with the California Air Pollution Control Officers Association (CAPCOA), of which it is a member, in the CAPCOA Greenhouse Gas Reduction Exchange (GHG Rx). The GHG Rx is operated cooperatively by air districts that have elected to participate. Participating districts have signed a Memorandum of Understanding (MOU) with CAPCOA and agree to post only those credits that meet the Rx standards for quality. The objective is to provide a secure, low-cost, high-quality greenhouse gas exchange for credits created in California. The GHG Rx is intended to help fulfill compliance obligations or mitigation needs of local projects subject to environmental review, reducing the uncertainty of using credits generated in distant locations. The SJVAPCD currently has no credits posted to the GHG Rx website as of this writing (CAPCOA 2018).

Rule 2301

While the Climate Change Action Plan indicated that the GHG emission reduction program would be called the San Joaquin Valley Carbon Exchange, the District incorporated a method to register voluntary GHG emission reductions into its existing Rule 2301—Emission Reduction Credit Banking through amendments of the rule. Amendments to the rule were adopted on January 19, 2012. The purposes of the amendments to the rule include the following:

- Provide an administrative mechanism for sources to bank voluntary GHG emission reductions for later use.
- Provide an administrative mechanism for sources to transfer banked GHG emission reductions to others for any use.
- Define eligibility standards, quantitative procedures, and administrative practices to ensure that banked GHG emission reductions are real, permanent, quantifiable, surplus, and enforceable.

Fresno Council of Governments

Regional Transportation Plan

The Fresno Council of Governments (Fresno COG) is the Regional Transportation Planning Agency (RTPA) for the Fresno County region. The Fresno COG adopted the 2014 Regional Transportation Plan/Sustainable Community Strategy (RTP/SCS) that included the County's first Sustainable Community Strategy to comply with SB 375. The RTP is a planning document prepared in cooperation with the Federal Highway Administration (FHWA), Federal Transit Administration (FTA), the California Department of Transportation (Caltrans), and other stakeholders, including transportation system users. The SCS is intended to show how integrated land use and transportation planning can lead to lower greenhouse gas (GHG) emissions from autos and light trucks. SB 375 includes the following four primary findings related to the RTP/SCS development process:

- SB 375 required the ARB to develop regional GHG emission reduction targets for cars and light trucks for each of the 18 MPOs in California, including Fresno COG. ARB approved targets for the San Joaquin Valley in January 2013. The target for Fresno is a per capita reduction in GHG emissions from passenger vehicle travel of five percent by 2020 and 10 percent by 2035

relative to 2005 levels. The 2018 RTP indicates that the County continues to pursue the 5 percent reduction by 2020 and 10 percent reduction by 2035 (Fresno COG 2018).

- SB 375 required the preparation of an SCS. Fresno COG included a SCS that specifies how the GHG emission reduction target set by ARB will be achieved in the RTP. If the target cannot be met through the SCS, then an Alternative Planning Strategy (APS) shall be prepared by Fresno COG. Chapter 4 of the 2014 RTP includes the SCS for Fresno COG. Chapter 3 of the 2018 RTP includes the updated SCS.
- SB 375 streamlines CEQA requirements for specific residential and mixed-use developments that are consistent with the Fresno County SCS or APS (as determined by ARB) to achieve regional GHG emissions reduction target.

The 2018 RTP/SCS was adopted by Fresno COG on July 26, 2018 and reflects its latest per capita GHG reduction targets of 5 percent by 2020, 10 percent by 2035, and 12 percent by 2042 (Fresno COG 2018).

3.3.5 - Local

The City of Fresno included a Greenhouse Gas Reduction Plan as part of the General Plan Update that includes strategies that would help reduce GHG emissions associated with development projects. The GHG Reduction Plan used the General Plan as the basis for its land use and transportation related policies to reduce GHG emissions.

City of Fresno General Plan

The City of Fresno General Plan includes numerous objectives and policies in the Urban Form, Land Use, Design, Transportation, Park and Open Space, and Resource Conservation Elements. A list of the relevant policies was compiled in the Greenhouse Gas Reduction Plan and is provided in Appendix A. A qualitative policy consistency analysis of relevant General Plan policies is included in the Greenhouse Gas section.

City of Fresno General Plan Master Environmental Impact Report (MEIR)

The General Plan MEIR relies on General Plan goals and policies to mitigate GHG emissions to the extent feasible. The policies are similar to the strategies and actions included in plan. The following policies are applicable to the project:

- **RC-5-a Support State Goal to Reduce Statewide GHG Emissions.** As is consistent with State law, strive to meet AB 32 goal to reduce greenhouse gas emissions to 1990 levels by 2020 and strive to meet a reduction of 80 percent below 1990 levels by 2050 as stated in Executive Order S-03-05. As new statewide GHG reduction targets and dates are set by the State update the City's Greenhouse Gas Reduction Plan to include a comprehensive strategy to achieve consistency with those targets by the dates established.
- **RC-5-c GHG Reduction through Design and Operations.** Increase efforts to incorporate requirements for GHG emission reductions in land use entitlement decisions, facility design, and operational measures subject to City regulation through the following measures and strategies:

  - Promote the expansion of incentive-based programs that involve certification of projects for energy and water efficiency and resiliency. These certification programs and scoring systems may include public agency "Green" and conservation criteria, Energy Star™ certification, CALGreen Tier 1 or Tier 2, Leadership in Energy Efficient Design (LEED™) certification, etc.
  - Promote appropriate energy and water conservation standards and facilitate mixed-use projects, new incentives for infill development, and the incorporation of mass transit, bicycle and pedestrian amenities into public and private projects.
- **RC-5-d SCS and CAP Conformity Analysis.** Ensure that the City includes analysis of a project's conformity to an adopted regional Sustainable Community Strategy or Alternative Planning Strategy (APS), an adopted Climate Action Plan (CAP), and any other applicable City and regional greenhouse gas reduction strategies in affect at the time of project review.
- **RC-5-e Ensure Compliance.** Ensure ongoing compliance with GHG emissions reduction plans and programs by requiring that air quality measures are incorporated into projects' design, conditions of approval, and mitigation measures.
- **RC-5-g Evaluate Impacts with Models.** Continue to use computer models such as those used by SJVAPCD to evaluate greenhouse gas impacts of plans and projects that require such review (City of Fresno 2014c).

Greenhouse Gas Reduction Plan

The General Plan Update includes a Greenhouse Gas Reduction Plan (GHG Plan) that provides the City's primary strategy for reductions greenhouse gas emissions. The intent of the GHG Plan is to achieve compliance with state GHG reduction mandates by focusing on feasible actions the City can take to minimize the adverse impacts of growth and development on climate change. The GHG Plan does not reinvent the wheel; rather, it builds on the General Plan policies and implementation measures. Where needed, the GHG Plan provides more details to clarify and focus action and to ensure implementation (Fresno 2014b).

The GHG Plan shows that the City will achieve a reduction of 26.8 percent from BAU by 2020 through compliance with regulations only, which exceeds the 21.7 percent required to show consistency with AB 32 targets. The local measures contained in the GHG Plan were expected to achieve an additional 3.0 percent reduction from BAU for a total reduction of 29.8 percent from BAU by 2020.

The GHG Plan includes criteria that would allow projects to qualify for permit streamlining provisions and incentives and would receive a less than significant finding for GHG impacts. The checklist is intended as an incentive program and is not feasible for all projects. Projects that meet the Fresno Green Checklist point totals receive the following incentives:

- 25 percent fee reductions of many planning fees (Site Plans, CUPs, EAs, etc.)
- 20 percent minor deviation from development standards, if needed (25% if public art is incorporated into the project)
- Expedited processing through the "Green Team"
- Eligibility for a Fresno Green award and use of the Fresno Green brand for the project

In addition, projects that meet the criteria listed below do not need a quantitative greenhouse gas analysis in some cases. Projects that comply with the four actions listed below would not need to prepare a quantitative GHG analysis to demonstrate consistency with the GHG Plan and to be considered to have less than significant impacts. Projects requiring a General Plan Amendment would require a quantitative analysis of GHG emissions to demonstrate that the project would achieve at least a 21.7 percent GHG emission reduction compared to business as usual (BAU) in 2020 to be considered less than significant.

The GHG Plan includes the following guidance for determining project consistency with the GHG Plan:

1. Review General Plan Policies listed in the GHG Plan to determine applicability to the project.
2. Incorporate design features or mitigation measures into the project as needed to demonstrate consistency.
   a. Street and pedestrian design complies with complete streets concepts.
   b. Review project against Development Code for mandatory design features required for the project.
   c. Consider alternative energy generation (solar) if appropriate for the project and site. (The State is working towards zero net energy development that will require increasing efficiency and self-generation over time).
   d. Review water conservation building and landscape design features for compliance with City water conservation standards.
3. Implement project design features suitable for the development type and location.
   a. Projects within core/center areas and BRT corridors should meet minimum density and design requirements to ensure pedestrian and transit orientation is met.
   b. Maintain and enhance connections to regional bikeways and trail system.
4. Complete the latest version of the Fresno Green Residential or Non-Residential Checklist
   a. Meet the Fresno Green checklist point requirements.
   b. Alternatively, meet the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) Programs, or qualify for Build It Green's GreenPoint rating system for residential building.

Many of the points available on the Fresno Green Checklist and the LEED Program apply to measures not related to greenhouse gas emissions or are specific to certain areas of the City such as redevelopment areas. Projects that do not choose to pursue the Fresno Green streamlining benefits may prepare a quantitative analysis to demonstrate that the project achieves emission reductions consistent with the GHG Plan and AB 32 reduction targets (21.7 percent reduction from BAU in 2020). This project has provided a quantitative analysis of project emissions under the BAU scenario and 2020 with emission reductions scenario to demonstrate that the project would achieve the 21.7 percent reduction required to demonstrate consistency with AB 32 reduction targets and the 29 percent reduction from BAU recommended by the SJVAPCD that is based on reductions required in the AB 32 Scoping Plan. In addition, an analysis of 2030 emissions is included to address SB 32 2030 targets and compliance with the Newhall Ranch California Supreme Court ruling.

Waste Diversion

With the passage of SB 1016, the Per Capita Disposal Measurement System, only per capita disposal rates are measured. Targets are based on the per capita disposal rates. The City's disposal rate for 2017 was 4.70 pounds per person per day, which is well below the target of 6.6 pounds per person per day (CalRecycle 2019).

INTENTIONALLY LEFT BLANK

SECTION 4: MODELING PARAMETERS AND ASSUMPTIONS

4.1—Model Selection and Guidance

Air pollutant emissions can be estimated by using emission factors and a level of activity. Emission factors represent the emission rate of a pollutant given the activity over time; for example, grams of NO_X per horsepower-hour or grams of NO_X per vehicle mile traveled. The ARB has published emission factors for on-road mobile vehicles/trucks in the EMission FACtors Model (EMFAC) mobile source emissions model and emission factors for off-road equipment and vehicles in the OFFROAD emissions model. An air emissions model (or calculator) combines the emission factors and the various levels of activity and outputs the emissions for the various pieces of equipment.

The California Emissions Estimator Model (CalEEMod) version 2016.3.2 was developed by the South Coast Air Quality Management District in cooperation with other air districts throughout the State. CalEEMod is designed as a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with construction and operation from a variety of land uses.

The modeling follows District guidance where applicable from its GAMAQI. The models used in this analysis are summarized as follows:

- Construction emissions: CalEEMod, version 2016.3.2
- Operational emissions: CalEEMod, version 2016.3.2

4.2—Air Pollutants and GHGs Assessed

4.2.1 - Criteria Pollutants Assessed

The following air pollutants are assessed in this analysis:

- Reactive organic gases (ROG)
- Nitrogen oxides (NO_X)
- Carbon monoxide (CO)
- Sulfur dioxide (SO_2)
- Particulate matter less than 10 microns in diameter (PM_{10})
- Particulate matter less than 2.5 microns in diameter ($PM_{2.5}$)

Note that the project would emit ozone precursors ROG and NO_X. However, the project would not directly emit ozone, since it is formed in the atmosphere during the photochemical reaction of ozone precursors. Other criteria pollutants such as vinyl chloride, hydrogen sulfide, lead, and sulfates were not included because of their low levels of emissions from the project.

As noted previously, the project would emit ultrafine particles. However, there is currently no standard separate from the $PM_{2.5}$ standards for ultrafine particles and there is no accepted methodology to quantify or assess the significance of such particles.

4.2.2 - Greenhouse Gases Assessed

This analysis is restricted to GHGs identified by AB 32, which include: carbon dioxide, methane, NO_X, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. The project would generate a variety of GHGs, including several defined by AB 32 such as carbon dioxide, methane, and NO_X.

The project may emit GHGs that are not defined by AB 32. For example, the project may generate aerosols through emissions of DPM from the vehicles and trucks that would access the project site. Aerosols are short-lived particles, as they remain in the atmosphere for about one week. Black carbon is a component of aerosol. Studies have indicated that black carbon has a high global warming potential; however, the Intergovernmental Panel on Climate Change states that it has a low level of scientific certainty (IPCC 2007a).

Water vapor could be emitted from evaporated water used for landscaping, but this is not a significant impact because water vapor concentrations in the upper atmosphere are primarily due to climate feedbacks rather than emissions from project-related activities.

The project would emit nitrogen oxides and volatile organic compounds, which are ozone precursors. Ozone is a GHG; however, unlike the other GHGs, ozone in the troposphere is relatively short-lived and can be reduced in the troposphere on a daily basis. Stratospheric ozone can be reduced through reactions with other pollutants.

Certain GHGs defined by AB 32 would not be emitted by the project. Perfluorocarbons and sulfur hexafluoride are typically used in industrial applications, none of which would be used by the project. Therefore, it is not anticipated that the project would emit perfluorocarbons or sulfur hexafluoride.

4.3—Construction Modeling Assumptions

Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and prevailing weather conditions. Construction emissions result from on-site and off-site activities. On-site emissions principally consist of exhaust emissions from the activity levels of heavy-duty construction equipment, motor vehicle operation, and fugitive dust (mainly PM_{10}) from disturbed soil. Additionally, paving operations and application of architectural coatings would release VOC emissions. Off-site emissions are caused by motor vehicle exhaust from delivery vehicles, worker traffic, and road dust (PM_{10} and $PM_{2.5}$).

4.3.1 - Project Schedule

The project was assumed to begin construction activities as early as January 1, 2021 with first occupancy in 2021. The project was assumed to be completed in five phases. The first phase would include the development of Tract 6212 and Tract 6276, which contain a total of 167 lots. The remaining are was assumed to be developed in four equal phases over a period of four years with buildout completed in 2026. Actual buildout timing is subject to market conditions. The CalEEMod default schedule was modified for ground-up construction and paving to reflect the developer’s estimated buildout schedule. Demolition was assumed to occur in Phase 2. Buildout is expected to be complete in 2025.

4.3.2 - Construction Equipment Emission Factors

The analysis uses CalEEMod default assumptions for the equipment used during construction except for demolition. CalEEMod default construction equipment and equipment activity are based on surveys of construction projects of various sizes conducted for development in Southern California and may overstate equipment use for larger project sites in regions outside of Southern California and should be considered highly conservative. The modeling assumptions can be reviewed in the modeling results included in Appendix A of this report. CalEEMod contains an inventory of construction equipment that incorporates estimates of the number of equipment, age, horsepower, and equipment emission, and control level or tier from which rates of emissions are developed. The CalEEMod default equipment assumptions were used in this analysis for the estimation of emissions from on-site construction equipment. CalEEMod's off-road emission factors and load factors are from the ARB OFFROAD model.

4.3.3 - Demolition

There are two homes and a barn with floor space totaling approximately 12,385 square feet as estimated using the Google Earth measurement tool. The number of demolition days were reduced to 5 to reflect the limited amount of material to be removed.

4.3.4 - Site Preparation

Site preparation involves clearing vegetation (grubbing and tree/stump removal) and removing stones and other unwanted material or debris prior to grading. During site preparation, emissions are generated from the use of diesel construction equipment. Fugitive dust is generated during soil-disturbing activities and truck loading and unloading. Default modeling assumptions were used for site preparation.

4.3.5 - Grading

During grading activities, fugitive dust can be generated from the movement of dirt on the project site. CalEEMod estimates dust from dozers moving dirt around, dust from graders or scrapers leveling the land, and loading or unloading dirt into haul trucks. Each activity is calculated differently in CalEEMod, based on the number of acres traversed by the grading equipment.

Only some pieces of equipment generate fugitive dust in CalEEMod. The CalEEMod manual identifies various equipment and the acreage disturbed in an 8-hour day:

- Crawler tractors, graders, and rubber-tired dozers: 0.5 acre per 8-hour day
- Scrapers: 1 acre per 8-hour day

Therefore, the following acres are the total quantities disturbed per day, per phase, according to the acreage disturbed quantities listed above:

- Site preparation = 1.03 acres per day
- Grading = 2.06 acres per day

Default assumptions for equipment and days of grading were used in the modeling.

4.3.6 - Building Construction, Paving, and Architectural Coatings

The analysis uses the default modeling assumptions from CalEEMod for construction equipment during building construction, paving, and application of architectural coatings. As previously discussed, the equipment hours for the building construction phases were adjusted to retain the CalEEMod default-generated horsepower hours. The coatings used for the project are required to comply with the SJVAPCD Rule 4601—Architectural Coatings. The rule required flat paints to meet a standard of 50 grams per liter (g/l) and gloss paints 100 g/l by 2012 for an average rate of 65 g/l. Most of the coatings used for residential painting are flat paints.

4.3.7 - Construction Off-site Trips

Worker trips are accounted for during the construction phases, based on 1.25 trips per piece of equipment (the CalEEMod default). The CalEEMod default worker trip length of 10.8 miles was retained. The CalEEMod default vehicle fleet (LD Mix) was used for employee trips.

Vendor trips for the building construction phase are calculated from a study performed by the Sacramento Metropolitan Air Quality Management District (SMAQMD) based on land use and size. The CalEEMod defaults for vendor trips, trip length, and vehicle fleet (Heavy Duty Truck Vehicle Fleet Mix) were used.

4.4—Operation

Operational emissions are those emissions that occur when the project is occupied by the future residents. The major sources are summarized below.

4.4.1 - Motor Vehicles

Motor vehicle emissions refer to exhaust and road dust emissions from the automobiles that would travel to and from the project residences.

Project trip generation rates were obtained from the *Institute of Transportation Engineers Trip Generation Manual, 10th Edition* for single-family dwelling units.

A pass-by trip accounts for vehicles already on the roadway network that stop at the project site as they pass-by; the pass-by trips are existing vehicle trips in the community. CalEEMod default rates of three percent pass-by trips were used in this analysis.

The vehicle fleet mix is defined as the mix of motor vehicle classes active during the operation of the project. Emission factors are assigned to the expected vehicle mix as a function of vehicle class, speed, and fuel use (gasoline and diesel-powered vehicles). The CalEEMod default vehicle fleet mix overstates the percentage of heavy-duty trucks for residential development projects; therefore, the SJVAPCD-approved Residential Fleet Mix was used for the analysis.

4.4.2 - Architectural Coatings (Painting)

Paints release VOC emissions during application and drying. The buildings in the project would be repainted on occasion. The project is required to comply with the SJVAPCD Rule 4601—Architectural Coatings. The rule required flat paints to meet a standard of 50 grams per liter (g/l) and gloss paints

100 g/l by 2012 for an average rate of 65 g/l. Most of the coatings used for residential painting are flat paints.

4.4.3 - Consumer Products

Consumer products are various solvents used in non-industrial applications, which emit VOCs during their product use. “Consumer Product” means a chemically formulated product used by household and institutional consumers, including but not limited to: detergents; cleaning compounds; polishes; floor finishes; cosmetics; personal care products; home, lawn, and garden products; disinfectants; sanitizers; aerosol paints; and automotive specialty products. It does not include other paint products, furniture coatings, or architectural coatings (ARB 2011). The default emission factor developed for CalEEMod was used.

4.4.4 - Landscape Equipment

CalEEMod estimated the landscaping equipment using the default assumptions in the model.

4.4.5 - Electricity

Electricity used by the project (for lighting, etc.) would result in emissions from the power plants that would generate electricity distributed on the electrical power grid. Electricity emissions estimates are only used in the GHG analysis. CalEEMod was used to estimate these emissions from the project.

Electricity Emission Factor

The default CalEEMod emission factors for Pacific Gas & Electric (from the CEC’s year 2006 data) are as follows:

- Carbon dioxide: 641.35 pounds per megawatt hour (lbs/MWh)
- Methane: 0.029 lb/MWh
- Nitrous oxide: 0.006 lb/MWh

It is assumed that the Renewable Electricity Standards would have taken effect by 2020. The Renewable Electricity Standard requires that electricity providers include a minimum of 33 percent renewable energy in their portfolios by the year 2020. Pacific Gas & Electric provides estimates of its emission factor per megawatt hour of electricity delivered to its customers. The Pacific Gas and Electric Company (PG&E) emissions factor for 2020 for CO_2 is provided below. No projections have been made by PG&E for later years, so the rate is assumed to remain constant through 2030. The rates for methane and nitrous oxide are based on compliance with the Renewable Portfolio Standard.

- Carbon dioxide: 290 lbs/MWh
- Methane: 0.022 lb/MWh
- Nitrous oxide: 0.005 lb/MWh

4.4.6 - Electricity Consumption

CalEEMod has three categories for electricity consumption: electricity that is impacted by Title 24 regulations, non-Title 24 electricity, and lighting. The Title 24 uses are defined as the major building

envelope systems covered by California's Building Code Title 24 Part 6, such as space heating, space cooling, water heating, and ventilation. Lighting is separate since it can be both part and not part of Title 24. Since lighting is not considered as part of the building envelope energy budget, CalEEMod does not consider lighting to have any further association with Title 24 references in the program. Non-Title 24 includes everything else such as appliances and electronics. Total electricity consumption in CalEEMod is divided into the three categories. The percentage for each category is determined by using percentages derived from the CalEEMod default electricity intensity factors. The percentages are then applied to the electricity consumption to result in the values used in the analysis.

4.4.7 - Natural Gas

The project would generate emissions from the combustion of natural gas for water heaters, heat, etc. CalEEMod has two categories for natural gas consumption: Title 24 and non-Title 24. CalEEMod defaults were used.

4.4.8 - Water and Wastewater

GHG emissions are emitted from the use of electricity to pump water to the project and to treat wastewater. CalEEMod defaults were used.

4.4.9 - Refrigerants

During operation, air conditioners and refrigeration systems may leak refrigerants (hydrofluorocarbons). Hydrofluorocarbons are typically used for refrigerants, which are long-lived GHGs. Residential uses of refrigerants are minor; therefore, they were not estimated.

4.4.10 - Solid Waste

GHG emissions would be generated from the decomposition of solid waste generated by the project. CalEEMod was used to estimate the GHG emissions from this source. The CalEEMod default for the mix of landfill types is as follows:

- Landfill no gas capture: 6%
- Landfill capture gas flare: 94%
- Landfill capture gas energy recovery: 0%

4.4.11 - Vegetation

There is currently limited carbon sequestration occurring on-site from existing vegetation. The project would plant trees and integrate landscaping into the project design, which would provide carbon sequestration. However, the number of trees to be planted is unknown and data are insufficient to accurately determine the impact that existing plants have on carbon sequestration. For this analysis, it was assumed that the loss and addition of carbon sequestration that are due to the project would be balanced; therefore, emissions due to carbon sequestration were not included.

SECTION 5: AIR QUALITY IMPACT ANALYSIS

This section calculates the expected emissions from construction and operation of the project as a necessary requisite for assessing the regulatory significance of project emissions on a regional and localized level.

5.1—CEQA Guidelines

The CEQA Guidelines define a significant effect on the environment as "a substantial, or potentially substantial, adverse change in the environment." To determine if a project would have a significant impact on air quality, the type, level, and impact of emissions generated by the project must be evaluated.

The following air quality significance thresholds are contained in Appendix G of the CEQA Guidelines effective December 28, 2018. A significant impact would occur if the project would:

a) Conflict with or obstruct implementation of the applicable air quality plan;

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable national or state ambient air quality standard;

c) Expose sensitive receptors to substantial pollutant concentrations; or

d) Result in other emissions (such as those leading to odors adversely affecting a substantial number of people.

While the final determination of whether a project is significant is within the purview of the lead agency pursuant to Section 15064(b) of the CEQA Guidelines, the District recommends that its quantitative air pollution thresholds be used to determine the significance of project emissions. If the lead agency finds that the project has the potential to exceed these air pollution thresholds, the project should be considered to have significant air quality impacts. The applicable District thresholds and methodologies are contained under each impact statement below.

5.2—Impact Analysis

5.2.1 - Consistency with Air Quality Plan

Impact AIR-1: The project would not conflict with or obstruct implementation of the applicable air quality plan.

Impact Analysis

The CEQA Guidelines indicate that a significant impact would occur if the project would conflict with or obstruct implementation of the applicable air quality plan. The GAMAQI indicates that projects that do not exceed SJVAPCD regional criteria pollutant emissions quantitative thresholds would not conflict with or obstruct the applicable air quality plan (AQP). An additional criterion regarding the project's implementation of control measures was assessed to provide further evidence of the

project's consistency with current AQPs. This document proposes the following criteria for determining project consistency with the current AQPs:

1. Will the project result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQPs? This measure is determined by comparison to the regional and localized thresholds identified by the District for Regional and Local Air Pollutants.
2. Will the project comply with applicable control measures in the AQPs? The primary control measures applicable to development projects is Regulation VIII—Fugitive PM_{10} Prohibitions and Rule 9510 Indirect Source Review.

Contribution to Air Quality Violations

A measure for determining if the project is consistent with the air quality plans is if the project would not result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the air quality plans. Regional air quality impacts and attainment of standards are the result of the cumulative impacts of all emission sources within the air basin. Individual projects are generally not large enough to contribute measurably to an existing violation of air quality standards. Therefore, the cumulative impact of the project is based on its cumulative contribution. Because of the region's nonattainment status for ozone, $PM_{2.5}$, and PM_{10}—if project-generated emissions of either of the ozone precursor pollutants (ROG and NO_X), PM_{10}, or $PM_{2.5}$ would exceed the District's significance thresholds—then the project would be considered to contribute to violations of the applicable standards and conflict with the attainment plans.

As discussed in Impact AIR-2 below, emissions of ROG, NO_X, PM_{10}, and $PM_{2.5}$ associated with the construction and operation of the project would not exceed the District's significance thresholds. As shown in Impact AIR-2, the project would not result in CO hotspots that would violate CO standards. Therefore, the project would not contribute to air quality violations.

Compliance with Applicable Control Measures

The AQP contains a number of control measures, which are enforceable requirements through the adoption of rules and regulations. A description of rules and regulations that apply to this project is provided below.

SJVAPCD Rule 9510—Indirect Source Review (ISR) is a control measure in the 2006 PM_{10} Plan that requires NO_X and PM_{10} emission reductions from development projects in the San Joaquin Valley. The NO_X emission reductions help reduce the secondary formation of PM_{10} in the atmosphere (primarily ammonium nitrate and ammonium sulfate) and also reduce the formation of ozone. Reductions in directly emitted PM_{10} reduce particles such as dust, soot, and aerosols. Rule 9510 is also a control measure in the 2016 Plan for the 2008 8-Hour Ozone Standard. Developers of projects subject to Rule 9510 must reduce emissions occurring during construction and operational phases through on-site measures, or pay off-site mitigation fees. The project is required to comply with Rule 9510.

Regulation VIII—Fugitive PM_{10} **Prohibitions** is a control measure that is one main strategies from the 2006 PM_{10} for reducing the PM_{10} emissions that are part of fugitive dust. Projects over 10 acres are required to file a Dust Control Plan (DCP) containing dust control practices sufficient to comply with Regulation VIII. The project is required to prepare a DCP to comply with Regulation VIII.

Other control measures that apply to the project are Rule 4641—Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operation that requires reductions in VOC emissions during paving and Rule 4601—Architectural Coatings that limits the VOC content of all types of paints and coatings sold in the San Joaquin Valley. These measures apply at the point of sale of the asphalt and the coatings, so project compliance is ensured without additional mitigation measures.

The project would comply with all applicable SJVAPCD rules and regulations. Therefore, the project complies with this criterion and would not conflict with or obstruct implementation of the applicable air quality attainment plan.

Conclusion

The project's emissions are less than significant for all criteria pollutants and would not result in inconsistency with the AQP for this criterion. The project complies with applicable control measures of the AQP. Therefore, the project is consistent with the AQP, and the impact would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

Less than significant impact.

5.2.2 - Cumulative Criteria Pollutant Impacts

Impact AIR-2: The project would not 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.

Impact Analysis

To result in a less than significant impact, the following criteria must be true:

1. Regional analysis: emissions of nonattainment pollutants must be below the District's regional significance thresholds. This is an approach recommended by the District in its GAMAQI.
2. Summary of projections: the project must be consistent with current air quality attainment plans including control measures and regulations. This is an approach consistent with Section 15130(b) of the CEQA Guidelines.

3. Cumulative health impacts: the project must result in less than significant cumulative health effects from the nonattainment pollutants. This approach correlates the significance of the regional analysis with health effects, consistent with the court decision, *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1219-20.

Regional Emissions

Air pollutant emissions have both regional and localized effects. This analysis assesses the regional effects of the project's criteria pollutant emissions in comparison to SJVAPCD thresholds of significance for short-term construction activities and long-term operation of the project. Localized emissions from project construction and operation are assessed under Impact AIR-3—Sensitive Receptors using concentration-based thresholds that determine if the project would result in a localized exceedance of any ambient air quality standards or would make a cumulatively considerable contribution to an existing exceedance.

The primary pollutants of concern during project construction and operation are ROG, NO_X, PM_{10}, and $PM_{2.5}$. The SJVAPCD GAMAQI adopted in 2015 contains thresholds for CO, NO_X, ROG, SO_X, PM_{10}, and $PM_{2.5}$.

Ozone is a secondary pollutant that can be formed miles from the source of emissions, through reactions of ROG and NO_X emissions in the presence of sunlight. Therefore, ROG and NO_X are termed ozone precursors. The Air Basin often exceeds the state and national ozone standards. Therefore, if the project emits a substantial quantity of ozone precursors, the project may contribute to an exceedance of the ozone standard. The Air Basin also exceeds air quality standards for PM_{10}, and $PM_{2.5}$; therefore, substantial project emissions may contribute to an exceedance for these pollutants. The District's annual emission significance thresholds used for the project define the substantial contribution for both operational and construction emissions as follows:

- 100 tons per year CO
- 10 tons per year NO_X
- 10 tons per year ROG
- 27 tons per year SO_X
- 15 tons per year PM_{10}
- 15 tons per year $PM_{2.5}$

The project does not contain sources that would produce substantial quantities of SO_2 emissions during construction and operation. Modeling conducted for the project show that SO_2 emissions are well below the SJVAPCD GAMAQI thresholds, as shown in the modeling results contained in Appendix A. No further analysis of SO_2 is required.

Construction Emissions

Construction emissions were modeled using the CalEEMod version 2016.3.2. The results of the modeling are presented in Table 8. The highest emissions that would occur in any year of construction activity were compared with the significance threshold. The emissions reflect compliance with SJVAPCD regulations that apply to construction activities. For assumptions in estimating the emissions, please refer to Section 4, Modeling Parameters and Assumptions. As shown in Table 8, the emissions are below the significance thresholds in each construction year. Therefore, the emissions are less than significant on a project basis.

Table 8: Construction Air Pollutant Emissions Summary

Year	Emissions (tons per year)				
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
Phase 1 2021	**0.57**	**5.36**	**4.66**	**0.50**	**0.35**
Phase 1 2022	1.27	0.41	0.50	0.03	0.02
Phase 2 2022	0.61	5.65	5.42	0.51	0.35
Total for 2022	**1.87**	**6.06**	**5.92**	**0.53**	**0.37**
Phase 2 2023	1.29	0.44	0.57	0.03	0.02
Phase 3 2023	0.56	5.19	5.42	0.47	0.32
Total for 2023	**1.85**	**5.63**	**5.99**	**0.50**	**0.34**
Phase 3 2024	1.27	0.31	0.45	0.02	0.02
Phase 4 2024	0.54	4.92	5.43	0.45	0.30
Total for 2024	**1.81**	**5.23**	**5.88**	**0.47**	**0.31**
Phase 4 2025	1.27	0.25	0.40	0.02	0.01
Phase 5 2025	0.25	2.26	2.49	0.32	0.18
Total for 2025	**1.51**	**2.51**	**2.89**	**0.34**	**0.19**
Phase 5 2026	1.26	0.13	0.22	0.01	0.01
Grand Total for All Years of Construction	**8.87**	**24.92**	**25.55**	**2.35**	**1.58**
Highest Construction Emissions in Any Year	***1.87***	***6.06***	***5.99***	***0.53***	***0.37***
Significance threshold (tons/year)	10	10	100	15	15
Exceed threshold—significant impact?	No	No	No	No	No

Notes:
PM_{10} and $PM_{2.5}$ emissions are from the mitigated output to reflect compliance with Regulation VIII—Fugitive PM_{10} Prohibitions.
ROG = reactive organic gases NO_X = nitrogen oxides PM_{10} and $PM_{2.5}$ = particulate matter
Calculations use unrounded numbers.
Source: CalEEMod output (Appendix A).

Operational Emissions

Operational emissions occur over the lifetime of the project and are from two main sources: area sources and motor vehicles, or mobile sources. First occupancy expected in early 2021. Project buildout is assumed to occur in 2026 in five equal phases. The SJVAPCD considers construction and operational emissions separately when making significance determinations. For assumptions in estimating the emissions, please refer to Section 4, Modeling Parameters and Assumptions. The emissions modeling results for project operation are summarized in Table 9.

As shown in Table 9, the emissions are below the SJVAPCD significance thresholds prior to application of mitigation measures. The project emissions include credit for compliance with regulations and project design features that would reduce project emissions. Project emissions would result in a less than significant impact.

Table 9: Operational Air Pollutant Emissions

Phase and Year	Emissions (tons per year)				
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
Phase 1 2021	2.06	2.18	7.25	1.68	0.48
Phase 2 2022	1.87	2.04	6.77	1.68	0.48
Phase 3 2023	1.83	1.74	6.32	1.68	0.48
Phase 4 2024	1.80	1.65	5.95	1.68	0.48
Phase 5 2025	1.95	1.59	5.66	1.69	0.48
Total Project Emissions	**9.50**	**9.20**	**31.94**	**8.40**	**2.39**
Significance threshold	10	10	100	15	15
Exceed threshold—significant impact?	No	No	No	No	No

Notes:
ROG = reactive organic gases NO_X = nitrogen oxides PM_{10} and $PM_{2.5}$ = particulate matter
Area source emissions include emissions from natural gas, landscape, and painting.
Source: CalEEMod output (Appendix A).

Step 2: Plan Approach

Section 15130(b) of the CEQA Guidelines states the following:

> The following elements are necessary to an adequate discussion of significant cumulative impacts: 1) Either: (A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or (B) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact.

In accordance with CEQA Guidelines 15130(b), this analysis of cumulative impacts is based on a summary of projections analysis. The District attainment plans are based on a summary of projections that accounts for projected growth throughout the Air Basin, and the controls needed to achieve ambient air quality standards. This analysis considers the current CEQA Guidelines, which includes the amendments approved by the Natural Resources Agency, effective on December 28, 2018. The Air Basin is in nonattainment or maintenance status for ozone and particulate matter (PM_{10} and $PM_{2.5}$), which means that concentrations of those pollutants currently exceed the ambient air quality standards for those pollutants, or that the standards have recently been attained in the case of pollutants with maintenance status. When concentrations of ozone, PM_{10}, or $PM_{2.5}$ exceed the ambient air quality standard, then those sensitive to air pollution (such as children, the elderly, and the infirm) could experience health effects such as: decrease of pulmonary function and localized lung edema in humans and animals; increased mortality risk; and risk to public health, implied by altered connective tissue metabolism, altered pulmonary morphology in animals after long-term exposures, and pulmonary function decrements in chronically exposed humans. See

Section 2.3—Existing Air Quality Conditions for additional correlation of the health impacts with the existing pollutant concentrations experienced in the Fresno area.

Under the CEQA Guidelines, cumulative impacts may be analyzed using other plans that evaluate relevant cumulative effects. The geographic scope for cumulative criteria pollution from air quality impacts is the Air Basin, because that is the area in which the air pollutants generated by the sources within the Air Basin circulate and are often trapped. The SJVAPCD is required to prepare and maintain air quality attainment plans and a State Implementation Plan to document the strategies and measures to be undertaken to reach attainment of ambient air quality standards. While the SJVAPCD does not have authority over land use decisions, it is recognized that changes in land use and circulation planning would help the Air Basin achieve clean air mandates. The District evaluated emissions from land uses and transportation in the entire Air Basin when it developed its attainment plans. Emission inventories used to predict attainment of NAAQS must be based on the latest planning assumptions for mobile sources.

In accordance with CEQA Guidelines Section 15064, subdivision (h)(3), a lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project complies with the requirements in a previously approved plan or mitigation program.

The history and development of the SJVAPCD's current Ozone Attainment Plan is described in Section 2.4, Air Quality Plans. The 2007 8-Hour Ozone Plan contains measures to achieve reductions in emissions of ozone precursors, and sets plans towards attainment of ambient ozone standards by 2023. The 2012 $PM_{2.5}$ Plan and the 2015 $PM_{2.5}$ Plan for the 1997 $PM_{2.5}$ Standard require fewer NO_X reductions to attain the $PM_{2.5}$ standard than the Ozone Plan, so the Ozone Plan is considered the applicable plan for reductions of the ozone precursors NO_X and ROG. The 2012 $PM_{2.5}$ Plan requires reductions in directly emitted $PM_{2.5}$ from combustion sources, such as diesel engines and fireplaces, and from fugitive dust to attain the ambient standard and is the applicable plan for $PM_{2.5}$ emissions. $PM_{2.5}$ is also formed in secondary reactions in the atmosphere involving NO_X and ammonia to form nitrate particles. Reductions in NO_X required for ozone attainment are also sufficient for $PM_{2.5}$ attainment. As discussed in Impact AIR-1, the project is consistent with all applicable control measures in the air quality attainment plans. The project would comply with any District rules and regulations that may pertain to implementation of the AQPs. Therefore, impacts would be less than significant with regard to compliance with applicable rules and regulations.

This project does not exceed SJVAPCD thresholds and will reduce its cumulative impact through compliance with Rule 9510; therefore, the project is considered less than significant for this criterion.

Project Health Impacts

In the 5th District Court of Appeal case *Sierra Club v. County of Fresno (Friant Ranch, L.P.)*, the Court found the project EIR deficient because it did not identify specific health-related effects resulting from the estimated amount of pollutants generated by the project. The ruling stated that the EIR should give a "sense of the nature and magnitude of the 'health and safety problems' caused by a project's air pollution. The EIR should translate the emission numbers into adverse impacts or to understand why such translation is not possible at this time (and what limited translation is, in fact, possible)."

The standard measure of the severity of impact is the concentration of pollutant in the atmosphere compared to the ambient air quality standard for the pollutant for a specified period of time. The severity of the impact increases with the concentration and the amount of time that people are exposed to the pollutant. The change in health impacts with concentration is described in Table 3 and Table 4 using the EPA's Air Quality Index. The pollutants of concern in the Friant Ranch ruling were regional criteria pollutants ozone, and PM_{10}. It is important to note that the potential for localized impacts can be addressed through dispersion modeling. The SJVAPCD includes screening criteria that if exceeded would require dispersion modeling to determine if project emissions would result in a significant health impact. For this project, no significant localized health impacts would occur. Regional pollutants require more complex modeling as described below.

Ozone concentrations are estimated using regional photochemical models because ozone formation is subject to temperature, inversion strength, sunlight, emissions transport over long distances, dispersion, and the regional nature of the precursor emissions. The emissions from individual projects are too small to produce a measurable change in ozone concentrations—it is the cumulative contribution of emissions from existing and new development that is accounted for in the photochemical model. Ozone concentrations vary widely throughout the day and year even with the same amount of daily emissions. The SJVAPCD indicated in an Amicus Brief on Friant Ranch that running the photochemical model with just Friant Ranch emissions (109.5 tons/year NO_X) is not likely to yield valid information given the relative scale involved. A copy of the SJVAPCD brief is included in Appendix B. The NO_X inventory for the San Joaquin Valley is 224 tons per day in 2019 or 81,760 tons per year. Friant Ranch would result in 0.13 percent increase in NO_X emissions. A project emitting at the SJVAPCD CEQA threshold of 10 tons per year would result in a 0.01 percent increase in NO_X emissions. Most project emissions are generated by motor vehicle travel distributed on regional roadways miles from the project site, and these emissions are not conducive to project-level concentration-based modeling.

Emissions throughout the San Joaquin Valley are projected to markedly decline in the coming decade. The SJVAPCD 2016 Ozone Plan predicts NO_X emissions will decline to 103 tons per day by 2029 or 54 percent from 2019 levels through implementation of control measures included in the plan. This means that ozone health impacts to residents of the San Joaquin Valley will be lower than currently experienced and most areas of the San Joaquin Valley will have attained ozone air quality standards. The plan accounts for growth in population at rates projected by the State of California for the San Joaquin Valley, so only cumulative projects that would exceed regional growth projections would potentially delay attainment and prolong the time and the number of people would experience health impacts. It is unlikely that anyone would experience greater impacts from regional emissions than currently occur. The federal transportation conformity regulation provides a means of ensuring growth in emissions does not exceed emission budgets for each County. Regional Transportation Plans and Regional Transportation Improvement Plans must provide a conformity analysis based on the latest planning assumptions that demonstrates that budgets will be not be exceeded. If budgets are exceeded, the San Joaquin Valley may be subject to Clean Air Act sanctions until the deficiency is addressed.

Particulate emission impacts can be localized and regional. Particulates can be directly emitted and can be formed in the atmosphere with chemical reactions. Small directly emitted particles such as diesel emissions and other combustion emissions can remain in the atmosphere for a long time and

can be transported over long distances. Large particles such as fugitive dust tend to be deposited a short distance from where emitted but can also travel long distances during periods of high winds. Particulates can be washed out of the atmosphere by rain and deposited on surfaces. Secondary particulates formed in the atmosphere such as ammonium nitrate require NO_X and ammonia, and they require low inversion levels and certain ranges of temperature and humidity to result in substantial concentrations. These complications make modeling project particulate emissions to determine concentration feasible only for directly emitted particles at receptor locations close to the project site. Regional particulate concentrations are modeled using a gridded inventory (emissions in tons/day are placed a 4-kilometer, three-dimensional grid to spatially allocate the emissions geographically and vertically in the atmosphere) and an atmospheric chemistry component to simulate the chemical reactions. The model uses relative reduction factors to determine the amount of reductions of each PM component will be needed to attain the air quality standards on the days with the conditions most favorable to high particulate concentrations. A small project would not produce sufficient emissions to determine a project's individual contribution to the particulate concentration.

Step 3: Cumulative Health Impacts

The Air Basin is in nonattainment for ozone, PM_{10} (State only), and $PM_{2.5}$, which means that the background levels of those pollutants are at times higher than the ambient air quality standards. The air quality standards were set to protect public health, including the health of sensitive individuals (such as children, the elderly, and the infirm). Therefore, when the concentration of those pollutants exceeds the standard, it is likely that some sensitive individuals in the population would experience health effects that were described in Table 1. However, the health effects are a factor of the dose-response curve. Concentration of the pollutant in the air (dose), the length of time exposed, and the response of the individual are factors involved in the severity and nature of health impacts. If a significant health impact results from project emissions, it does not mean that 100 percent of the population would experience health effects. Table 2, Table 3, and Table 4 relate the pollutant concentration experienced by residents using air quality data for the nearest air monitoring station to the health impacts ascribed to those concentrations by the EPA Air Quality Index. This provides a more detailed look at the actual impacts currently experienced by area residents.

Since the Basin is nonattainment for ozone, PM_{10}, and $PM_{2.5}$, it is considered to have an existing significant cumulative health impact without the project. When this occurs, the analysis considers whether the project's contribution to the existing violation of air quality standards is cumulatively considerable. The SJVAPCD regional thresholds for NO_X, VOC, PM_{10}, or $PM_{2.5}$ are applied as cumulative contribution thresholds. Projects that exceed the regional thresholds would have a cumulatively considerable health impact. As shown in Table 8 and Table 9, the regional analysis of construction and operational emissions indicates that the project would not exceed the District's significance thresholds and the project is consistent with the applicable Air Quality Plan.

The SJVAPCD Air Quality Attainment Plans predict that nonattainment pollutant emissions will continue to decline each year as regulations adopted to reduce these emissions are implemented, accounting for growth projected for the region. Therefore, the cumulative health impact will also decline even with the project's emission contribution.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

Less than significant impact.

5.2.3 - Sensitive Receptors

Impact AIR-3: The project would not expose sensitive receptors to substantial pollutant concentrations.

Impact Analysis

Sensitive Receptors

Those who are sensitive to air pollution include children, the elderly, and persons with pre-existing respiratory or cardiovascular illness. The District considers a sensitive receptor a location that houses or attracts children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants. Examples of sensitive receptors include hospitals, residences, convalescent facilities, and schools. The closest off-site sensitive receptors are existing residences located adjacent to the project site to the north, east, south, and west. As a residential land use development project, proposed residences included as part of the project would be considered sensitive receptors once occupied.

Off-site Sensitive Receptors

Impacts to receptors located outside the project boundaries would occur primarily during project construction. Construction emissions commencing with the year 2020 and continue until project buildout. Construction activities are expected to occur over several years as the subdivision is gradually built out; however, most emissions are expected to occur during the initial site preparation and grading activities and to a lesser extent during ground up construction. For criteria pollutants, impacts to receptors located outside of the project are based on emissions during the highest emissions during any construction year. As shown in Table 10 and Table 11, emissions generated from construction and operation of the project are less than SJVAPCD screening criteria. Therefore, this impact would be less than significant.

On-site Sensitive Receptors

The project is not a significant source of TAC emissions. Construction activities produce short-term emissions that would not contribute substantially to cancer risk, which is estimated on a 70-year exposure period.

Construction: ROG

ROG is emitted during the application of architectural coatings (painting). The amount emitted is dependent on the amount of ROG (or VOC) in the paint. ROG emissions are typically an indoor air

quality health hazard concern rather than an outdoor air quality health hazard concern. Therefore, exposure to ROG during architectural coatings is a less than significant health impact.

There are three types of asphalt that are typically used in paving: asphalt cements, cutback asphalts, and emulsified asphalts. However, SJVAPCD Rule 4641 prohibits the use of the following types of asphalt: rapid cure cutback asphalt; medium cure cutback asphalt; slow cure asphalt that contains more than one-half (0.5) percent of organic compounds that evaporate at 500 degrees Fahrenheit (°F) or lower; and emulsified asphalt containing organic compounds, in excess of 3 percent by volume, that evaporate at 500°F or lower. An exception to this is medium cure asphalt when the National Weather Service official forecast of the high temperature for the 24-hour period following application is below 50°F.

The acute (short-term) health effects from worker direct exposure to asphalt fumes include irritation of the eyes, nose, and throat. Other effects include respiratory tract symptoms and pulmonary function changes. The studies were based on occupational exposure of fumes. Residents are not in the immediate vicinity of the fumes; therefore, they would not be subjected to concentrations high enough to evoke a negative response. In addition, the restrictions that are placed on asphalt in the San Joaquin Valley reduce ROG emissions from asphalt and exposure. The impact to nearby sensitive receptors from ROG during construction would be less than significant.

Localized Pollutant Screening Analysis

Emissions occurring at or near the project have the potential to create a localized impact, also referred to as an air pollutant hotspot. Localized emissions are considered significant if, when combined with background emissions, they would result in exceedance of any health-based air quality standard. The impact from localized pollutants is based on the impact to the nearest sensitive receptor.

The SJVAPCD's GAMAQI includes screening thresholds for identifying projects that need detailed analysis for localized impacts. Projects with on-site emission increases from construction activities or operational activities that exceed the 100 pounds per day screening level of any criteria pollutant after compliance with Rule 9510 and implementation of all enforceable mitigation measures would require preparation of an ambient air quality analysis. The criteria pollutants of concern for localized impact in the SJVAB are PM_{10}, $PM_{2.5}$, NO_X, and CO. There is no localized emission standard for ROG and most types of ROG are not toxic and have no health-based standard; however, ROG was included for informational purposes only.

The highest daily emissions occur during project grading activities except for ROG emissions, which are highest during application of architectural coatings. The results of the construction screening analysis are presented in Table 10. The project would be constructed incrementally with Tract 6212 and Tract 6276 constructed first. The sequence and location of development after those tracts are constructed have not been determined; therefore, localized impacts from NO_2 and PM on completed residences would be speculative.

Table 10: Maximum Daily Air Pollutant Emissions during Construction

Maximum Daily Emissions by Year	Emissions (pounds per day)				
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
Phase 1 2021	**4.42**	**45.45**	**38.33**	**10.32**	**6.39**
Phase 1 2022	70.12	35.77	37.70	2.39	1.83
Phase 2 2022	5.17	46.35	47.87	9.89	5.99
Total for 2022	**75.29**	**82.12**	**85.58**	**12.28**	**7.82**
Phase 2 2023	70.94	42.45	47.34	2.60	2.03
Phase 3 2023	4.76	42.45	47.34	9.54	5.67
Total for 2023	**75.69**	**84.90**	**94.68**	**12.15**	**7.71**
Phase 3 2024	70.92	39.76	46.98	2.36	1.80
Phase 4 2024	4.45	39.76	46.98	9.51	5.64
Total for 2024	**75.37**	**79.51**	**93.97**	**11.87**	**7.44**
Phase 4 2025	70.91	36.98	46.63	2.12	1.58
Phase 5 2025	2.97	27.97	26.75	9.37	5.51
Total for 2025	**73.88**	**64.95**	**73.38**	**11.48**	**7.09**
Phase 5 2026	**71.33**	**14.01**	**17.46**	**1.15**	**0.67**
Highest Emissions in Any Year	**75.69**	**84.90**	**94.68**	**12.15**	**7.71**
Screening Thresholds	100	100	100	100	100
Exceeds Threshold (Yes or No)	No	No	No	No	No

Notes:
NO_X = nitrogen oxides CO = carbon monoxide PM_{10} and $PM_{2.5}$ = particulate matter
N/A = Not applicable
Emissions shown are from the summer model output. There is no ambient air quality standard for ROG.
Source: CalEEMod output (Appendix A).

Maximum Daily Operational Emissions

An analysis of maximum daily emissions during operation was conducted to determine if emissions would exceed 100 pounds per day for any pollutant of concern. The maximum daily operational emissions would occur at project buildout. The project was modeled for 2025, which is the estimated year of first occupancy of the last project phase. Operational emissions include emissions generated on-site by area sources such as natural gas combustion and landscape maintenance, and off-site by motor vehicles accessing the project. Most motor vehicle emissions would occur distant from the site and would not contribute to a violation of ambient air quality standards; therefore, only emissions from vehicles operating within one half mile of the site were included in the assessment. The results of the screening analysis are presented in Table 11.

Table 11: Maximum Daily Air Pollutant Emissions during Operations

Maximum Daily Emissions per Source Category	Emissions (pounds per day)				
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
Area	8.72	1.71	14.67	0.20	0.20
Energy	0.12	1.05	0.45	0.09	0.09
Mobile	0.20	0.49	1.86	0.66	0.18
Total	**9.05**	**3.26**	**16.98**	**0.94**	**0.47**
Screening threshold	100	100	100	100	100
Exceed screening threshold?	No	No	No	No	No

Notes:
NO_X = nitrogen oxides CO = carbon monoxide PM_{10} and $PM_{2.5}$ = particulate matter
N/A = Not applicable
Emissions shown are from the summer model output. There is no ambient air quality standard for ROG.
Source: CalEEMod output (Appendix A).

The project would not exceed SJVAPCD screening thresholds for localized operational criteria pollutant impacts; therefore, the project's localized criteria pollutant impacts would be less than significant.

Operation: ROG

During operation, ROG would be emitted primarily from motor vehicles. Direct exposure to ROG from project motor vehicles would not result in health effects, because the ROG would be distributed across miles and miles of roadway and in the air. The concentrations would not be great enough to result in direct health effects.

Operation: PM_{10}, $PM_{2.5}$, CO, NO_2

As shown in Table 11, localized emissions of PM_{10}, $PM_{2.5}$, CO, and NO_2 would not exceed the SJVAPCD screening thresholds at full project buildout. Residential development is an insignificant source of these pollutants, except for projects that allow woodburning devices that emit PM_{10}, $PM_{2.5}$ in wood smoke. The project will include only natural gas-fueled fireplaces and inserts that are insignificant sources of $PM_{2.5}$ and PM_{10}. Therefore, the project would not expose sensitive receptors to substantial criteria air pollutant concentrations during operation.

Carbon Monoxide Hot Spot Analysis

Localized high levels of CO are associated with traffic congestion and idling or slow-moving vehicles. The SJVAPCD provides screening criteria to determine when to quantify local CO concentrations based on impacts to the level of service (LOS) of intersections in the project vicinity.

Construction of the project would result in minor increases in traffic for the surrounding road network during the duration of construction. Motor vehicles accessing the site when it becomes operational would result in a minor increase in daily trips that would not substantially reduce the LOS on roads serving the site. The highest background 8-hour average CO concentration during the

latest year it was monitored is 2.06 ppm, which is 78 percent lower than the CAAQS of 9.0 ppm or the NAAQS of 9 ppm.

A sensitivity analysis using the CALINE4 CO Hotspot model was run for the General Plan MEIR to determine the volume of trips that would be required to exceed the most stringent CO standard. At triple the predicted peak for General Plan buildout of 36,000 peak-hour trips, the hourly concentration was 7.5 ppm and an 8-hour concentration of 6.0 ppm. Based on this analysis, it is extremely unlikely that a CO hotspot will occur in the Plan Area. CO emissions are predicted to continue to decline as old vehicles are retired and cleaner new motor vehicles take their place.

Therefore, no CO hotspot modeling is required for new projects during General Plan Buildout unless intersection volumes exceed 36,000 peak-hour trips, which is not projected to occur with the project.

Construction: Toxic Air Contaminants

Project construction would involve the use of diesel-fueled vehicles and equipment that emit DPM, which is considered a TAC. The SJVAPCD's latest threshold of significance for TAC emissions is an increase in cancer risk for the maximally exposed individual of 20 in a million (formerly 10 in a million). The SJVAPCD's 2015 GAMAQI does not currently recommend analysis of TAC emissions from project construction activities, but instead focuses on projects with operational emissions that would expose sensitive receptors over a typical lifetime of 70 years. Residential projects produce limited amounts of TAC emissions during operation and thus have not been subject to project TAC analysis. Most emissions from construction activities occur during the grading and site preparation phases that occur over the first three months of construction and do not overlap with project operations. Limited amounts of diesel equipment are used during ground-up construction of individual houses that occurs during the majority of the construction schedule when some units may be occupied. Construction equipment fleet operators are subject to ARB's In Use Offroad Equipment Fleet Regulation, which requires the use of increasing amounts of lower-emitting equipment that will help to ensure that risk would not exceed SJVAPCD thresholds.

Construction phase risks would be considered acute health risks as opposed to cancer risks, which are long-term. OEHHA has yet to define acute risk factors for diesel particulates that would allow the calculation of a hazards risk index; thus, evaluation of this impact would be speculative and no further discussion is necessary.

Operation: Toxic Air Contaminants

The ARB Air Quality and Land Use Handbook contains recommendations that will "help keep California's children and other vulnerable populations out of harm's way with respect to nearby sources of air pollution" (ARB 2005), including recommendations for distances between sensitive receptors and certain land uses. In the *California Building Industry Association v. Bay Area Air Quality Management District*, 62 Cal.4th 369 (2015) (Case No. S213478) the California Supreme Court held that "agencies subject to CEQA generally are not required to analyze the impact of existing environmental conditions on a project's future users or residents. But when a proposed project risks exacerbating those environmental hazards or conditions that already exist, an agency must analyze the potential impact of such hazards on future residents or users. In those specific instances, it is the project's impact on the environment—and not the environment's impact on the project—that

compels an evaluation of how future residents or users could be affected by exacerbated conditions." Although the Court ruled that impacts from the existing environment on projects are not required to be addressed under CEQA, land uses such as gasoline stations, dry cleaners, distribution centers, and auto body shops can expose residents to high levels of TAC emissions if they are close to the project site. Information regarding the location of existing TAC sources is provided for disclosure purposes only and not as a measure of the project's significance under CEQA.

Consistency with these recommendations is assessed as follows:

- Heavily traveled roads. ARB recommends avoiding new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day. Epidemiological studies indicate that the distance from the roadway and truck traffic densities were key factors in the correlation of health effects, particularly in children. The project is located on the west side of North Grantland Avenue north of West Ashlan and south of West Shaw Avenue. The traffic volumes on the road segments nearest the project are available for North Grantland south of West Shaw Avenue and West Shaw east of North Grantland Avenue for 2011. The traffic volume of North Grantland Avenue was 3,170 trips per day. The traffic volume on West Shaw Avenue was 8,880 trips per day. No roads serving the project would exceed this criterion (Fresno COG 2013).
- Distribution centers. ARB also recommends avoiding siting new sensitive land uses within 1,000 feet of a distribution center. The project is not located within 1,000 feet of a distribution center.
- Fueling stations. ARB recommends avoiding new sensitive land uses within 300 feet of a large fueling station (a facility with a throughput of 3.6 million gallons per year or greater). ARB recommends a 50-foot separation is recommended for typical gas dispensing facilities. The nearest gas station is located at 4395 W. Ashlan Avenue, approximately 2.6 miles east of the project site.
- Dry cleaning operations. ARB recommends avoiding siting new sensitive land uses within 300 feet of any dry-cleaning operation that uses perchloroethylene. For operations with two or more machines, ARB recommends a buffer of 500 feet. For operations with three or more machines, ARB recommends consultation with the local air district. The nearest dry-cleaning operation is approximately 4.6 miles northeast of the project site at 3071 W. Shaw Avenue.
- Auto body shops. Auto body shops have the potential to emit TACs related to painting. The nearest auto body shop is located at 4605 N. Blythe Avenue approximately 3.3 miles northeast of the project site, which is beyond the distance that would result in a measurable impact.

Valley Fever

Valley fever, or coccidioidomycosis, is an infection caused by inhalation of the spores of the fungus, *Coccidioides immitis* (*C. immitis*). The spores live in soil and can live for an extended time in harsh environmental conditions. Activities or conditions that increase the amount of fugitive dust contribute to greater exposure, and they include dust storms, grading, and recreational off-road activities.

The San Joaquin Valley is considered an endemic area for Valley fever. By geographic region, hospitalizations for Valley fever in the San Joaquin Valley increased from 230 (6.9 per 100,000

population) in 2000 to 701 (17.7 per 100,000 population) in 2007. Within the region, Kern County reported the highest hospitalization rates, increasing from 121 (18.2 per 100,000 population) in 2000 to 285 (34.9 per 100,000 population) in 2007, and peaking in 2005 at 353 hospitalizations (45.8 per 100,000 population). The Centers for Disease Control and Prevention indicates that 752 of the 8,657 persons (8.7 percent) hospitalized in California between 2000 and 2007 for Valley fever died (CDC 2009). California experienced 7,466 new cases of Valley fever in 2017. A total of 275 Valley fever cases were reported in Fresno County in 2017 for a rate of 82.4 per 100,000 people (CDPH 2018).

The distribution of *C. immitis* within endemic areas is not uniform and growth sites are commonly small (a few tens of meters) and widely scattered. Known sites appear to have some ecological factors in common suggesting that certain physical, chemical, and biological conditions are more favorable for *C. immitis* growth. Avoidance, when possible, of sites favorable for the occurrence of *C. immitis* is a prudent risk management strategy. Listed below are ecologic factors and sites favorable for the occurrence of *C. immitis*:

1) Rodent burrows (often a favorable site for *C. immitis*, perhaps because temperatures are more moderate and humidity higher than on the ground surface)
2) Old (prehistoric) Indian campsites near fire pits
3) Areas with sparse vegetation and alkaline soils
4) Areas with high salinity soils
5) Areas adjacent to arroyos (where residual moisture may be available)
6) Packrat middens
7) Upper 30 centimeters of the soil horizon, especially in virgin undisturbed soils
8) Sandy, well-aerated soil with relatively high water-holding capacities

Sites within endemic areas less favorable for the occurrence of *C. immitis* include:

1) Cultivated fields
2) Heavily vegetated areas (e.g. grassy lawns)
3) Higher elevations (above 7,000 feet)
4) Areas where commercial fertilizers (e.g. ammonium sulfate) have been applied
5) Areas that are continually wet
6) Paved (asphalt or concrete) or oiled areas
7) Soils containing abundant microorganisms
8) Heavily urbanized areas where there is little undisturbed virgin soil (USGS 2000).

The project site is situated in a city growth area. The project includes urbanization of a site that was formerly used for agricultural purposes. Therefore, implementation of the project would have a low probability of the site having *C. immitis* growth sites and exposure to the spores from disturbed soil.

Construction activities would generate fugitive dust that could contain *C. immitis* spores. The project will minimize the generation of fugitive dust during construction activities by complying with the District's Regulation VIII. Therefore, this regulation, combined with the relatively low probability of the presence of *C. immitis* spores, would reduce Valley fever impacts to less than significant.

During operations, dust emissions are anticipated to be negligible, because most of the project area would be occupied by buildings, pavement, and landscaped areas. This condition would preclude the possibility of the project from providing habitat suitable for *C. immitis* spores and for generating fugitive dust that may contribute to Valley fever exposure. Impacts would be less than significant.

Naturally Occurring Asbestos

According to a map of areas where naturally occurring asbestos in California are likely to occur (U.S. Geological Survey 2011), there are no such areas in the project area. Therefore, development of the project is not anticipated to expose receptors to naturally occurring asbestos. Impacts would be less than significant.

In summary, the project would not exceed SJVAPCD localized emission daily screening levels for any criteria pollutant. The project is not a significant source of TAC emissions during construction or operation. The project is not in an area with suitable habitat for Valley fever spores and is not in area known to have naturally occurring asbestos. Therefore, the project would not result in significant impacts to sensitive receptors.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

Less than significant impact.

5.2.4 - Objectionable Odors

Impact AIR-4: The project would not create objectionable odors affecting a substantial number of people.

Impact Analysis

Thresholds of Significance

Odor impacts on residential areas and other sensitive receptors, such as hospitals, day-care centers, schools, etc. warrant the closest scrutiny, but consideration should also be given to other land uses where people may congregate, such as recreational facilities, worksites, and commercial areas.

Two situations create a potential for odor impact. The first occurs when a new odor source is located near an existing sensitive receptor. The second occurs when a new sensitive receptor locates near an existing source of odor. According to the *CBIA v. BAAQMD* ruling, impacts of existing sources of odors on the project are not subject to CEQA review. Therefore, the analysis to determine if the project would locate new sensitive receptors near an existing source of odor is provided for information

only. The District has determined the common land use types that are known to produce odors in the Air Basin. These types are shown in Table 12.

Table 12: Screening Levels for Potential Odor Sources

Odor Generator	Screening Distance
Wastewater Treatment Facilities	2 miles
Sanitary Landfill	1 mile
Transfer Station	1 mile
Composting Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	1 mile
Chemical Manufacturing	1 mile
Fiberglass Manufacturing	1 mile
Painting/Coating Operations (e.g., auto body shop)	1 mile
Food Processing Facility	1 mile
Feed Lot/Dairy	1 mile
Rendering Plant	1 mile
Source: SJVAPCD 2015a.	

According to the SJVAPCD GAMAQI, analysis of potential odor impacts should be conducted for the following two situations:

- **Generators:** projects that would potentially generate odorous emissions proposed to locate near existing sensitive receptors or other land uses where people may congregate, and
- **Receivers:** residential or other sensitive receptor projects or other projects built for the intent of attracting people located near existing odor sources.

Project Analysis

Project as a Generator

Land uses that are typically identified as sources of objectionable odors include landfills, transfer stations, sewage treatment plants, wastewater pump stations, composting facilities, feed lots, coffee roasters, asphalt batch plants, and rendering plants. The project would not engage in any of these activities. Therefore, the project would not be considered a generator of objectionable odors during operations.

During construction, the various diesel-powered vehicles and equipment in use on-site would create localized odors. These odors would be temporary and would not likely be noticeable for extended periods of time beyond the project's site boundaries. The potential for diesel odor impacts would therefore be less than significant.

Project as a Receiver

With the *CBIA v. BAAQMD* ruling, analysis of odor impacts on receivers is not required for CEQA compliance. Therefore, the following analysis is provided for information only.

As a residential development, the project has the potential to place sensitive receptors near existing odor sources. There are no major odor-generating sources (as listed in Table 12) within screening distance of the site. Therefore, the uses in the vicinity of the project would not cause substantial odor impacts to the project.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

Less than significant impact.

INTENTIONALLY LEFT BLANK

SECTION 6: GREENHOUSE GAS IMPACT ANALYSIS

6.1—CEQA Guidelines

CEQA Guidelines define a significant effect on the environment as "a substantial, or potentially substantial, adverse change in the environment." To determine if a project would have a significant impact on GHGs, the type, level, and impact of emissions generated by the project must be evaluated.

The following GHG significance thresholds are contained in Appendix G of the CEQA Guidelines, which were amendments adopted into the Guidelines on March 18, 2010, pursuant to SB 97 and most recently amended December 28, 2019. A significant impact would occur if the project would:

(a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or

(b) Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

6.2—Impact Analysis

6.2.1 - Greenhouse Gas Inventory

Impact GHG-1: The project would generate direct and indirect greenhouse gas emissions; however, these emissions would not result in a significant impact on the environment.

Impact Analysis

Threshold of Significance

Section 15064.4(b) of the CEQA Guidelines' 2018 amendments for GHG emissions states that a lead agency may take into account the following three considerations in assessing the significance of impacts from GHG emissions.

- **Consideration #1**: The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.
- **Consideration #2**: Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
- **Consideration #3**: The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must include specific requirements that reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project. In determining the significance of impacts, the lead agency may consider a project's consistency with the State's long-term

climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is not cumulatively considerable.

The City of Fresno adopted a Greenhouse Gas Reduction Plan in 2014 that includes procedures for certain qualified projects to demonstrate consistency with plan and use the streamlining provisions allowed under CEQA. In addition to the plan consistency analysis, a quantitative analysis that shows that reductions from BAU emissions would exceed 21.7 percent in 2020 was prepared to show consistency with State reduction targets. The SJVAPCD's *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* provides guidance for preparing a BAU analysis (SJVAPCD 2009b). Under the SJVAPCD guidance, projects meeting one of the following would have a less than significant impact on climate change:

- Exempt from CEQA;
- Complies with an approved GHG emission reduction plan or GHG mitigation program;
- Project achieves 29 percent GHG reductions by using approved Best Performance Standards; and
- Project achieves AB 32 targeted 29 percent GHG reductions compared with "business as usual."

The 29 percent GHG reduction level is based on the target established by ARB's AB 32 Scoping Plan, approved in 2008. The GHG reduction level for the State to reach 1990 emission levels by 2020 was reduced to 21.7 percent from BAU in 2020 in the 2014 First Update to the Scoping Plan to account for slower than projected growth after the 2008 recession (ARB 2014). In addition, the State has reported that the 2016 greenhouse gas inventory was below the 2020 target for the first time (ARB 2018b). Furthermore, the 2017 Scoping Plan states that California is on track to achieve the 2020 target (ARB 2017c). First occupancy at the project site is expected to occur in 2021, which is the year after the AB 32 target year. Full buildout of the project is expected to take up to five years depending on market conditions. Until a new threshold or BPS are identified for projects constructed after-2020, significance is based on making continued progress toward the SB 32 2030 goal.

A quantitative analysis was prepared for this project to determine the extent to which it may increase or reduce greenhouse gas emissions as compared to the existing environmental setting to fulfill Consideration 1.

Consideration 2 requires the identification of BPS that are determined to meet the 29 percent reduction from BAU. The SJVAPCD intended to develop a list of BPS for development projects that were pre-determined to achieve a 29 percent reduction from BAU, but has not completed the list. However, since the SJVAPCD guidance was adopted in 2009, regulations on sources of GHG emissions applicable to development projects have been implemented that will achieve in excess of a 29 percent reduction from BAU for most projects. A BAU analysis is provided to demonstrate that the project would exceed the current 21.7 percent reduction and the previous SJVAPCD 29 percent reduction threshold.

The analysis also addresses consistency with the SB 32 targets and the 2017 Scoping Plan Update with an assessment of the project's reduction from BAU based on emissions in 2030 compared with the 21.7 percent reduction and with a consistency analysis. This approach provides estimates of

project emissions in the new 2030 milestone year with the existing threshold to address Considerations 1 and 2 above.

The ARB adopted the 2017 Scoping Plan Update on December 14, 2017. The plan provides the State's strategy to achieve the SB 32 2030 target of a 40 percent reduction in emissions compared to 1990 levels. The plan includes existing and new measures that when implemented are expected to achieve the SB 32 2030 target. The 2017 Scoping Plan achieves substantial reductions beyond 2020 through continued implementation of existing regulations. Other regulations will be adopted to implement recently enacted legislation including SB 350, which requires an increase in renewable energy from 33 percent to 50 percent and doubling the efficiency of existing buildings by 2030. The Legislature extended the Cap-and-Trade Program through 2030. Cap-and-Trade provides a mechanism to make up shortfalls in other strategies if they occur (ARB 2017c). In addition, the strategy relies on reductions achieved in implementing the ARB Short-Lived Climate Pollutant (SLCP) Reduction Strategy to reduce pollutants not previously controlled for climate change such as black carbon, CH_4, and hydrofluorocarbons (ARB 2017b).

Newhall Ranch

On November 30, 2015, the California Supreme Court issued its decision in *Newhall Ranch,* invalidating the GHG analysis for a large master planned residential development in Los Angeles County consisting of over 20,000 residential dwelling units and other uses. In particular, the Court upheld: (1) use of the statewide emissions reduction goal in AB 32 as a significance criterion (pp. 15–19), (2) use of the Scoping Plan's BAU model "as a comparative tool for evaluating efficiency and conservation efforts" of the Project (pp. 18–19), and (3) a comparison of the project's expected emissions to a BAU model rather than a baseline of pre-project conditions (pp. 15–19). The Court invalidated the GHG analysis on the grounds that the "administrative record discloses no substantial evidence that the Newhall Ranch's project-level reduction of 31 percent in comparison to [BAU] is consistent with achieving AB 32's statewide goal of a 29 percent reduction from [BAU]." The Court indicated that a lead agency may use a BAU comparison based on the Scoping Plan's methodology if it also substantiates the reduction a particular project must achieve to comply with statewide goals. The Court suggested a lead agency could examine the "data behind the Scoping Plan's business-as-usual model" to determine the necessary project-level reductions from new land use development at the proposed location (p. 25). A lead agency "might assess consistency with A.B. 32's goal in whole or part by looking to compliance with regulatory programs designed to reduce greenhouse gas emissions from particular activities."

The substantial evidence needed to support a project BAU threshold can be derived from data used to develop the Scoping Plan inventory and control strategy, and from analysis conducted by the ARB to track progress in achieving the AB 32 2020 target. The critical factor in determining the appropriate project threshold is whether the State requires additional reductions beyond those achieved by existing regulations in order to achieve its target. If no additional reductions are required from individual projects, no nexus exists to require a project to mitigate its emissions. In that case, the percentage reductions achieved by projects through compliance with regulations is the amount needed to reach the AB 32 target.

The State's regulatory program implementing the 2008 Scoping Plan is now fully mature. All regulations envisioned in the Scoping Plan have been adopted by the responsible agencies and the effectiveness of those regulations have been estimated by the agencies during the adoption process

and then are tracked to verify their effectiveness after implementation. The combined effect of this successful effort is that the State now projects that it will meet the 2020 target and achieve continued progress toward meeting post-2020 targets. Governor Brown, in the introduction to Executive Order B-30-15, states "California is on track to meet or exceed the current target of reducing greenhouse gas emissions to 1990 levels by 2020, as established in the California Global Warming Solutions Act of 2006 (AB 32)."

The Supreme Court was concerned that new development may need to do more than existing development to reduce GHGs to demonstrate that it is doing its fair share of reductions. As will be shown below, new development does do more than existing development and, because of the nature of the sources of GHG emissions related to development, existing development is equally responsible for reducing emissions from the most important sources of emissions. It is important to note that most of the State's regulatory program applies to both new and existing development.

The Scoping Plan reduction from BAU accounts for growth projected in the State and assumes that existing development would continue to emit GHGs at the same rate that occurred in the base year (2002-2004 average). The California Department of Finance (DOF) Report E-5 predicts that population growth in California from 2005 to 2020 will be 13.2 percent. This means that development that existed in 2005 will produce nearly 87 percent of the State's emissions in 2020. Conversely, new development is only responsible for about 13 percent of the emissions generated during this timeframe. If measures to reduce emissions from existing development were not available, new development could not provide sufficient reductions to reach the 2020 target even if their emissions were reduced to net zero. This continues to apply to the 2030 target. The DOF forecasts California's population will grow by 8.1 percent between 2020 and 2030, so existing development will be responsible for 92 percent of the emissions that occur in 2030.

The State's regulatory program is able to target both new and existing development because the two most important strategies—motor vehicle fuel efficiency and emissions from electricity generation—obtain reductions equally from existing and new sources. This is because all vehicle operators use cleaner low carbon fuels and buy vehicles subject to the fuel efficiency regulations, and all building owners or operators purchase cleaner energy from the grid that is produced by increasing percentages of renewable fuels. This includes regulations on mobile sources such as: The Pavley standards that apply to all vehicles purchased in California, the Low Carbon Fuel Standard (LCFS) that applies to all fuel used in California, and the Renewable Portfolio Standard and Renewable Energy Standard that apply to utilities providing electricity to all California homes and businesses. The reduction strategy where new development is required to do more than existing development is building energy efficiency and energy use related to water conservation regulations. For example, new projects are subject to Title 24 Energy Efficiency standards and CALGreen Code and Model Water Efficient Landscape Ordinance (MWELO) water conservation requirements. Residential buildings constructed to the 2013 Title 24 standards use 25 percent less energy than buildings complying with the 2008 standards. The version of Title 24 effective January 1, 2017 improves energy efficiency in residential buildings by 28 percent compared to the 2013 Title 24 standards and 46 percent compared with 2008 Title 24 standards. New buildings and landscapes are much more energy efficient and water efficient than the development that has been built over the past decades and will require much less energy. The 2019 Title 24 standards which become effective in January 2020 makes progress toward achieving net zero energy use through requirements for on-site

renewable generation for most projects. The project buildings would be constructed after 2020 and would be required to comply with 2019 Title 24 standards.

As described above, the State requires an average reduction from all sources of the emission inventory of 21.7 percent to achieve the 2020 target. The Scoping Plan strategy will achieve greater than average reductions from energy and mobile source sectors that are the primary sources related to development projects, and lower than average reductions from other sources such as agriculture. The amount of reduction estimated by the ARB for each sector was based on technical feasibility and cost effectiveness. Review of the 2008 Scoping Plan inventory and strategy shows that the reduction from all development related sources is approximately 29 percent from BAU in order to make up for the below average sectors and achieve the required 21.7 percent average reduction. Achieving the SB 32 2030 target will require an approximate 40 percent reduction from 2020 levels assuming the State achieves the AB 32 target. The 2017 Scoping Plan Update identifies a range of reduction amounts expected from each emission sector, but an amount needed for development's fair share of reductions have not been determined.

As suggested by the Court, a project BAU analysis was prepared for this project that assesses "consistency with AB 32's goal in whole or part by looking to compliance with regulatory programs designed to reduce greenhouse gas emissions from particular activities." The analysis shows the extent to which the project complies with adopted regulations and the additional amount that will be achieved through project design features. At this point in time, no additional reductions are required from new development beyond regulations for the State to achieve its 2020 target. The recently adopted 2030 target will require a reduction from 431 $MTCO_2e$ to 260 $MTCO_2e$ or 40 percent from 1990 levels. After accounting for projected growth of approximately 0.8 percent per year an average decrease of 5.2 percent per year from the State GHG inventory will be required to achieve the target. The 2017 Scoping Plan Update includes a strategy for achieving the needed reductions, but does not identify an amount required specifically from new development. However, all GHG emission sources within development projects are subject to GHG regulations.

Therefore, this analysis demonstrates consistency with the existing 2020 target and shows progress toward achieving the 2030 target. The quantitative analysis prepared for the project provides the reduction from BAU in the 2030 target year to show the progress anticipated prior to applying reductions from new strategies contained in the 2017 Scoping Plan Update. The new reduction strategies from the plan are designed to close the gap between existing commitments and those needed to achieve the 2030 target, but many of the strategies must go through a regulatory process to be implemented. Therefore, the amount of reductions needed from new development beyond regulations, if any, is uncertain.

The analysis prepared for the project also includes qualitative assessments of compliance with 2008 Scoping Plan, the 2017 Scoping Plan Update, and City of Fresno General Plan to support GHG significance findings under Impact GHG-2.

To determine significance, the analysis first quantifies project-related GHG emissions under a BAU scenario, and then compares these emissions with emissions that would occur when all project-related design features are accounted for, and when compliance with applicable regulatory measures is assumed. The standard and methodology is explained in further detail below.

Impact Analysis

Construction

Total GHG emissions generated during all phases of construction were combined and are presented in Table 13. The SJVAPCD does not recommend assessing the significance of construction-related emissions. However, other jurisdictions, such as the SCAQMD and the SMAQMD, have concluded that construction emissions should be included since they may remain in the atmosphere for years after construction is complete. In order to account for the construction emissions, amortizations of the total emissions generated during construction were based on the life of the development (residential—30 years) and added to the operational emissions.

Table 13: Construction Greenhouse Gas Emissions

Phase/Year	$MTCO_2e$ per year
Phase 1 2021	741.72
Phase 1 2022	73.74
Phase 2 2022	879.52
Phase 2 2023	84.40
Phase 3 2023	888.95
Phase 3 2024	65.61
Phase 4 2024	894.52
Phase 4 2025	58.04
Phase 5 2025	468.77
Phase 5 2026	32.91
Total	**4,188.17**
Amortized over 30 years	**139.61**

Notes:
Calculation totals use unrounded numbers from CalEEMod output.
$MTCO_2e$ = metric tons of carbon dioxide equivalents
Source: CalEEMod output (Appendix A).

Operation

Operational or long-term emissions occur over the life of the project. Sources of emissions may include motor vehicles and trucks, energy usage, water usage, waste generation, and area sources, such as landscaping activities and residential wood burning.

Business As Usual Operational Emissions

Operational emissions under the BAU scenario were modeled using CalEEMod 2016.3.2. Modeling assumptions for the year 2005 were used to represent 2025 and 2030 BAU conditions (without the benefit of regulations adopted to reduce GHG emissions). The SJVAPCD guidance recommends using emissions in 2002–2004 in the baseline scenario to represent conditions—as if regulations had not been adopted—to allow the effect of projected growth on achieving reduction targets to be clearly defined. CalEEMod defaults were used for project energy usage, water usage, waste generation, and area sources (architectural coating, consumer products, and landscaping). The vehicle fleet mix was

revised to reflect the residential fleet mix approved by SJVAPCD for 2025, which is when first occupancy of the final phase of development is expected to occur. Full assumptions and CalEEMod model outputs are provided in Appendix A.

2025 and 2030 Operational Emissions

Operational emissions were modeled for the years 2025 and 2030 using CalEEMod. CalEEMod assumes compliance with some, but not all, applicable rules and regulations regarding energy efficiency, vehicle fuel efficiency, renewable energy usage, and other GHG reduction policies, as described in the CalEEMod User's Guide (SCAQMD 2017). The reductions obtained from each regulation and the source of the reduction amount used in the analysis are described below.

Emissions Accounting for Applicable Regulations

The following regulations are incorporated into the CalEEMod emission factors:

- Pavley I and Pavley II (LEV III) motor vehicle emission standards
- ARB Medium and Heavy-Duty Vehicle Regulation
- 2005, 2008, 2013, and 2016 Title 24 Energy Efficiency Standards

The following regulations have not been incorporated into the CalEEMod emission factors and require alternative methods to account for emission reductions provided by the regulations:

- Renewable Portfolio Standards (RPS)
- Low Carbon Fuel Standard (LCFS)
- Green Building Code Standards (indoor water use)
- California Model Water Efficient Landscape Ordinance (Outdoor Water)

Pavley II/LEV III standards have been incorporated in the latest version of CalEEMod. ARB estimates a 3 percent reduction in 2020 and a 19 percent reduction from the vehicle categories subject to the regulation by 2030 (ARB 2010b and ARB 2013d).

The ARB GHG Regulation for Medium and Heavy-Duty Engines and Vehicles applies to trucks that will be accessing the project site. The benefits of the regulation were incorporated into CalEEMod 2016.3.2. The ARB estimates that this regulation will reduce GHG emissions from the affected vehicles by 7.2 percent (ARB 2013f).

The Low Carbon Fuel Standard (LCFS) is estimated to achieve a 10 percent reduction in emissions by 2020 and an 18 percent reduction by 2030 (ARB 2010). CalEEMod does not include credit for the LCFS.

Title 24 reductions for 2013 and 2016 updates were added to CalEEMod 2016.3.2. The California Energy Commission (CEC) estimates that 2013 Title 24 standards would result in an increase in energy efficiency of 25 percent in residential buildings compared to 2008 Title 24 (CEC 2014a). An additional 28 percent reduction from the 2008 standards have been claimed for compliance with 2016 Title 24. This results in a combined reduction of 46 percent (CEC 2015). Compliance with 2019 Title 24 is expected to reduce residential energy use by 7 percent beyond 2016 Title 24 prior to accounting for the installation of solar panels (CEC 2018). 2019 Title 24 requires new residential development include solar panels to generate electricity. The project is expected to include solar panels on each residential unit in quantities that meet or exceed Title 24 requirements.

RPS is not accounted for in CalEEMod 2016.3.2. Reductions from RPS are addressed by revising the electricity emission intensity factor in CalEEMod to account for the utility RPS rate forecast for 2020 (CPUC 2016). PG&E provides emission factors for the electricity it provides to customers and projections for its energy portfolio for 2020 that is used to estimate project emissions. No data to reflect compliance in 2030 was included in the PG&E projections. The utilities will be required by SB 350 to increase the use of renewable energy sources to 50 percent, but details on individual utility compliance have not been determined.

Energy savings from water conservation resulting from the Green Building Code Standards for indoor water use and California Model Water Efficient Landscape Ordinance for outdoor water use are not included in CalEEMod. The Water Conservation Act of 2009 mandates a 20 percent reduction in urban water use that is implemented with these regulations (CDWR 2013). Benefits of the water conservation regulations are applied in the CalEEMod mitigation component.

Reductions in emissions from solid waste are based on the City achieving the CalRecycle 75 Percent Initiative by 2020 compared with a 50 percent baseline for 2005. Reductions are taken using the CalEEMod mitigation component.

Regulations applicable to project sources and the percent reduction anticipated from each source are shown in Table 14. The percentage reductions are only applied to the specific sources subject to the regulations. For example, the Pavley LEV Standards apply only to light duty cars and trucks.

Table 14: Reductions from Greenhouse Gas Regulations

Regulation	Project Applicability	Reduction Source	Percent Reduction in 2020 and 2030
Pavley Low Emission Vehicle Standards	Light-duty cars and trucks accessing the site are subject to the regulation.	CalEEMod defaults (Pavley I)	25.1[1]
		Adjusted GHG emission factor (Pavley II/LEV III) in CalEEMod.	3% 2020 19.5% 2030[2]
Truck and Bus Regulation	Heavy-duty trucks accessing the site for deliveries and services are subject to the regulation.	Adjusted GHG emission factors for the regulation in CalEEMod	7.2%[3]
Low Carbon Fuel Standard (LCFS)	Vehicles accessing the site will use fuel subject to the LCFS	CalEEMod defaults	10% 2020 20% 2030[1]
Title 24 Energy Efficiency Standards	Project buildings will be constructed to meet the latest version of Title 24 (currently 2016). Reduction applies only to energy consumption subject to the regulation.	CalEEMod defaults	35%[4,5]
Green Building Code Standards	The project will include water conservation features required by the standard	CalEEMod mitigation component	20%[6]
Water Efficient Land Use Ordinance	The project landscaping will comply with the regulation	CalEEMod mitigation component	20%[7]

Table 14 (cont.): Reductions from Greenhouse Gas Regulations

Regulation	Project Applicability	Reduction Source	Percent Reduction in 2020 and 2030
Renewable Portfolio Standard (RPS)	Electricity purchased for use at the project site is subject to the 33 percent RPS mandate	CalEEMod adjusted energy intensity factors with PG&E emission factors that show the company will exceed the 33 percent mandate.	54.5%[8]
Solid waste	The solid waste service provider will need to provide programs to increase diversion and recycling to meet the 75 percent mandate.	CalEEMod mitigation component	25%[9]

Notes:
Regulations are described in Section 2.3 Regulatory Environment. The source of the percentage reductions from each measure are from the following sources:
[1] Pavley 1 + Low Carbon Fuel Standard Postprocessor Version 1.0 User's Guide (ARB 2010b)
[2] ARB Staff Report for LEV III Amendments (ARB 2013e)
[3] ARB Staff Report for GHG Regulations for Medium and Heavy-Duty Engines and Vehicles (ARB 2013f)
[4] California Energy Commission News Release: New Title 24 Standards Will Cut Residential Energy Use by 25 Percent, Save Water, and Reduce Greenhouse Gas Emissions (CEC 2014b)
[5] California Energy Commission Adoption Hearing Presentation: 2016 Buildings Energy Efficiency Standards (CEC 2015)
[6] 2013 California Green Building Standards Code Section 5.303.2
[7] California Water Plan Update 2013 (CDWR 2013)
[8] Based on CalEEMod default PG&E rate for 2005 and PG&E projected emission factor for 2020
[9] CalRecycle 75 Percent Initiative: Defining the Future (2016b)

In addition to rules and regulations, the project would incorporate design features and would obtain benefits from its location and infrastructure that would reduce project VMT compared with default values. The project would construct pedestrian infrastructure connecting to adjacent land uses. In addition, the project would provide electrical outlets for landscaping equipment that would be used in accordance with statewide usage rates for this type of equipment. The project is located approximately 10 miles from existing development in Downtown Fresno, providing shorter-than-average trip lengths to important destinations.

Note that CalEEMod nominally treats these design elements and conditions as "mitigation measures," despite their inclusion in the project description. Therefore, reported operational emissions are considered to represent unmitigated project conditions. Full assumptions and model outputs are provided in Appendix A and results of this analysis for 2025 are presented in Table 15. A second analysis for 2030 is presented in Table 16.

Table 15: Project Operational Greenhouse Gases 2025

Source	Emissions ($MTCO_2e$ per year)		
	Business as Usual	2025 (with Regulation and Design Features)	Percent Reduction
Area	1,100.88	378.28	65.64%
Energy	3,344.00	2,085.37	37.6%
Mobile	10,372.18	6,428.71	38.0%
Waste	437.04	327.78	25.0%
Water	197.19	104.28	47.1%
Amortized Construction Emissions	139.61	139.61	0.0%
Total	15,590.89	9,464.03	39.3%
Reduction from BAU		**6,126.86**	—
Percent Reduction		**39.3%**	—
Significance Threshold		**21.7%**	—
Are emissions significant?		**No**	

Notes:
$MTCO_2e$ = metric tons of carbon dioxide equivalents
The project achieves the SJVAPCD 29 percent reduction from BAU threshold and the 21.7 percent required to show consistency with AB 32 targets.
Source: CalEEMod output (Appendix A).

As shown in Table 16, the project operations in 2025 would achieve a reduction from BAU of 39.3 percent which exceeds the 21.7 percent reduction required by the State to achieve the 2020 target by 17.6 percent and the SJVAPCD 29.0 percent target by 9.6 percent. No new threshold has been adopted by the City of Fresno for the 2030 target, so in the interim the project must make continued progress toward the 2030 goal.

The ARB originally identified a reduction of 29 percent from BAU as needed to achieve AB 32 targets. The 2008 recession and slower growth in the years since 2008 have reduced the growth forecasted for 2020, and the amount needed to be reduced to achieve 1990 levels as required by AB 32. The California Department of Finance (DOF) population forecast for 2020 to 2030 predicts growth in the State of 8.1 percent by the 2030 target year or 0.8 percent per year (DOF 2017).

The project includes design features that would result in reductions in energy use and support walking and bicycling. Measures that are part of the project design do not require additional mitigation measures to ensure they are accomplished.

The 39.3 percent reduction from BAU is 17.6 percent beyond the average reduction required by the State from all sources to achieve the AB 32 2020 target and therefore addresses the concern expressed in Newhall Ranch that projects should likely do more than the average to ensure they are providing a fair share of emission reductions.

Since the project buildout would occur after 2020, additional analysis summarized in Table 16 was prepared to show consistency with SB 32 2030 target.

Table 16: Project Operational Greenhouse Gases 2030

Source	Emissions ($MTCO_2e$ per year)		
	Business as Usual	2030 (with Regulation and Design Features)	Percent Reduction
Area	1,100.88	378.28	65.64%
Energy	3,344.00	2,085.37	37.6%
Mobile	10,372.18	5,023.12	51.6%
Waste	437.04	327.78	25.0%
Water	197.19	104.28	47.1%
Amortized Construction Emissions	139.61	139.61	0.0%
Total	15,590.89	8,058.44	48.3%
Reduction from BAU		**7,532.46**	—
Percent Reduction		**48.3%**	—
Significance Threshold		**21.7%**	—
Are emissions significant?		**No**	

Notes:
$MTCO_2e$ = metric tons of carbon dioxide equivalents
The project achieves the SJVAPCD 29 percent reduction from BAU threshold and the 21.7 percent required to show consistency with AB 32 targets. No new target has been set for 2030.
Source: CalEEMod output (Appendix A).

As shown in Table 16, the project would exceed the 21.7 percent reduction required by the State to achieve the 2020 target by 26.6 percent and the SJVAPCD 29.0 percent target by 19.3 percent.

The analysis presented above does not include new strategies proposed in the 2017 Scoping Plan Update. The update was adopted in December 2017. The update provides alternatives in terms of their likelihood of implementation and ranges of reduction from the strategies. Measures already authorized by legislation are highly likely to be implemented, while measures requiring new legislation are less likely to go forward. The State is highly likely to incorporate zero net energy buildings in future updates to Title 24 and now requires solar panels in most residential development. A new round of motor vehicle fuel efficiency standards beyond 2025 when LEV III standards are at their maximum reduction level is highly likely. Changing heavy-duty trucks and off-road equipment to alternative fuels face greater technological hurdles and are less likely to provide dramatic reductions by 2030.

The 2030 emission limit is 260 $MMTCO_2e$. The ARB estimates that the 2030 BAU (reference) Inventory will be 392 $MMTCO_2e$—a reduction of 132 $MMCO_2e$, including existing policies and programs but not including known commitments that are already underway. The 2017 Scoping Plan Update includes the estimated GHG emissions by sector compared with 1990 levels that is presented in Table 17. The

proposed plan would achieve the bulk of the reductions from Electric Power, Industrial fuel combustion, and Transportation. Cap-and-Trade would provide between 10 and 20 percent of the required reductions depending on the amounts achieved by the other reduction measures.

Table 17: 2017 Scoping Plan Update Estimated Change in GHG Emissions by Sector

Scoping Plan Sector	Emissions ($MMTCO_2e$ per year)		
	1990	2030 Proposed Plan Ranges	Percent Change form 1990
Agriculture	26	24–25	-4 to -8
Residential and Commercial	44	38–40	-9 to -14
Electric Power	108	42–62	-43 to -61
High GWP	3	8–11	167 to 267
Industrial	98	77–87	-11 to -21
Recycling and Waste	7	8–9	14 to 29
Transportation (including TCU)	152	103–111	-27 to -32
Net Sink	-7	TBD	TBD
Subtotal	**431**	**300–345**	**-20 to -30**
Cap-and-Trade Program	N/A	40–85	N/A
Total	**431**	**260**	**-40**
Source: ARB 2017 Scoping Plan Update (ARB 2017c).			

Although 2017 Scoping Plan Update focuses on state agency actions necessary to achieve the 2030 GHG limit, the ARB considers local governments essential partners in achieving California's goals to reduce GHG emissions. The 2030 target will require an increase in the rate of emission reductions compared to what was needed to achieve the 2020 limit, and this will require action and collaboration at all levels, including local government action to complement and support State-level actions. For individual projects, the 2017 Scoping Plan Update suggests that all new land use development implement all feasible measures to reduce GHG emissions. The Scoping Plan does not define all feasible measures or attribute an amount of reductions required from new development beyond compliance with regulations. When requiring mitigation of a project's fair share of a cumulative impact, the Lead Agency must show the nexus between the project contribution and its fair share of mitigation to reduce the impact to less than cumulatively considerable. A threshold based on local support and collaboration with State actions as described in the 2017 Scoping Plan Update does not lend itself to a quantitative determination of fair share. Requiring developers and future residents of the development to fully mitigate emissions without accounting for compliance with regulations would result in double mitigation, first by the developer and then by the residents purchasing electricity, fuel, and vehicles compliant with regulations in effect at the time of purchase and beyond that would violate constitutional nexus requirements.

In conclusion, the project would achieve reductions of 17.6 percent beyond the ARB 2020 21.7 percent target and 9.6 percent beyond the SJVAPCD 29 percent reduction from BAU requirements

from adopted regulations and on-site design features. No new threshold has been adopted by the City for the SB 32 2030 target; however, the reductions from BAU by 2030 are 26.6 percent beyond the 21.7 percent required for the 2020 target. Based on this progress and the strong likelihood that the measures included in the 2017 Scoping Plan Update will be implemented, it is reasonable to conclude that the project is consistent with the 2017 Scoping Plan and will contribute a reasonable fair-share contribution to achieving the 2030 target. The fair share may very well be achieved through compliance with increasingly stringent State regulations that apply to new development, such as Title 24 and CALGreen; regulations on energy production, fuels, and motor vehicles that apply to both new and existing development; and voluntary actions to improve energy efficiency in existing development. In addition, compliance with the VMT targets adopted to comply with SB 375 and implemented through the RTP/SCS may be considered to adequately address GHG emissions from passenger cars and light-duty trucks. As shown in Table 17, the State strategy relies on the Cap-and-Trade Program to make up any shortfalls that may occur from the other regulatory strategies. The costs of Cap-and-Trade emission reductions will ultimately be passed on to the consumers of fuels, electricity, and products produced by regulated industries, which include future residents of development projects and other purchasers of products and services. Therefore, the impact in terms of Considerations #1 and #2 would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

Less than significant impact.

6.2.2 - Greenhouse Gas Reduction Plans

Impact GHG-2: The project would not conflict with any applicable plan, policy, or regulation of an agency adopted to reduce the emissions of greenhouse gases.

Impact Analysis

The following analysis assesses the project's compliance with Consideration #3 regarding consistency with adopted plans to reduce GHG emissions. The City of Fresno adopted its GHG Reduction Plan as part of the General Plan Update in 2014. The project's consistency with applicable GHG policies from the GHG Reduction Plan policies is assessed below.

The project is also assessed for its consistency with ARB's adopted Scoping Plans. This would be achieved with an assessment of the project's compliance with Scoping Plan measures contained in the 2008 Scoping Plan and the 2017 Scoping Plan Update.

City of Fresno GHG Plan

The GHG Plan includes procedures to use when assessing the impacts of project's requiring a general plan amendment. The following requirements apply.

1. Review General Plan policies listed in the GHG Reduction Plan to identify those that apply to the project and prepare a consistency analysis for compliance with the applicable policies.
2. Ensure project is consistent with the City's Development Code as it relates to complete streets and design standards for multi-family projects
3. Prepare a GHG technical study to quantify project emissions and emission reductions through compliance with regulations and project design features.

Table 18 provides a consistency analysis with applicable GHG policies from the GHG Reduction Plan. The project is consistent with all applicable policies.

Table 18: Consistency with Fresno Greenhouse Gas Reduction Plan

Climate Action Plan Policy	Project Consistency
Policy RC-2-a Link Land Use to Transportation. Promote mixed-use, higher density infill development in multi-modal corridors. Support land use patterns that make more efficient use of the transportation system and plan future transportation investments in areas of higher-intensity development. Discourage investment in infrastructure that would not meet these criteria**.**	**Consistent**. The project will provide higher-density, compact development at an undeveloped site, making more efficient use of the existing infrastructure.
Objective UF-12 Locate roughly one-half of future residential development in infill areas—defined as being within the City on December 21, 2012—including the Downtown core area and surrounding neighborhoods, mixed-use centers and transit-oriented development along major BRT corridors, and other non-corridor infill areas, and vacant land.	**Consistent**. Although not currently within the City, the project is residential development within the City of Fresno planning area. The project site is within 1.8 miles of the Central High School East campus and 0.5 mile of the Glacier Point Middle School campus and the Harvest Elementary School. The project is also within 3 miles of existing regional commercial development on West Shaw Avenue and North Brawley Avenue. The project would not preclude the City from achieving this objective.
Policy LU-2-b Infill Development for Affordable Housing. Consider a priority infill incentive program for residential infill development of existing vacant lots and underutilized sites within the City as a strategy to help to meet the affordable housing needs of the community.	**Not Applicable.** The project is residential development on an underutilized site; however, the project would provide market-based housing. Although not classified as "affordable housing," development of the project would provide housing that helps the City meet the needs of the community.
Policy LU-5-f High Density Residential Uses. Promote high-density residential uses to support Activity Centers and BRT corridors, affordable housing and walkable access to transit stops**.**	**Not Applicable.** The project is not within a designated Activity Center or BRT corridor.
Policy UF-14-a Design Guidelines for Walkability. Use design guidelines and standards for a walkable and pedestrian-scaled environment with a network of streets and connections for pedestrians and bicyclists, as well as transit and autos.	**Consistent.** The project will comply with the City Development Code, which requires appropriate pedestrian infrastructure in new development projects. The project connects to the existing street network that includes sidewalks.

Table 18 (cont.): Consistency with Fresno Greenhouse Gas Reduction Plan

Climate Action Plan Policy	Project Consistency
Objective MT-9 Provide public transit opportunities to the maximum number and diversity of people practicable in balance with providing service that is high in quality, convenient, frequent, reliable, and financially feasible.	**Not Applicable.** The project is not on an existing FAX transit line; however, the project provides increased development density that could help support future transit in the area.
Policy MT-6-a Link Residences to Destinations. Design a pedestrian and bicycle path network that links residential areas with Activity Centers, such as parks and recreational facilities, educational institutions, employment centers, cultural sites, and other focal points of the city environment.	**Consistent.** The project will provide pedestrian infrastructure connecting to neighboring uses. A 1.8-acre neighborhood park is planned on the site. Future bikeways or bike lanes will be constructed that connect project residences to neighboring uses such the Central High School East campus, the Glacier Point Middle School, and the Harvest Elementary School.
Objective RC-8 Reduce the consumption of non-renewable energy resources by requiring and encouraging conservation measures and the use of alternative energy sources**.**	**Consistent.** The project will comply with Title 24 Energy Efficiency Standards and CalGreen Code requirements for solar ready roofs, electric vehicle charging, and water conservation. The 2019 Title 24 Standards went into effect on January 1, 2020. Proposed buildings that would receive building permits after January 1, 2020 would be subject to the 2019 Title 24 Standards. One of the notable changes in the 2019 Title 24 Standards includes the solar photovoltaic systems requirement for new low-rise residential homes.
Policy RC-8-a Existing Standards and Programs. Continue existing beneficial energy conservation programs, including adhering to the California Energy Code in new construction and major renovations.	**Consistent.** The project will comply with all applicable energy standards such as Title 24 Building Energy Standards and home appliance purchased for the homes will comply with Title 20 Appliance Standards.
Policy RC-8-b Energy Reduction Targets. Strive to reduce per capita residential electricity use to 1,800 kWh per year and nonresidential electricity use to 2,700 kWh per year per capita by developing and implementing incentives, design and operation standards, promoting alternative energy sources, and cost-effective savings.	**Consistent.** The project will comply with the Title 24 energy standards in effect at the time building permits are processed for approval. With the new solar panel requirements, homes are expected to meet or exceed this target.
Source: City of Fresno Greenhouse Gas Reduction Plan 2014.	

AB 32 Scoping Plan

The California State Legislature adopted AB 32 in 2006. AB 32 focuses on reducing GHGs (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) to 1990 levels by the year 2020. Pursuant to the requirements in AB 32, the ARB adopted the Climate Change Scoping Plan (Scoping Plan) in 2008, which outlines actions recommended to obtain that goal. The Scoping Plan calls for an “ambitious but achievable” reduction in California’s GHG emissions, cutting approximately 30 percent from BAU emission levels projected for 2020, or about 10 percent from 2008 levels. On a per-capita basis, that means reducing annual emissions of 14 tons

of carbon dioxide for every man, woman, and child in California down to about 10 tons per person by 2020. As stated earlier, the ARB has updated its emission inventory forecasts and now estimates a reduction of 21.7 percent is required from BAU in 2020 to achieve AB 32 targets.

The Scoping Plan contains a variety of strategies to reduce the State's emissions. As shown in Table 19, the project is consistent with most of the strategies, while others are not applicable to the project. As discussed earlier, the 2017 Scoping Plan Update strategies primarily rely on increasing the stringency of existing regulations with which the project would continue to comply, support through the project's design, and implementation of the General Plan goals and policies.

Table 19: Project Consistency with AB 32 Scoping Plan

Scoping Plan Sector	Scoping Plan Measure	Implementing Regulations	Project Consistency
Transportation	California Cap-and-Trade Program Linked to Western Climate Initiative	Regulation for the California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanism October 20, 2015 (CCR 95800)	**Consistent.** The Cap-and-Trade Program applies to large industrial sources such as power plants, refineries, and cement manufacturers. However, the regulation indirectly affects people who use the products and services produced by these industrial sources when increased cost of products or services (such as electricity and fuel) are transferred to the consumers. The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported. Accordingly, GHG emissions associated with CEQA projects' electricity usage are covered by the Cap-and-Trade Program. The Cap-and-Trade Program also covers fuel suppliers (natural gas and propane fuel providers and transportation fuel providers) to address emissions from such fuels and from combustion of other fossil fuels not directly covered at large sources in the Program's first compliance period.
	California Light-Duty Vehicle Greenhouse Gas Standards	Pavley I 2005 Regulations to Control GHG Emissions from Motor Vehicles	**Consistent**. This measure applies to all new vehicles starting with model year 2012. The project would not conflict with its implementation as it would apply to all new passenger vehicles purchased in California. Passenger vehicles, model year 2012 and later, associated with construction and operation of the project would be required to comply with the Pavley emissions standards.
		2012 LEV III Amendments to the California Greenhouse Gas and Criteria Pollutant Exhaust and Evaporative Emission Standards	
	Low Carbon Fuel Standard.	2009 readopted in 2015. Regulations to Achieve Greenhouse Gas Emission Reductions Subarticle 7. Low Carbon Fuel Standard CCR 95480	**Consistent.** This measure applies to transportation fuels utilized by vehicles in California. The project would not conflict with implementation of this measure. Motor vehicles associated with construction and operation of the project would utilize low carbon transportation fuels as required under this measure.

Table 19 (cont.): Project Consistency with AB 32 Scoping Plan

Scoping Plan Sector	Scoping Plan Measure	Implementing Regulations	Project Consistency
	Regional Transportation-Related Greenhouse Gas Targets.	SB 375. Cal. Public Resources Code §§ 21155, 21155.1, 21155.2, 21159.28	**Consistent**. The project will provide residential development in the region that is consistent with the increased development densities promoted in the 2018 Regional Transportation Plan/Sustainable Communities Strategy (SCS). The project is not within an SCS priority area and so is not subject to requirements applicable to those areas.
	Goods Movement	Goods Movement Action Plan January 2007.	**Not applicable**. The project does not propose any changes to maritime, rail, or intermodal facilities or forms of transportation.
	Medium/Heavy-Duty Vehicles	2010 Amendments to the Truck and Bus Regulation, the Drayage Truck Regulation and the Tractor-Trailer Greenhouse Gas Regulation	**Consistent**. This measure applies to medium- and heavy-duty vehicles that operate in the State. The project would not conflict with implementation of this measure. Medium- and heavy-duty vehicles associated with construction and operation of the project would be required to comply with the requirements of this regulation.
	High Speed Rail	Funded under SB 862	**Not applicable**. This is a statewide measure that cannot be implemented by a project applicant or lead agency.
Electricity and Natural Gas	Energy Efficiency	Title 20 Appliance Efficiency Regulation	**Consistent.** The project would not conflict with implementation of this measure. The project will comply with the latest energy efficiency standards and incorporate applicable energy efficiency features designed to reduce project energy consumption.
		Title 24 Part 6 Energy Efficiency Standards for Residential and Non-Residential Building	
		Title 24 Part 11 California Green Building Code Standards	
	Renewable Portfolio Standard/Renewable Electricity Standard.	2010 Regulation to Implement the Renewable Electricity Standard (33% 2020)	**Consistent**. PG&E obtained 33 percent of its power supply from renewable sources such as solar and geothermal in 2017, and about 70 percent of the electricity it delivers is carbon-free, including nuclear and large hydroelectric facilities. The owners of residences within the project would purchase power that consists of a greater percentage of renewable sources and could install renewable solar power systems that will assist the utility in achieving exceeding the renewable mandate.
		SB 350 Clean Energy and Pollution Reduction Act of 2015 (50% 2030)	

Table 19 (cont.): Project Consistency with AB 32 Scoping Plan

Scoping Plan Sector	Scoping Plan Measure	Implementing Regulations	Project Consistency
	Million Solar Roofs Program	Tax incentive program	**Consistent.** This measure is intended to increase solar throughout California by means of a variety of electricity providers and existing solar programs. Projects within the plan area will be able to take advantage of incentives that are in place at the time of construction. The project includes installation of solar panels.
Water	Water	Title 24 Part 11 California Green Building Code Standards	**Consistent.** The project will comply with the California Green Building Standards Code, which requires a 20 percent reduction in indoor water use. The project will also comply with the MWELO as required by the City's development code and water ordinance.
		SBX 7-7—The Water Conservation Act of 2009	
		Model Water Efficient Landscape Ordinance	
Green Buildings	Green Building Strategy	Title 24 Part 11 California Green Building Code Standards	**Consistent.** The State will increase the use of green building practices. The project would implement required green building strategies through existing regulation that requires the project to comply with various CALGreen requirements. The project includes sustainability design features that support the Green Building Strategy.
Industry	Industrial Emissions	2010 ARB Mandatory Reporting Regulation	**Not applicable.** The project is not an industrial land use.
Recycling and Waste Management	Recycling and Waste	Title 24 Part 11 California Green Building Code Standards	**Consistent.** The project would not conflict with implementation of these measures. The project is required to achieve the recycling mandates via compliance with the CALGreen code. The project would utilize City of Fresno recycling services.
		AB 341 Statewide 75 Percent Diversion Goal	
Forests	Sustainable Forests	Cap-and-Trade Offset Projects	**Not applicable.** The project site is in an area designated for urban uses. No forested lands exist on-site.

Table 19 (cont.): Project Consistency with AB 32 Scoping Plan

Scoping Plan Sector	Scoping Plan Measure	Implementing Regulations	Project Consistency
High Global Warming Potential	High Global Warming Potential Gases	ARB Refrigerant Management Program CCR 95380	**Not applicable**. The regulations are applicable to refrigerants used by large air conditioning systems and large commercial and industrial refrigerators and cold storage system. Homes do not use large systems subject to the refrigerant management regulations adopted by ARB.
Agriculture	Agriculture	Cap-and-Trade Offset Projects for Livestock and Rice Cultivation	**Not applicable**. The project site is proposed for urban development. No grazing, feedlot, or other agricultural activities that generate manure occur currently exist on-site or are proposed to be implemented by the project.
Source of ARB Scoping Plan Reduction Measures: California Air Resources Board 2008.			

In summary, the project incorporates a number of features that would minimize GHG emissions. These features are consistent with project-level strategies identified by the ARB's Scoping Plan and the City of Fresno GHG Reduction Plan. As demonstrated in the impact analysis above, the project would achieve a 39.3 percent reduction from the BAU inventory by 2025 and 48.3 percent from the BAU inventory by 2030; therefore, the project would not significantly hinder or delay the State's ability to meet the reduction targets contained in AB 32 or SB 32 or conflict with implementation of the Scoping Plan. The project promotes the goals of the Scoping Plan through implementation of design measures that reduce energy consumption, water consumption, and reduction in VMT. Therefore, the project does not conflict with any plans to reduce GHG emissions. The impact would be less than significant.

Consistency with California's Post-2020 Targets

The State's executive branch adopted several Executive Orders related to GHG emissions. Executive Orders S-3-05 and B-30-15 are two examples. Executive Order S-3-05 sets goals to reduce emissions to 1990 levels by 2020 and 80 percent below 1990 levels by 2050. The goal of Executive Order S-3-05 to reduce GHG emissions to 1990 levels by 2020 was codified by AB 32. The project, as analyzed above, is consistent with AB 32. Therefore, the project does not conflict with this component of Executive Order S-3-05. Executive Order B-30-15 establishes an interim goal to reduce GHG emissions to 40 percent below 1990 levels by 2030.

The 2030 goal was codified under SB 32 and is now addressed by the 2017 Scoping Plan Update. The new plan provides a strategy that is capable of reaching the SB 32 target if the measures included in the plan are implemented and achieve reductions within the ranges expected. Under the Scoping Plan Update, local government plays a supporting role through its land use authority and control over local transportation infrastructure. The Plan Update includes reductions from implementation of SB 375 that applies to VMT from passenger vehicles. Fresno County targets for SB 375 are a 5 percent reduction by 2020 and a 10 percent reduction by 2035. SB 375 is implemented with the Fresno COG Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The RTP/SCS envisions an increase in development density that would encourage fewer and shorter trips and more trips by transit, walking, and bicycling in amounts sufficient to achieve the SB 375 targets.

Now that the 2017 Scoping Plan has been adopted, new methodologies and threshold approaches are required to determine the fair-share contributions City development projects would need to make to achieve the 2030 target. In the meantime, however, the discussion under "Consistency with SB 32" below addresses the consistency of the proposed project with SB 32, which provides the statutory underpinning of the 2017 Scoping Plan. The SB 32 target requires GHG emissions to be reduced from 1990 levels. No consensus has been reached around the State on a new quantitative target for new development based on consistency with the SB 32 targets.

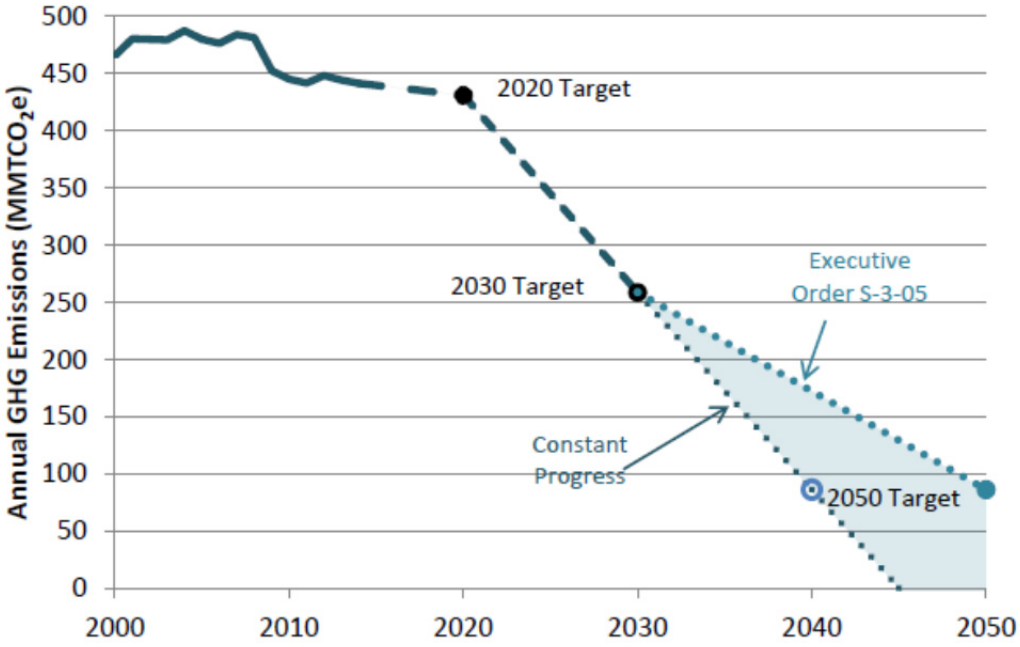
The Executive Order S-3-05 2050 target has not been codified by legislation. Studies have shown that, in order to meet the 2050 target, aggressive pursuit of technologies in the transportation and energy sectors, including electrification and the decarbonization of fuel, will be required. Because of the technological shifts required and the unknown parameters of the regulatory framework in 2050, quantitatively analyzing the project's impacts further relative to the 2050 goal is speculative for purposes of CEQA (ARB 2014b).

The ARB recognized that AB 32 established an emissions reduction trajectory that will allow California to achieve the more stringent 2050 target: "These [greenhouse gas emission reduction] measures also put the State on a path to meet the long-term 2050 goal of reducing California's GHG emissions to 80 percent below 1990 levels. This trajectory is consistent with the reductions that are needed globally to stabilize the climate." In addition, ARB's First Update "lays the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050," and many of the emission reduction strategies recommended by ARB would serve to reduce the proposed project's post-2020 emissions level to the extent applicable by law:

- **Energy Sector:** Continued improvements in California's appliance and building energy efficiency programs and initiatives, such as the State's zero net energy building goals, would serve to reduce the proposed project's emissions level. Additionally, further additions to California's renewable resource portfolio would favorably influence the project's emissions level.
- **Transportation Sector:** Anticipated deployment of improved vehicle efficiency, zero emission technologies, lower carbon fuels, and improvement of existing transportation systems all will serve to reduce the project's emissions level.
- **Water Sector:** The project's emissions level will be reduced as a result of further desired enhancements to water conservation technologies.
- **Waste Management Sector:** Plans to further improve recycling, reuse and reduction of solid waste will beneficially reduce the project's emissions level.

For the reasons described above, the project's post-2020 emissions trajectory is expected to follow a declining trend, consistent with the 2030 and 2050 targets. The trajectory required to achieve the post-2020 targets is shown in Figure 10.

Figure 10: California's Path to Achieving the 2050 Target



Source: ARB 2017 Scoping Plan Update (ARB 2017c)

In his January 2015 inaugural address, Governor Brown expressed a commitment to achieve "three ambitious goals" that he would like to see accomplished by 2030 to reduce the State's GHG emissions:

- Increasing the State's Renewable Portfolio Standard from 33 percent in 2020 to 50 percent in 2030;
- Cutting the petroleum use in cars and trucks in half; and
- Doubling the efficiency of existing buildings and making heating fuels cleaner.

These expressions of executive branch policy may be manifested in adopted legislative or regulatory action through the state agencies and departments responsible for achieving the State's environmental policy objectives, particularly those relating to global climate change (Brown 2015). Further, recent studies show that the State's existing and proposed regulatory framework will allow the State to reduce its GHG emissions level to 40 percent below 1990 levels by 2030, and to 80 percent below 1990 levels by 2050. Even though these studies did not provide an exact regulatory and technological roadmap to achieve the 2030 and 2050 goals, they demonstrated that various combinations of policies could allow the statewide emissions level to remain very low through 2050, suggesting that the combination of new technologies and other regulations not analyzed in the studies could allow the State to meet the 2050 target (Energy and Economics 2015).

Given the proportional contribution of mobile source-related GHG emissions to the State's inventory, recent studies also show that relatively new trends—such as the increasing importance of web-based shopping, the emergence of different driving patterns by the "millennial" generation, and the increasing effect of web-based applications on transportation choices—are beginning to substantially influence transportation choices and the energy used by transportation modes. These factors have changed the direction of transportation trends in recent years and will require the creation of new models to effectively analyze future transportation patterns and the corresponding effect on GHG emissions. For the reasons described above, the proposed project's post-2020 emissions trajectory is expected to follow a declining trend, consistent with the 2030 and 2050 targets.

Consistency with SB 32

The 2017 Climate Change Scoping Plan Update (2017 Scoping Plan) includes the strategy that the State intends to pursue to achieve the 2030 targets of Executive Order S-3-05 and SB 32. The 2017 Scoping Plan includes the following summary of its overall strategy for reaching the 2030 target:

- SB 350
  - Achieve 50 percent Renewables Portfolio Standard (RPS) by 2030.
  - Doubling of energy efficiency savings by 2030.
- Low Carbon Fuel Standard (LCFS)
  - Increased stringency (reducing carbon intensity 18 percent by 2030, up from 10 percent in 2020).
- Mobile Source Strategy (Cleaner Technology and Fuels Scenario)
  - Maintaining existing GHG standards for light- and heavy-duty vehicles.
  - Put 4.2 million zero-emission vehicles (ZEVs) on the roads.
  - Increase ZEV buses, delivery and other trucks.

- Sustainable Freight Action Plan
  - Improve freight system efficiency.
  - Maximize use of near-zero emission vehicles and equipment powered by renewable energy.
  - Deploy over 100,000 zero-emission trucks and equipment by 2030.
- Short-Lived Climate Pollutant (SLCP) Reduction Strategy
  - Reduce emissions of methane and hydrofluorocarbons 40 percent below 2013 levels by 2030.
  - Reduce emissions of black carbon 50 percent below 2013 levels by 2030.
- SB 375 Sustainable Communities Strategies
  - Increased stringency of 2035 targets.
- Post-2020 Cap-and-Trade Program
  - Declining caps, continued linkage with Québec, and linkage to Ontario, Canada.
  - ARB will look for opportunities to strengthen the program to support more air quality co-benefits, including specific program design elements. In Fall 2016, ARB staff described potential future amendments including reducing the offset usage limit, redesigning the allocation strategy to reduce free allocation to support increased technology and energy investment at covered entities and reducing allocation if the covered entity increases criteria or toxics emissions over some baseline.
- By 2018, develop Integrated Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

Table 20 provides an analysis of the project's consistency with the 2017 Scoping Plan Update measures.

Table 20: Consistency with SB 32 2017 Scoping Plan Update

Scoping Plan Measure	Project Consistency
SB 350 50% Renewable Mandate. Utilities subject to the legislation will be required to increase their renewable energy mix from 33% in 2020 to 50% in 2030.	**Consistent**: The project will purchase electricity from a utility subject to the SB 350 Renewable Mandate.
SB 350 Double Building Energy Efficiency by 2030. This is equivalent to a 20 percent reduction from 2014 building energy usage compared to current projected 2030 levels	**Not Applicable**. This measure applies to existing buildings. New structures are required to comply with Title 24 Energy Efficiency Standards that are expected to increase in stringency until residential housing achieves zero net energy.
Low Carbon Fuel Standard. This measure requires fuel providers to meet an 18 percent reduction in carbon content by 2030.	**Consistent**. Vehicles accessing the project site will use fuel containing lower carbon content as the fuel standard is implemented.
Mobile Source Strategy (Cleaner Technology and Fuels Scenario) Vehicle manufacturers will be required to meet existing regulations mandated by the LEV III and Heavy-Duty Vehicle programs. The strategy includes a goal of having 4.2 million ZEVs on the road by 2030 and increasing numbers of ZEV trucks and buses.	**Consistent**. Project residents can be expected to purchase increasing numbers of more fuel efficient and zero emission cars and trucks each year. The 2016 CALGreen Code requires electrical service in new single-family housing to be EV charger-ready. Home deliveries will be made by increasing numbers of ZEV delivery trucks.

Table 20 (cont.): Consistency with SB 32 2017 Scoping Plan Update

Scoping Plan Measure	Project Consistency
Sustainable Freight Action Plan The plan's target is to improve freight system efficiency 25 percent by increasing the value of goods and services produced from the freight sector, relative to the amount of carbon that it produces by 2030. This would be achieved by deploying over 100,000 freight vehicles and equipment capable of zero emission operation and maximize near-zero emission freight vehicles and equipment powered by renewable energy by 2030.	**Not Applicable**. The measure applies to owners and operators of trucks and freight operations. However, home deliveries are expected to be made by increasing number of ZEV delivery trucks.
Short-Lived Climate Pollutant (SLCP) Reduction Strategy. The strategy requires the reduction of SLCPs by 40 percent from 2013 levels by 2030 and the reduction of black carbon by 50 percent from 2013 levels by 2030.	**Consistent**. The project will include only natural gas hearths that produce very little black carbon compared to woodburning fireplaces and heaters.
SB 375 Sustainable Communities Strategies. Requires Regional Transportation Plans to include a sustainable communities strategy for reduction of per capita vehicle miles traveled. The targets for Fresno County are	**Consistent**. The project will provide residential development in the region that is consistent with the Regional Transportation Plan/Sustainable Communities Strategy (SCS) strategy to increase development densities to reduce VMT. The project is not within an SCS priority area and so is not subject to requirements applicable to those areas.
Post-2020 Cap-and-Trade Program. The Post 2020 Cap-and-Trade Program continues the existing program for another 10 years. The Cap-and-Trade Program applies to large industrial sources such as power plants, refineries, and cement manufacturers.	**Consistent.** The post-2020 Cap-and-Trade Program indirectly affects people who use the products and services produced by the regulated industrial sources when increased cost of products or services (such as electricity and fuel) are transferred to the consumers. The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported. Accordingly, GHG emissions associated with CEQA projects' electricity usage are covered by the Cap-and-Trade Program. The Cap-and-Trade Program also covers fuel suppliers (natural gas and propane fuel providers and transportation fuel providers) to address emissions from such fuels and from combustion of other fossil fuels not directly covered at large sources in the program's first compliance period.
Natural and Working Lands Action Plan. The ARB is working in coordination with several other agencies at the federal, state, and local levels, stakeholders, and with the public, to develop measures as outlined in the Scoping Plan Update and the governor's Executive Order B-30-15 to reduce GHG emissions and to cultivate net carbon sequestration potential for California's natural and working land.	**Not Applicable**. The project is residential development and will not be considered natural or working lands.
Source: ARB 2017 Scoping Plan Update.	

Regarding goals for 2050 under Executive Order S-3-05, at this time it is not possible to quantify the emissions savings from future regulatory measures, as they have not yet been developed; nevertheless, it can be anticipated that operation of the project would comply with whatever measures are enacted that state lawmakers decide would lead to an 80 percent reduction below 1990 levels by 2050. In its 2008 Scoping Plan, ARB acknowledged that the "measures needed to meet the 2050 are too far in the future to define in detail." In the First Scoping Plan Update; however, ARB generally described the type of activities required to achieve the 2050 target: "energy demand reduction through efficiency and activity changes; large scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and rapid market penetration of efficiency and clean energy technologies that requires significant efforts to deploy and scale markets for the cleanest technologies immediately." The 2017 Scoping Plan provides an intermediate target that is intended to achieve reasonable progress toward the 2050 target.

Accordingly, taking into account the proposed project's emissions, project design features, and the progress being made by the State towards reducing emissions in key sectors such as transportation, industry, and electricity, the project would be consistent with State GHG Plans and would further the State's goals of reducing GHG emissions to 1990 levels by 2020, 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050, and does not obstruct their attainment.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

Less than significant impact.

SECTION 7: ENERGY

7.1—CEQA Guidelines

CEQA requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy. Appendix F of the CEQA Guidelines applies to the direct and indirect impact analysis, as well as the cumulative impact analysis.

7.2—Impact Analysis

7.2.1 - Energy

Impact ENERGY-1: The project would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation.

Impact Analysis

Threshold of Significance

Appendix F does not prescribe a threshold for the determination of significance. Rather, Appendix F focuses on reducing and minimizing inefficient, wasteful, and unnecessary consumption of energy. Therefore, for the purposes of this EIR, a significant impact to energy would result if the project would:

1. Result in the wasteful and inefficient use of nonrenewable resources during its construction.
2. Result in the wasteful and inefficient use of nonrenewable resources during long-term operation.
3. Be inconsistent with Adopted Plans and Policies.

Construction Energy Consumption

Project construction is assumed to be completed over five years. Construction activities would consume energy through the operation of heavy off-road equipment, trucks, and worker traffic. Construction equipment fuel consumption for each of was based on equipment lists generated using CalEEMod default values. The fuel consumption of off-road equipment calculated in this analysis is based on an SCAQMD estimated fuel consumption rate of 0.05 gallon per horsepower-hour and the horsepower, usage hours, and load factors from CalEEMod model runs prepared for the project's air quality analysis.

Based on the anticipated construction schedule and hours of use, construction equipment would result in the consumption of approximately 1,044,003 gallons of diesel fuel over the entire construction period.

Worker, vendor, and haul trips would result in approximately 786,618 VMT over the entire construction period. A countywide average fuel consumption of 30.7 miles per gallon (mpg) for

employee vehicles and 8.3 mpg for vendor trucks were obtained from EMFAC 2017. The results indicate that construction trips would consume approximately 27,070 gallons of motor vehicle fuel.

Although the proposed project would result in the consumption of an estimated 1,044,003 gallons of diesel and 27,070 gallons of motor vehicle fuels during construction, the project is expected to achieve energy efficiencies typical for residential projects in California. Construction equipment fleet turnover and increasingly stringent state and federal regulations on engine efficiency, combined with local, state, and federal regulations limiting engine idling times and require recycling of construction debris, would further reduce the amount of transportation fuel demand during project construction. Considering these reductions in transportation fuel use, the proposed project would not result in the wasteful and inefficient use of energy resources during construction and impacts would be less than significant. Detailed modeling results are provided in Appendix A. Construction energy use is summarized in Table 21.

Table 21: Construction Energy Consumption

Activity	Variable	Consumption Rate	Consumption Amount
Construction Equipment Diesel Fuel Use	hp-hr of equipment use per project Hours of Use	0.05 gal/hp-hr 199,600 hours	1,104,003 gallons (diesel)
Construction Employee VMT	VMT/Project	VMT = 770,094 mpg = 30.7	25,076 gallons (gasoline)
Construction Vendor Truck VMT	VMT/Project	VMT = 16,524 mpg = 8.29	1,993 gallons (diesel)
Notes: mpg = miles per gallon VMT = vehicle miles traveled hp-hr = horsepower per hour Source of data for construction and VMT: CalEEMod 2016.3.2 Source of Fresno County mpg for 2025: EMFAC 2017. Modeling results are provided in Appendix A.			

Operation Energy Consumption

Long-term energy consumption associated with the project includes electricity and natural gas consumption by residents, energy required for water supply, treatment, distribution, and wastewater treatment, and motor vehicle travel.

Electricity and Natural Gas Consumption

During operations the proposed project would consume natural gas for space heating, water heating, and cooking associated with the land uses on the project site. The natural gas consumption was estimated using the CalEEMod default values and results. The results of the analysis indicate that the project would consume approximately 20,741,900 thousand British thermal units (kBTU) per year of natural gas per year during operation.

In addition to the consumption of natural gas, the proposed project would use electricity for lighting, appliances, and other uses associated with the project. Electricity use during operations was estimated using CalEEMod default values. The results of the modeling indicate that the project would use approximately 7,335,230 kilowatt-hours (kWh) of electricity per year. Title 24 (2019)

requires the installation of solar panels in residential developments. Variations in the amount installed can be due to local conditions and project design. In addition, some projects may use community solar instead of rooftop solar installations. Although the energy estimates assume no solar will be installed, most electricity used by the residential portions of the project is expected to be generated by zero emission renewable sources.

As described above, the proposed project would result in a long-term increase in demand for electricity from PG&E. However, the project would be designed to meet the most recent Title 24 standards. Title 24 specifically establishes energy efficiency standards for residential and non-residential buildings constructed in the State of California in order to reduce energy demand and consumption. Title 24 is updated periodically to incorporate and consider new energy efficiency technologies and methodologies. Therefore, impacts from the wasteful or inefficient use of electricity or natural gas during operation of the project would be less than significant.

Water Treatment, Conveyance, and Distribution

Water used for indoor and outdoor purposes requires electricity for water treatment, conveyance, and distribution. The project's water demand was calculated from default values for the residential development using CalEEMod. Based on this methodology, the proposed project is estimated to use approximately 1,650 million gallons of indoor water per year as well as 278 million gallons of outdoor water per year. This would result in the use of approximately 6,748,120 kWh of electricity per year.

Although the proposed project would result in electricity use from the treatment, conveyance, and distribution of water to the project site, the project would also require all water fixtures to be compliant with the 2013 California Green Building Standards Code and the MWELO, which would reduce the amount of water used by the project and require compliance with regulations relating to drought conditions. Therefore, the project would not result in the wasteful or inefficient use of electricity for water treatment, conveyance, and distribution and impacts would be less than significant.

Wastewater Service

The project would be served by the Fresno-Clovis Regional Wastewater Reclamation Facility. Project wastewater generation was estimated using CalEEMod default assumptions for indoor water use required by the project land uses. Project indoor water use of 43.9 million gallons per day would result in the use of 238,041 kWh of electricity per year. Compliance with the 2013 California Green Building Standards Code, would reduce the wastewater generated by the project. Energy used for treating project wastewater will increasingly be generated by renewable energy sources to comply with RPS standards that apply to the energy utility serving the project area.

Wastewater service would require an extension of sewer lines to the treatment plant. The energy added for the extension and use of these facilities combined with the project's estimated electricity and natural gas consumption would not result in substantial new energy generation or transmission infrastructure due to the location and capacity of existing energy infrastructure near the project site. Additionally, the project would be constructed over about 5 years, allowing for gradual expansion of facilities. Therefore, the project would not result in the wasteful or inefficient use of electricity for wastewater treatment, and impacts would be less than significant.

Fuel Consumption

During operation of the proposed project, vehicle trips would be generated by the project. The project was modeled with CalEEMod using ITE 10th Edition vehicle trip generation rates and default trip lengths. The results show that the vehicle trips generated would result in approximately 21,848,048 VMT per year. Based on a countywide average fuel consumption of 27.1 mpg from EMFAC 2017 for all vehicle classifications for 2025, the proposed project would result in the consumption of an estimated 734,388 gallons per year of transportation fuel.

Various federal and state regulations including the Low Carbon Fuel Standard, Pavley Clean Car Standards, and Low Emission Vehicle Program would serve to reduce the project's transportation fuel consumption progressively into the future. In addition, the project will include bike lanes, and trails that will increase trips by walking and bicycling. Therefore, the project would be designed to avoid the wasteful and inefficient use of transportation fuel during operations and impacts would be less than significant.

State and federal regulatory requirements addressing fuel efficiency are expected to increase fuel efficiency over time as older, less fuel-efficient vehicles are retired. The efficiency standards and light/heavy vehicle efficiency/hybridization programs, contribute to increased fuel efficiency and therefore would reduce vehicle fuel energy consumption rates over time. The annual vehicular energy consumption calculated for the proposed project was based on 2025 average rates for Fresno County. While the project would increase the consumption of gasoline and diesel proportionately with projected population growth, the increase would be accommodated within the projected growth as part of the energy projections for the state and the region and would not require the construction of new regional energy production facilities. Therefore, energy impacts related to fuel consumption/efficiency during project operations would be less than significant.

Impact Summary

As described above, the project would result in less than significant impacts on the wasteful, inefficient, or unnecessary use of energy due to project design features that will comply with the City's design guidelines and regulations that apply to the project such as Title 24 Building Energy Efficiency Standards and the California Green Building Standards Code that apply to commercial and residential buildings. The installation of solar panels required by 2019 Title 24 standards is expected to offset most electricity used by project residences. Furthermore, various federal and state regulations including the Low Carbon Fuel Standard, Pavley Clean Car Standards, and Low Emission Vehicle Program would serve to reduce the transportation fuel demand by the project.

With the adherence to the increasingly stringent building and vehicle efficiency standards as well as implementation of the project's design features that would reduce energy consumption, the proposed project would not contribute to a cumulative impact to the wasteful or inefficient use of energy. As such, the project would not result in a significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation. A summary of the project's estimated operational energy consumption is provided in Table 22.

Table 22: Operational Energy Consumption

Activity	Variable	Consumption Rate	Consumption Amount
Residential Electricity	844 Dwelling Unit	5,053 kWh/unit/year	7.34 MWh/year
Residential Natural Gas		17,726 kBTU/unit/year	20,741,900 kBTU/year
Water Supply, Treatment, and Conveyance and Wastewater Treatment	Water Use (Mgal)	71.7 Mgal/yr	335,110 kWh/year
Transportation	VMT/year mpg all Fuels	VMT/year = 21,848,042 miles mpg = 29.8	734,388 gallons/year Transportation Fuels

Notes:
MPG = miles per gallon Mgal = million gallons VMT = vehicle miles traveled
kW = kilowatts kWh = kilowatt-hours MWh = megawatt-hours MMBTU = million British thermal units
Source of data for energy use and VMT: CalEEMod 2016.3.2.
Source of Fresno County MPG for 2025: EMFAC 2017.
Modeling results are provided in Appendix A.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

Less than significant impact.

7.2.2 - Renewable Energy or Energy Efficiency Plans

Impact ENERGY-2: The project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Impact Analysis

The City of Fresno has adopted local plans that promote renewable energy and energy efficiency. Fresno Green—The City of Fresno's Strategy for Achieving Sustainability—was adopted in 2007 (Fresno Green). One strategy of Fresno Green is for Fresno to become a leader in renewable energy use and creation of related innovative technology and new business enterprises. This would be accomplished by the following strategies:

- Increase the use of renewable energy to meet 50 percent of the City's annual electrical consumption of kWh.
- Reduce the City's peak electrical load by 10 percent through energy efficiency, shifting the timing of energy demands, and conservation measures.

Fresno Green was the City's first effort to improve sustainability. The City of Fresno General Plan Update and GHG Reduction Plan build on this initial effort.

The City of Fresno General Plan includes goals and strategies related to energy efficiency. The following policies are applicable to the project:

- **RC-5-a Support State Goal to Reduce Statewide GHG Emissions.** As is consistent with State law, strive to meet AB 32 goal to reduce greenhouse gas emissions to 1990 levels by 2020 and strive to meet a reduction of 80 percent below 1990 levels by 2050 as stated in Executive Order S-03-05. As new statewide GHG reduction targets and dates are set by the State update the City's Greenhouse Gas Reduction Plan to include a comprehensive strategy to achieve consistency with those targets by the dates established.
- **RC-5-c GHG Reduction through Design and Operations.** Increase efforts to incorporate requirements for GHG emission reductions in land use entitlement decisions, facility design, and operational measures subject to City regulation through the following measures and strategies:
  - Promote the expansion of incentive-based programs that involve certification of projects for energy and water efficiency and resiliency. These certification programs and scoring systems may include public agency "Green" and conservation criteria, Energy Star™ certification, CALGreen Tier 1 or Tier 2, Leadership in Energy Efficient Design (LEED™) certification, etc.
  - Promote appropriate energy and water conservation standards and facilitate mixed-use projects, new incentives for infill development, and the incorporation of mass transit, bicycle and pedestrian amenities into public and private projects.

The General Plan Update includes a Greenhouse Gas Reduction Plan (GHG Plan) that provides the City's primary strategy for reducing GHG emissions. Strategies to reduce GHG emissions often rely on increases in renewable energy use and increases in energy efficiency. A discussion of the project's consistency with the GHG Plan is provided in Section 6.6.2. The project analysis found the project to be consistent with the City of Fresno General Plan and GHG Plan; therefore, the project would not conflict with or obstruct the local plan for renewable energy or energy efficiency.

The project was reviewed for consistency with State of California energy plans. The ARB 2008 Scoping Plan required by AB 32 and the ARB 2017 Scoping Plan provide the State's strategy for achieving legislated GHG reduction targets. Although the primary purpose of the Scoping Plans is to reduce GHG emissions, the strategies to achieve the GHG reduction targets rely on the use of increasing amounts of renewable fuels under the LCFS and RPS, and energy efficiency with updates to Title 24 and the CalGreen Code. The 2019 California Energy Efficiency Action Plan addresses issues pertaining to energy efficiency in California's buildings, industrial, and agricultural sectors. Buildings constructed to implement the project will meet the latest efficiency standards. Vehicles and equipment will meet the latest fuel efficiency standards and use fuels subject to the LCFS (CEC 2019).

The project is consistent with applicable plans and policies and would not result in wasteful or inefficient use of nonrenewable energy sources; therefore, impacts would be less than significant.

Level of Significance Before Mitigation

Less than significant impact

Mitigation Measures

No mitigation measures are required

Level of Significance After Mitigation

Less than significant impact

INTENTIONALLY LEFT BLANK

SECTION 8: REFERENCES

The following references were used in the preparation of this analysis and are referenced in the text and/or were used to provide the author with background information necessary for the preparation of thresholds and content.

Air Now. 2016. AQI Calculator: AQI to Concentration. Website: http://www.airnow.gov /index.cfm?action=resources.aqi_conc_calc. Accessed May 4, 2020.

Brown, Edmund G. Jr. 2015. Press Release: California Establishes Most Ambitious Greenhouse Gas Goal in North America. April 29. Website: https://www.gov.ca.gov/news.php?id=18938. Accessed December 12, 2018.

Brown, Edmund G. Jr. 2018. EO B-55-18. Website: https://www.gov.ca.gov/news.php?id=18938. December 12, 2018.

CalAdapt. 2019. Local Climate Snapshots. Website: http://v1.cal-adapt.org/tools/factsheet/. Accessed May 4, 2020.

CalEEMod. California Emissions Estimator Model. Version 2016.3.2 Website: http://caleemod.com/. Accessed May 4, 2020.

California Air Pollution Control Officers Association (CAPCOA). 2010. Quantifying Greenhouse Gas Mitigation Measures. August 2010. Website: http://www.capcoa.org/wp-content /uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf. Accessed May 4, 2020.

California Air Pollution Control Officers Association (CAPCOA). 2018. CAPCOA Greenhouse Gas Reduction Exchange. Website: http://www.ghgrx.org/. Accessed May 4, 2020.

California Air Resources Board (ARB). 1998. The Toxic Air Contaminant Identification Process: Toxic Air Contaminant Emissions from Diesel-fueled Engines. Website: http://www.arb.ca.gov /toxics/dieseltac/factsht1.pdf. Accessed May 4, 2020.

California Air Resources Board (ARB). 2000. Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-fueled Engines and Vehicles. Website: http://www.arb.ca.gov/diesel /documents/rrpfinal.pdf. Accessed May 4, 2020.

California Air Resources Board (ARB). 2005. California Environmental Protection Agency. Air Quality and Land Use Handbook: A Community Health Perspective. April 2005. Website: www.arb.ca.gov/ch/landuse.htm. Accessed May 4, 2020.

California Air Resources Board (ARB). 2007. Staff Report. California 1990 Greenhouse Gas Level and 2020 Emissions Limit. November 16, 2007. Website: www.arb.ca.gov/cc/inventory /pubs/reports/staff_report_1990_level.pdf. Accessed May 4, 2020.

California Air Resources Board (ARB). 2008. (includes edits made in 2009) Climate Change Scoping Plan, a framework for change. Website: http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf. Accessed May 4, 2020.

California Air Resources Board (ARB). 2009a. California Air Resources Board. Vinyl Chloride & Health. Website: https://ww2.arb.ca.gov/resources/vinyl-chloride-and-health. Accessed May 21, 2020

California Air Resources Board (ARB). 2009b. The California Almanac of Emissions and Air Quality—2009 Edition. Chapter 4, Air Basin Trends and Forecasts—Criteria Pollutants. Website: www.arb.ca.gov/aqd/almanac/almanac09/chap409.htm. Accessed October 17, 2019.

California Air Resources Board (ARB). 2010a. 2020 Greenhouse Gas Emissions Projection and BAU Scenario Emissions Estimate. Website: http://www.arb.ca.gov/cc/inventory/archive /captrade_2010_projection.pdf. Accessed October 17, 2019.

California Air Resources Board (ARB). 2010b. Pavley 1 + Low Carbon Fuel Standard Postprocessor Version 1.0 User's Guide. Website: https://www.arb.ca.gov/cc/sb375/tools/pavleylcfs-userguide.pdf. Accessed October 17, 2019.

California Air Resources Board (ARB). 2011. Regulation for Reducing Emissions from Consumer Products. Website: https://www.arb.ca.gov/consprod/regs/2015/article_2_final_1-22-15.pdf. Accessed October 17, 2019.

California Air Resources Board (ARB). 2013a. California Air Resources Board. Ambient Air Quality Standards. Updated May 4, 2016. Website: https://ww2.arb.ca.gov/resources/california-ambient-air-quality-standards. Accessed October 17, 2019.

California Air Resources Board (ARB). 2013b. The California Almanac of Air Quality and Emissions—2013 Edition. Website: http://www.arb.ca.gov/aqd/almanac/almanac13/almanac13.htm. Accessed October 17, 2019.

California Air Resources Board (ARB). 2013c. Area Designation Maps/State and National. 2012 State Area Designations. Page last reviewed October 18, 2017. Website: www.arb.ca.gov/desig /adm/adm.htm. Accessed October 17, 2019.

California Air Resources Board (ARB). 2013d. Clean Car Standards—Pavley, Assembly Bill 1493. Website: http://www.arb.ca.gov/cc/ccms/ccms.htm. Accessed October 17, 2019.

California Air Resources Board (ARB). 2013e. Facts About the Clean Cars Program. Website: http://www.arb.ca.gov/msprog/zevprog/factsheets/advanced_clean_cars_eng.pdf. Accessed October 17, 2019.

California Air Resources Board (ARB). 2013f. Initial Statement of Reasons for Proposed Rulemaking, Proposed GHG Regulations for Medium and Heavy-Duty Engines and Vehicles. Website: https://www.arb.ca.gov/regact/2013/hdghg2013/hdghg2013isor.pdf. Accessed October 17, 2019.

California Air Resources Board (ARB). 2014a. California Greenhouse Gas Emissions for 2000 to 2012 –Trends of Emissions and Other Indicators. Website: http://www.arb.ca.gov/cc/inventory /pubs/reports/ghg_inventory_00-12_report.pdf. Accessed October 17, 2019.

California Air Resources Board (ARB). 2014b. First Update to the Climate Change Scoping Plan. Website: http://www.arb.ca.gov/cc/scopingplan/document/updatedscopingplan2013.htm. Accessed October 17, 2019.

California Air Resources Board (ARB). 2015a. On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation. Website: http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm. Accessed May 4, 2020.

California Air Resources Board (ARB). 2015b. Regulation for Reducing Emissions from Consumer Products. Website: https://www.arb.ca.gov/consprod/regs/2015/article_2_final_1-22-15.pdf. Accessed May 4, 2020.

California Air Resources Board (ARB). 2015c. Short-Lived Climate Pollutant Reduction Strategy, Concept Paper. May. Website: http://www.arb.ca.gov/cc/shortlived/concept_paper.pdf. Accessed May 4, 2020.

California Air Resources Board (ARB). 2015d. ARB Emissions Trading Program. Website: http://www.arb.ca.gov/cc/capandtrade/guidance/cap_trade_overview.pdf. Accessed May 4, 2020.

California Air Resources Board (ARB). 2015e. Low Carbon Fuel Standard Regulation. Website: http://www.arb.ca.gov/regact/2015/lcfs2015/lcfs2015.htm. Accessed May 4, 2020.

California Air Resources Board (ARB). 2015f. Acceptance of the Greenhouse Gas Quantification Determination for the Fresno Council of Governments' Regional Transportation Plan/Sustainable Communities Strategy, Resolution 15-1, January 29. Website: http://www.arb.ca.gov/cc/sb375 /fcog_final_signed_resolution_15_1.pdf. Accessed May 4, 2020.

California Air Resources Board (ARB). 2016a. Federal Standard Area Designations. Last Reviewed February 12, 2016. Website: http://www.arb.ca.gov/desig/feddesig.htm. Accessed may 4, 2020.

California Air Resources Board (ARB). 2017a. iADAM: Air Quality Data Statistics. Website: https://www.arb.ca.gov/adam/. Accessed May 4, 2020.

California Air Resources Board (ARB). 2017b. Short-Lived Climate Pollutant Reduction Strategy. March. Website: https://www.arb.ca.gov/cc/shortlived/meetings/03142017/final_slcp_report.pdf. Accessed May 4, 2020.

California Air Resources Board (ARB). 2017c. The 2017 Climate Change Scoping Plan Update, the Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target. January 17, 2017. Website: https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf. Accessed May 4, 2020.

California Air Resources Board (ARB). 2017d. California's Advanced Clean Cars Midterm Review. Website: https://ww3.arb.ca.gov/msprog/acc/mtr/acc_mtr_summaryreport.pdf. Accessed May 4, 2020.

California Air Resources Board (ARB). 2017e. Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets. Website: https://ww3.arb.ca.gov/cc/sb375/meetings/17-12-3pres.pdf. Accessed May 21, 2020.

California Air Resources Board (ARB). 2018a. California Greenhouse Inventory—Graphs. Website: https://www.arb.ca.gov/cc/inventory/data/graph/graph.htm. Accessed May 4, 2020.

California Air Resources Board (ARB). 2018b. Climate Pollutants Fall Below 1990 Levels for the First Time. Website: https://ww2.arb.ca.gov/news/climate-pollutants-fall-below-1990-levels-first-time. Accessed May 4, 2020.

California Building Standards Commission (CBSC) 2013. California Building Standards Code, California Code of Regulations Title 24, Part 11. Website: http://www.bsc.ca.gov/Home/CALGreen.aspx. Accessed May 4, 2020.

California Climate Change Center (CCCC). 2006. Our Changing Climate, Assessing the Risks to California: A Summary Report from the California Climate Change Center. July 2006. CEC-500-2006-077. Website: www.scc.ca.gov/webmaster/ftp/pdf/climate_change /assessing_risks.pdf. Accessed May 4, 2020.

California Department of Public Health (CDPH). 2018. Valley Fever Cases Continued to Increase in California in 2017. Last Updated August 18, 2018. Website: https://www.cdph.ca.gov /Programs/OPA/Pages/NR18-041.aspx. Accessed May 4, 2020.

California Department of Resources Recycling and Recovery (CalRecycle). 2016a. Countywide, Regionwide, and Statewide Jurisdiction Diversion/Disposal Progress Report06). Website https://www2.calrecycle.ca.gov/LGCentral/AnnualReporting/DiversionDisposal. Accessed May 4, 2020.

California Department of Resources Recycling and Recovery (CalRecycle). 2016b. California's 75 Percent Initiative: Defining the Future. Website: https://www.calrecycle.ca.gov/calendar /75percent. Accessed May 4, 2020.

California Department of Water Resources (CDWR). 2008. Managing an Uncertain Future, Climate Change Adaptation Strategies for California's Water. October. Website: www.water.ca.gov /climatechange/docs/ClimateChangeWhitePaper.pdf. Accessed May 4, 2020.

California Department of Water Resources (CDWR). 2013. California Water Plan Update 2013, Chapter 3 Urban Water Use Efficiency. Website: https://water.ca.gov/Programs/California-Water-Plan/Water-Plan-Updates. No longer available on the CDWR website.

California Department of Water Resources (CDWR). 2018. California Water Plan Update 2018. Website: https://water.ca.gov/Programs/California-Water-Plan/Update-2018. Accessed May 4, 2020.

California Energy Commission (CEC). 2014a. Integrated Energy Policy Report: 204 IEPR Update. Website: http://www.energy.ca.gov/2014publications/CEC-100-2014-001/CEC-100-2014-001-CMF-small.pdf. Accessed May 4, 2020.

California Energy Commission (CEC). 2014b. California Energy Commission News Release: New Title 24 Standards Will Cut Residential Energy Use by 25 Percent, Save Water, and Reduce Greenhouse Gas Emissions. No longer available on CEC website.

California Energy Commission (CEC). 2016. 2016 Building Energy Efficiency Standards Frequently Asked Questions. Website: http://www.energy.ca.gov/title24/2016standards/rulemaking/documents/2016_Building_Energy_Efficiency_Standards_FAQ.pdf. Accessed May 4, 2020.

California Energy Commission (CEC). 2018a. California Code of Regulations Title 20, Division 2, Article 4 Appliance Efficiency Regulations. Website: https://govt.westlaw.com/calregs/Browse/Home/California/CaliforniaCodeofRegulations?guid=I8F8F3BC0D44E11DEA95CA4428EC25FA0&originationContext=documenttoc&transitionType=Default&contextData=(sc.Default). Accessed May 4, 2020.

California Energy Commission (CEC). 2018b. 2019 Building Energy Efficiency Standards Frequently Asked Questions. Website: https://www.energy.ca.gov/title24/2019standards/documents/2018_Title_24_2019_Building_Standards_FAQ.pdf. Accessed May 4, 2020.

California Energy Commission (CEC). 2019. Final Staff Report 2019 California Energy Action Plan. Website: https://ww2.energy.ca.gov/business_meetings/2019_packets/2019-12-11/Item_06_2019%20California%20Energy%20Efficiency%20Action%20Plan%20(19-IEPR-06).pdf. Accessed May 18, 2020.

California Environmental Protection Agency. 2002. Office of Environmental Health Hazard Assessment. Health Effects of Diesel Exhaust. Website: http://oehha.ca.gov/media/downloads/calenviroscreen/indicators/diesel4-02.pdf. Accessed May 4, 2020. (Note: information is used in Table 1.)

California Legislative Information (California Leginfo). 2015. Senate Bill 350 Clean Energy and Pollution Reduction Act of 2015. Website: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB350. Accessed May 4, 2020.

California Legislative Information (California Leginfo). 2018. Senate Bill 100 California Renewables Portfolio Standard Program. Website: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180SB100. Accessed May 4, 2020.

California Natural Resources Agency. 2009. 2009 California Climate Adaptation Strategy. Website: http://www.climatechange.ca.gov/adaptation/strategy/index.html. Accessed May 4, 2020.

California Office of Environmental Health Hazards Assessment 2015. Air Toxics Hot Spots Program Risk Assessment Guidelines. Guidance Manual for Preparation of Health Risk Assessments. February. Website: http://oehha.ca.gov/media/downloads/crnr /2015guidancemanual.pdf. Accessed May 4, 2020.

Center for Climate and Energy Solutions (C2ES). 2015a. Outcomes of the U.N. Climate Change Conference. Website: http://www.c2es.org/international/negotiations/cop21-paris/summary. Accessed May 4, 2020.

Center for Climate and Energy Solutions (C2ES). 2015b. Multi-State Climate Initiatives. Website: http://www.c2es.org/us-states-regions/regional-climate-initiatives. Accessed May 4, 2020.

Centers for Disease Control and Prevention (CDC). 2010. Department of Health and Human Services, the National Institute for Occupational Safety and Health. Carbon Dioxide. Website: www.cdc.gov/niosh/npg/npgd0103.html. Accessed May 4, 2020.

Centers for Disease Control and Prevention (CDC). 2012. Construction—Website: www.cdc.gov /niosh/construction/. Indoor Environmental Quality—Website: www.cdc.gov/niosh/topics /indoorenv/constructionieq.html. Accessed May 4, 2020.

City of Fresno. 2014a. City of Fresno General Plan. Website: https://www.fresno.gov/darm/general-plan-development-code/. Accessed May 4, 2020.

City of Fresno. 2014b. Fresno General Plan Update, Greenhouse Gas Reduction Plan. Website: https://www.fresno.gov/darm/wp-content/uploads/sites/10/2016/11/F-2-Greenhouse-Gas-Reduction-Plan.pdf. Accessed May 4, 2020.

City of Fresno. 2014c. Master Environmental Impact Report, Fresno General Plan and Development Code Update. Website: https://www.fresno.gov/darm/wp-content/uploads/sites /10/2016/11/MEIR-Sec-00-00-Cover-and-TOC-Fresno-MEIR.pdf. Accessed May 4, 2020.

Climate Action Reserve (CAR). 2017. AB 398: California Extends Cap-and-Trade Program. Website: http://www.climateactionreserve.org/blog/2017/07/20/ab-398-california-extends-cap-and-trade-program/. Accessed May 4, 2020.

Energy and Environmental Economics. 2015. Pathways to Deep Decarbonization in the United States. Website: http://deepdecarbonization.org/wp-content/uploads/2015/11 /US_Deep_Decarbonization_Technical_Report_Exec_Summary.pdf. Accessed May 4, 2020.

Fresno Council of Governments (Fresno COG). 2013. Fresno County Regional Traffic Monitoring Report. Website: https://www.fresnocog.org/wp-content/uploads/publications/Modeling/TrafficCountReport_2007-2012.PDF. Accessed May 21, 2020.

Fresno Council of Governments (Fresno COG). 2018. Regional Transportation Plan. Website: https://www.fresnocog.org/wp-content/uploads/2017/02/2018-RTP_Chapter-1_Regional-Context_7-3-18.pdf. Accessed May 4, 2020.

Fresno Council of Governments (Fresno COG). 2019. 2015 Ozone Conformity Analysis for 2019 FTIP Amendment #3 and 2018 RTP Amendment #1. Website: https://www.fresnocog.org/wp-content/uploads/2016/04/Final-Fresno-COG-Conformity-Analysis-Dec-2018-FTIP-3-RTP-1-Amendments-Finalized-3-29-19.pdf. Accessed May 4, 2020.

Fresno County Department of Public Health. 2014. A Summary of Valley Fever in Fresno County (2014). Website: http://www.co.fresno.ca.us/home/showdocument?id=20590. Accessed May 4, 2020.

Governor's Office of Planning and Research. 2008. Technical Advisory. CEQA and Climate Change: Addressing Climate Change Through California Environmental Quality Act (CEQA) Review. Website: http://opr.ca.gov/docs/june08-ceqa.pdf. Accessed May 4, 2020.

Intergovernmental Panel on Climate Change (IPCC). 2001. Climate Change 2001: The Scientific Basis. Website: https://www.ipcc.ch/site/assets/uploads/2018/07/WG1_TAR_FM.pdf. Accessed May 4, 2020.

Intergovernmental Panel on Climate Change (IPCC). 2007a. Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller [eds.]). Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, Website: https://www.ipcc.ch /report/ar4/wg1/. Accessed May 4, 2020.

Intergovernmental Panel on Climate Change (IPCC). 2007b. Climate Change 2007: Synthesis Report. Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (Core Writing Team, Pachauri, R.K. and Reisinger, A. [eds.]). IPCC, Geneva, Switzerland. Website: https://www.ipcc.ch/report /ar4/syr/. Accessed May 4, 2020.

Intergovernmental Panel on Climate Change (IPCC). 2013. Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Website: https://www.ipcc.ch/report /ar5/wg1/. Accessed May 4, 2020.

Moser et al. 2009. Moser, Susie, Guido Franco, Sarah Pittiglio, Wendy Chou, Dan Cayan. 2009. The Future Is Now: An Update on Climate Change Science Impacts and Response Options for California. California Energy Commission, PIER Energy-Related Environmental Research Program. CEC-500-2008-071. Website: www.energy.ca.gov/2008publications/CEC-500-2008-071/CEC-500-2008-071.PDF. Accessed May 4, 2020.

National Aeronautics and Space Administration (NASA). 2015. NASA—Global Climate Change, Vital Signs of a Planet. Website: http://climate.nasa.gov/causes/. Accessed May 4, 2020.

National Toxicology Program. 2011. Thirteenth Report on Carcinogens; U.S. Department of Health and Human Services, Public Health Service. Benzene. Website: https://ntp.niehs.nih.gov /annualreport/2015/glance/roc/index.html. Accessed May 4, 2020. (Note: information is used in Table 1.)

National Toxicology Program. 2016. Report on Carcinogens, Fourteenth Edition; U.S. Department of Health and Human Services, Public Health Service. Diesel Exhaust Particles. Website: https://ntp.niehs.nih.gov/ntp/roc/content/profiles/dieselexhaustparticulates.pdf. Accessed May 4, 2020. (Note: information is used in Table 1.)

Occupational Safety and Health Administration (OSHA). 2003. United States Department of Labor. Safety and Health Topics: Methane. Website: www.osha.gov/dts/chemicalsampling /data/CH_250700.html. Accessed May 4, 2020.

San Joaquin Valley Air Pollution Control District (SJVAPCD). 2007. 2007 Ozone Plan. Website: www.valleyair.org/Air_Quality_Plans/AQ_Final_Adopted_Ozone2007.htm. Accessed May 4, 2020.

San Joaquin Valley Air Pollution Control District (SJVAPCD). 2008. Climate Action Plan. Website: http://www.valleyair.org/programs/CCAP/CCAP_menu.htm. Accessed May 4, 2020.

San Joaquin Valley Air Pollution Control District (SJVAPCD). 2009a. Guidance for Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA. Website: www.valleyair.org /programs/CCAP/11-05-09/3_CCAP_FINAL_LU_Guidance_Nov_05_2009.pdf. Accessed May 4, 2020.

San Joaquin Valley Air Pollution Control District (SJVAPCD). 2009b. "Final Staff Report, Addressing Greenhouse Gas Emissions Impacts under the California Environmental Quality Act." Website: http://www.valleyair.org/programs/CCAP/11-05-09/1_CCAP_FINAL_CEQA_GHG_Draft_Staff_Report_Nov_05_2009.pdf. December 2009. Accessed May 4, 2020.

San Joaquin Valley Air Pollution Control District (SJVAPCD). 2012. 2012 $PM_{2.5}$ Plan. Website: http://www.valleyair.org/Air_Quality_Plans/PM25Plan2012/CompletedPlanbookmarked.pdf. Accessed May 4, 2020.

San Joaquin Valley Air Pollution Control District (SJVAPCD). 2015a. Guidance for Assessing and Mitigating Air Quality Impacts. Revised March 19, 2015. Website: http://www.valleyair.org /transportation/GAMAQI_3-19-15.pdf. Accessed May 4, 2020.

San Joaquin Valley Air Pollution Control District (SJVAPCD). 2015b. 2015 Plan for the 1997 $PM_{2.5}$ Standard. Website: http://www.valleyair.org/Air_Quality_Plans/docs/PM25-2015/2015-PM2.5-Plan_Bookmarked.pdf. Accessed May 4, 2020.

San Joaquin Valley Air Pollution Control District (SJVAPCD). 2016. 2016 Plan for the 2008 8-Hour Ozone Standard. Website: http://www.valleyair.org/Air_Quality_Plans/Ozone-Plan-2016/Adopted-Plan.pdf. May 4, 2020.

San Joaquin Valley Air Pollution Control District (SJVAPCD). 2017a. Ambient Air Quality Standards & Valley Attainment Status. Website: https://www.valleyair.org/aqinfo/attainment.htm. Accessed May 4, 2020.

San Joaquin Valley Air Pollution Control District (SJVAPCD). 2017b. Adopted PM Plans. http://www.valleyair.org/Air_Quality_Plans/PM_Plans.htm. Accessed May 4, 2020.

San Joaquin Valley Air Pollution Control District. 2018a. Ozone Plans. Website: http://valleyair.org /Air_Quality_Plans/Ozone_Plans.htm. Accessed May 4, 2020.

San Joaquin Valley Air Pollution Control District. 2018b. 2018 Plan for the 1997, 2006, and 2012 PM2.5 Standards. Website: http://www.valleyair.org/pmplans/. Accessed May 4, 2020.

U. S. Geological Survey. 2000. Operational Guidelines (version 1.0) for Geological Fieldwork in Areas Endemic for Coccidioidomycosis (Valley Fever). Website: http://citeseerx.ist.psu.edu /viewdoc/download?doi=10.1.1.486.1526&rep=rep1&type=pdf. Accessed May 4, 2020.

U.S. Environmental Protection Agency (EPA). 2003. Particle Pollution and your Health. EPA-452/F-03-001. Website: https://www.epa.gov/pm-pollution. Accessed May 4, 2020. (Note: information is used in Table 1.)

U.S. Environmental Protection Agency (EPA). 2009a. Ozone and your Health. EPA-456/F-09-001. Website: http://www.epa.gov/airnow/ozone-c.pdf. Accessed May 4, 2020. (Note: information is used in Table 1.)

U.S. Environmental Protection Agency (EPA). 2009b. Fact Sheet, Proposed Revisions to the National Ambient Air Quality Standards for Nitrogen Dioxide. July 22, 2009. Website: https://www.epa.gov/no2-pollution. Accessed May 4, 2020. (Note: information is used in Table 1.)

U.S. Environmental Protection Agency (EPA). 2009c. Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act. Website: https://www.epa.gov/ghgemissions/endangerment-and-cause-or-contribute-findings-greenhouse-gases-under-clean-air-act. Accessed May 4, 2020.

U.S. Environmental Protection Agency (EPA). 2010a. Technology Transfer Network, Air Toxics Website. Page updated April 5, 2010. Health Effects Notebook for Hazardous Air Pollutants. Website: https://www.epa.gov/haps/health-effects-notebook-hazardous-air-pollutants. Accessed May 4, 2020. (Note: information is used in Table 1.)

U.S. Environmental Protection Agency (EPA). 2010b. Clean Air Act Permitting of Greenhouse Gases: Guidance and Technical Information, Fact Sheet. Website: https://www.epa.gov/sites /production/files/2015-12/documents/ghgpermittingtoolsfs.pdf. Accessed May 4, 2020.

U.S. Environmental Protection Agency (EPA). 2011a. Indoor Air Quality. Sources of Indoor Air Pollution—Organic Gases (Volatile Organic Compounds—VOCs). Website: https://www.epa.gov /indoor-air-quality-iaq/volatile-organic-compounds-impact-indoor-air-quality#Sources. Accessed May 4, 2020. (Note: data is used in Table 1.)

U.S. Environmental Protection Agency (EPA). 2011b. 2011 U.S. Greenhouse Gas Inventory Report. Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2009. EPA 430-R-11-005. Website: https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2009. Accessed May 4, 2020.

U.S. Environmental Protection Agency (EPA). 2012a. Fact Sheet, Final Revisions to the National Ambient Air Quality Standards for Nitrogen Dioxide. January 22, 2012. Website: https://www.epa.gov/no2-pollution. Accessed May 4, 2020. (Note: information is used in Table 1.)

U.S. Environmental Protection Agency (EPA). 2012b. EPA and NHTSA Set Standards to Reduce Greenhouse Gases and Improve Fuel Economy for Model Years 2017-2025 Cars and Light Trucks. Website: https://nepis.epa.gov/Exe/ZyNET.exe/P100EZ7C.TXT?ZyActionD=ZyDocument&Client=EPA&Index=2011+Thru+2015&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDay=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5Czyfiles%5CIndex%20Data%5C11thru15%5CTxt%5C00000005%5CP100EZ7C.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=hpfr&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL. Accessed May 4, 2020.

U.S. Environmental Protection Agency (EPA). 2013. Federal Register. National Ambient Air Quality Standards for Particulate Matter. Website: http://www.gpo.gov/fdsys/pkg/FR-2013-01-15/pdf/2012-30946.pdf. Accessed May 4, 2020.

U.S. Environmental Protection Agency (EPA). 2014. Clean Air Act Requirements and History. Website: https://www.epa.gov/clean-air-act-overview/clean-air-act-requirements-and-history. Accessed May 4, 2020.

U.S. Environmental Protection Agency (EPA). 2016a. Green Book Nonattainment Areas for Criteria Pollutants as of April 22, 2016. Website: https://www.epa.gov/green-book. Accessed May 4, 2020.

U.S. Environmental Protection Agency (EPA). 2016b. Final Rule for San Joaquin Valley Determination of Attainment of the 1-Hour Ozone National Ambient Air Quality Standards. Website: https://www3.epa.gov/region9/air/actions/pdf/ca/sjv/epa-r09-oar-2016-0164-sjv-1hr-o2-determin-attain-factsheet-2016-06-30.pdf. Accessed May 4, 2020.

U.S. Environmental Protection Agency (EPA). 2017. Electric Utility Generating Units: Repealing the Clean Power Plan. Website: https://www.epa.gov/stationary-sources-air-pollution/electric-utility-generating-units-repealing-clean-power-plan. Accessed May 4, 2020.

U.S. Environmental Protection Agency (EPA). 2018. Fact Sheet, Final Rule: Implementation of the 2015 National Ambient Air Quality Standards for Ozone: Nonattainment Area Classification Approach. Website: https://www.epa.gov/sites/production/files/2018-03/documents/fs-2015-ozone-implementation-03012018.pdf. Accessed May 4, 2020.

U.S. Geological Survey. 2011. Van Gosen, B.S., and Clinkenbeard, J.P. California Geological Survey Map Sheet 59. Reported Historic Asbestos Mines, Historic Asbestos Prospects, and Other Natural Occurrences of Asbestos in California. Open-File Report 2011-1188 Website: http://pubs.usgs.gov/of/2011/1188/. Accessed May 4, 2020.

Western Regional Climate Center. 2012. Recent Climate in the West. Website: http://www.wrcc.dri.edu/. Accessed May 4, 2020.

White House, The. Statement by President Trump on the Paris Climate Accord. Website: https://www.whitehouse.gov/the-press-office/2017/06/01/statement-president-trump-paris-climate-accord. Accessed May 4, 2020.

World Resources Institute (WRI). 2014. Annual Report for 2014. Website: http://www.wri.org /annualreport/2014/#around-the-world. Accessed May 4, 2020.

Appendix A: Modeling Assumptions and Results

INTENTIONALLY LEFT BLANK

Appendix A: Modeling Assumptions

Parc West Modeling Assumptions

		Ph 1			
Units	844	167	Park	Remaining Acres	Acres/Ph 2-5
Park (Acres)	1.819				
Acres (Gross)	160	31.77	1.819	126.411	31.60275
Acres (Net)					
Density (units/acre)					

	Units	Ground Up Construction Start	First Occupancy	Acres
Tract 6212	84	1/1/2021	2021	17.30
Tract 6276	83	1/1/21	2021	14.47
Phase 1 Total	**167**			**31.77**
Phase 2	169	1/1/22	**2022**	31.60
Phase 3	169	1/1/23	2023	31.60
Phase 4	169	1/1/24	2024	31.60
Phase 5	170	1/1/25	2025	31.60
Grand Total	**844**			**158.18**

Demolition	**Square Feet**
House 1	5,960
House 2	3,273
Barn	3,152
Total	**12,385**

Measured using Google Earth

PG&E Emission Factor for 2020	**MTCO2/MWh**
2020	290

PG&E Greenhouse Gas Emission Factors: Guidance for PG&E Customers November 2015

		Miles
Dry Cleaner	Sterling Cleaners, 3071 W. Shaw	4.6
Gas Station	Chevron, 4395 W. Ashlan	2.6
Auto Body Shop	Caliber Collision 4605 N. Blythe	3.3
Distance to Downtown Fresno		10

Parc West Construction Assumptions

Default Schedule Phase 1

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays
1	Site Preparation	Site Preparation	2021/01/01	2021/01/28	5	20
2	Grading	Grading	2021/01/29	2021/04/01	5	45
3	Building Construction	Building Construction	2021/04/02	2023/03/02	5	500
4	Paving	Paving	2023/03/03	2023/04/20	5	35
5	Architectural Coating	Architectural Coating	2023/04/21	2023/06/08	5	35

Project Schedule

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays
1	Site Preparation	Site Preparation	2021/01/01	2021/01/28	5	20
2	Grading	Grading	2021/01/29	2021/04/01	5	45
3	Building Construction	Building Construction	2021/04/02	2022/01/13	5	205
4	Paving	Paving	2022/01/14	2022/02/10	5	20
5	Architectural Coating	Architectural Coating	2022/02/11	2022/03/31	5	35

Default Construction Equipment List

Phase Name	Offroad Equipment Type	No. of Equip.	Usage Hours/day	Work Days Used	Hours/Phase	Horsepower	Load Factor	Fuel Use (gal)
Site Preparation	Rubber Tired Dozers	3	8	20	480	247	0.4	5,928
Site Preparation	Tractors/Loaders/Backhoes	4	8	20	640	97	0.37	3,104
Grading	Excavators	2	8	45	720	158	0.38	5,688
Grading	Graders	1	8	45	360	187	0.41	3,366
Grading	Rubber Tired Dozers	1	8	45	360	247	0.4	4,446
Grading	Scrapers	2	8	45	720	367	0.48	13,212
Grading	Tractors/Loaders/Backhoes	2	8	45	720	97	0.37	3,492
Building Construction	Cranes	1	7	500	3500	231	0.29	40,425
Building Construction	Forklifts	3	8	500	12000	89	0.2	53,400
Building Construction	Generator Sets	1	8	500	4000	84	0.74	16,800
Building Construction	Tractors/Loaders/Backhoes	3	7	500	10500	97	0.37	50,925
Building Construction	Welders	1	8	500	4000	46	0.45	9,200
Paving	Pavers	2	8	35	560	130	0.42	3,640
Paving	Paving Equipment	2	8	35	560	132	0.36	3,696
Paving	Rollers	2	8	35	560	80	0.38	2,240
Architectural Coating	Air Compressors	1	6	35	210	78	0.48	819
								220,381
Fuel Use Factor (SCAQMD	0.05 gal/bhp-hr				**39890**			

Phase 1 Revised Construction Assumptions

Phase Name	Offroad Equipment Type	No. of Equip.	Usage Hours/day	Work Days from Defaults	Work Days from Schedule	Adjusted Equipment Numbers	Revised Hours/Phase
Site Preparation	Rubber Tired Dozers	3	8	20	20	3	480
Site Preparation	Tractors/Loaders/Backhoes	4	8	20	20	4	640
Grading	Excavators	2	8	45	45	2	720
Grading	Graders	1	8	45	45	1	360
Grading	Rubber Tired Dozers	1	8	45	45	1	360
Grading	Scrapers	2	8	45	45	2	720
Grading	Tractors/Loaders/Backhoes	2	8	45	45	2	720
Building Construction	Cranes	1	7	500	205	2	3500
Building Construction	Forklifts	3	8	500	205	7	12000
Building Construction	Generator Sets	1	8	500	205	2	4000
Building Construction	Tractors/Loaders/Backhoes	3	7	500	205	7	10500
Building Construction	Welders	1	8	500	205	2	4000
Paving	Pavers	2	8	35	20	4	560
Paving	Paving Equipment	2	8	35	20	4	560
Paving	Rollers	2	8	35	20	4	560
Architectural Coating	Air Compressors	1	6	35	35	1	210
							39890

Building construction equipment increased to retain default hours with shorter schedule
Paving days reduced to reflect time required for similar projects with equipment amounts retained.

Default Schedule Phase 2

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays
1	Demolition	Demolition	2022/01/01	2022/01/07	5	5
2	Site Preparation	Site Preparation	2022/01/08	2022/02/04	5	20
3	Grading	Grading	2022/02/05	2022/04/08	5	45
4	Building Construction	Building Construction	2022/04/09	2024/03/08	5	500
5	Paving	Paving	2024/03/09	2024/04/26	5	35
6	Architectural Coating	Architectural Coating	2024/04/27	2024/06/14	5	35

Project Schedule

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays
1	Demolition	Demolition	2022/01/01	2022/01/07	5	5
2	Site Preparation	Site Preparation	2022/01/08	2022/02/04	5	20
3	Grading	Grading	2022/02/05	2022/04/08	5	45
4	Building Construction	Building Construction	2022/04/09	2023/01/13	5	200
5	Paving	Paving	2023/01/14	2023/02/10	5	20
6	Architectural Coating	Architectural Coating	2023/02/11	2023/03/31	5	35

Default Construction Equipment List

Phase Name	Offroad Equipment Type	No. of Equip.	Usage Hours/day	Work Days Used	Hours/Phase	Horsepower	Load Factor	Fuel Use (gal)
Demolition	Concrete/Industrial Saws	1	8	5	40	81	0.73	162
Demolition	Excavators	3	8	5	120	158	0.38	948
Demolition	Rubber Tired Dozers	2	8	5	80	247	0.4	988
Site Preparation	Rubber Tired Dozers	3	8	20	480	247	0.4	5,928
Site Preparation	Tractors/Loaders/Backhoes	4	8	20	640	97	0.37	3,104
Grading	Excavators	2	8	45	720	158	0.38	5,688
Grading	Graders	1	8	45	360	187	0.41	3,366
Grading	Rubber Tired Dozers	1	8	45	360	247	0.4	4,446
Grading	Scrapers	2	8	45	720	367	0.48	13,212
Grading	Tractors/Loaders/Backhoes	2	8	45	720	97	0.37	3,492
Building Construction	Cranes	1	7	500	3500	231	0.29	40,425
Building Construction	Forklifts	3	8	500	12000	89	0.2	53,400
Building Construction	Generator Sets	1	8	500	4000	84	0.74	16,800
Building Construction	Tractors/Loaders/Backhoes	3	7	500	10500	97	0.37	50,925
Building Construction	Welders	1	8	500	4000	46	0.45	9,200
Paving	Pavers	2	8	35	560	130	0.42	3,640
Paving	Paving Equipment	2	8	35	560	132	0.36	3,696
Paving	Rollers	2	8	35	560	80	0.38	2,240
Architectural Coating	Air Compressors	1	6	35	210	78	0.48	819
					40130			**222,479**

Phase 2 Revised Construction Assumptions

Phase Name	Offroad Equipment Type	No. of Equip.	Usage Hours/day	Work Days from Defaults	Work Days from Schedule	Adjusted Equipment Numbers	Revised Hours/Phase
Demolition	Concrete/Industrial Saws	1	8	5	5	1	40
Demolition	Excavators	3	8	5	5	1	40
Demolition	Rubber Tired Dozers	2	8	5	5	1	40
Site Preparation	Rubber Tired Dozers	3	8	20	20	3	480
Site Preparation	Tractors/Loaders/Backhoes	4	8	20	20	4	640
Grading	Excavators	2	8	45	45	2	720
Grading	Graders	1	8	45	45	1	360
Grading	Rubber Tired Dozers	1	8	45	45	1	360
Grading	Scrapers	2	8	45	45	2	720
Grading	Tractors/Loaders/Backhoes	2	8	45	45	2	720
Building Construction	Cranes	1	7	500	200	3	3500
Building Construction	Forklifts	3	8	500	200	8	12000
Building Construction	Generator Sets	1	8	500	200	3	4000
Building Construction	Tractors/Loaders/Backhoes	3	7	500	200	8	10500
Building Construction	Welders	1	8	500	200	3	4000
Paving	Pavers	2	8	35	20	4	560
Paving	Paving Equipment	2	8	35	20	4	560
Paving	Rollers	2	8	35	20	4	560
Architectural Coating	Air Compressors	1	6	35	35	1	210
							40010

Demolition days reduced to reflect limited number of structures to be removed
Building construction equipment increased to retain default hours with shorter schedule
Paving days reduced to reflect time required for similar projects with equipment amounts retained.

Default Schedule Phase 3

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays
1	Site Preparation	Site Preparation	2023/01/01	2023/01/27	5	20
2	Grading	Grading	2023/01/28	2023/03/31	5	45
3	Building Construction	Building Construction	2023/04/01	2025/02/28	5	500
4	Paving	Paving	2025/03/01	2025/04/18	5	35
5	Architectural Coating	Architectural Coating	2025/04/19	2025/06/06	5	35

Project Schedule

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays
1	Site Preparation	Site Preparation	2023/01/01	2023/01/27	5	20
2	Grading	Grading	2023/01/28	2023/03/31	5	45
3	Building Construction	Building Construction	2023/04/01	2024/01/05	5	200
4	Paving	Paving	2024/01/06	2024/02/02	5	20
5	Architectural Coating	Architectural Coating	2024/02/03	2024/03/22	5	35

Default Construction Equipment List

Phase Name	Offroad Equipment Type	No. of Equip.	Usage Hours/day	Work Days Used	Hours/Phase	Horsepower	Load Factor	Fuel Use (gal)
Site Preparation	Rubber Tired Dozers	3	8	20	480	247	0.4	5,928
Site Preparation	Tractors/Loaders/Backhoes	4	8	20	640	97	0.37	3,104
Grading	Excavators	2	8	45	720	158	0.38	5,688
Grading	Graders	1	8	45	360	187	0.41	3,366
Grading	Rubber Tired Dozers	1	8	45	360	247	0.4	4,446
Grading	Scrapers	2	8	45	720	367	0.48	13,212
Grading	Tractors/Loaders/Backhoes	2	8	45	720	97	0.37	3,492
Building Construction	Cranes	1	7	500	3500	231	0.29	40,425
Building Construction	Forklifts	3	8	500	12000	89	0.2	53,400
Building Construction	Generator Sets	1	8	500	4000	84	0.74	16,800
Building Construction	Tractors/Loaders/Backhoes	3	7	500	10500	97	0.37	50,925
Building Construction	Welders	1	8	500	4000	46	0.45	9,200
Paving	Pavers	2	8	35	560	130	0.42	3,640
Paving	Paving Equipment	2	8	35	560	132	0.36	3,696
Paving	Rollers	2	8	35	560	80	0.38	2,240
Architectural Coating	Air Compressors	1	6	35	210	78	0.48	819
					39890			220,381

Phase 3 Revised Construction Assumptions

Phase Name	Offroad Equipment Type	No. of Equip.	Usage Hours/day	Work Days from Defaults	Work Days from Schedule	Adjusted Equipment Numbers	Revised Hours/Phase
Site Preparation	Rubber Tired Dozers	3	8	20	20	3	480
Site Preparation	Tractors/Loaders/Backhoes	4	8	20	20	4	640
Grading	Excavators	2	8	45	45	2	720
Grading	Graders	1	8	45	45	1	360
Grading	Rubber Tired Dozers	1	8	45	45	1	360
Grading	Scrapers	2	8	45	45	2	720
Grading	Tractors/Loaders/Backhoes	2	8	45	45	2	720
Building Construction	Cranes	1	7	500	200	3	3500
Building Construction	Forklifts	3	8	500	200	8	12000
Building Construction	Generator Sets	1	8	500	200	3	4000
Building Construction	Tractors/Loaders/Backhoes	3	7	500	200	8	10500
Building Construction	Welders	1	8	500	200	3	4000
Paving	Pavers	2	8	35	20	4	560
Paving	Paving Equipment	2	8	35	20	4	560
Paving	Rollers	2	8	35	20	4	560
Architectural Coating	Air Compressors	1	6	35	35	1	210
							39890

Building construction equipment increased to retain default hours with shorter schedule
Paving days reduced to reflect time required for similar projects with equipment amounts retained.

Default Schedule Phase 4

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays
1	Site Preparation	Site Preparation	2024/01/01	2024/01/26	5	20
2	Grading	Grading	2024/01/27	2024/03/29	5	45
3	Building Construction	Building Construction	2024/03/30	2026/02/27	5	500
4	Paving	Paving	2026/02/28	2026/04/17	5	35
5	Architectural Coating	Architectural Coating	2026/04/18	2026/06/05	5	35

Project Schedule

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays
1	Site Preparation	Site Preparation	2024/01/01	2024/01/12	5	10
2	Grading	Grading	2024/01/13	2024/02/23	5	30
3	Building Construction	Building Construction	2024/02/24	2024/11/19	5	192
4	Paving	Paving	2024/11/20	2024/12/03	5	10
5	Architectural Coating	Architectural Coating	2024/12/04	2024/12/31	5	20

Default Construction Equipment List

Phase Name	Offroad Equipment Type	No. of Equip.	Usage Hours/day	Work Days Used	Hours/Phase	Horsepower	Load Factor	Fuel Use (gal)
Site Preparation	Rubber Tired Dozers	3	8	20	480	247	0.4	5,928
Site Preparation	Tractors/Loaders/Backhoes	4	8	20	640	97	0.37	3,104
Grading	Excavators	2	8	45	720	158	0.38	5,688
Grading	Graders	1	8	45	360	187	0.41	3,366
Grading	Rubber Tired Dozers	1	8	45	360	247	0.4	4,446
Grading	Scrapers	2	8	45	720	367	0.48	13,212
Grading	Tractors/Loaders/Backhoes	2	8	45	720	97	0.37	3,492
Building Construction	Cranes	1	7	500	3500	231	0.29	40,425
Building Construction	Forklifts	3	8	500	12000	89	0.2	53,400
Building Construction	Generator Sets	1	8	500	4000	84	0.74	16,800
Building Construction	Tractors/Loaders/Backhoes	3	7	500	10500	97	0.37	50,925
Building Construction	Welders	1	8	500	4000	46	0.45	9,200
Paving	Pavers	2	8	35	560	130	0.42	3,640
Paving	Paving Equipment	2	8	35	560	132	0.36	3,696
Paving	Rollers	2	8	35	560	80	0.38	2,240
Architectural Coating	Air Compressors	1	6	35	210	78	0.48	819
					39890			220,381

Phase 4 Revised Construction Assumptions

Phase Name	Offroad Equipment Type	No. of Equip.	Usage Hours/day	Work Days from Defaults	Work Days from Schedule	Adjusted Equipment Numbers	Revised Hours/Phase
Site Preparation	Rubber Tired Dozers	3	8	20	20	3	480
Site Preparation	Tractors/Loaders/Backhoes	4	8	20	20	4	640
Grading	Excavators	2	8	45	45	2	720
Grading	Graders	1	8	45	45	1	360
Grading	Rubber Tired Dozers	1	8	45	45	1	360
Grading	Scrapers	2	8	45	45	2	720
Grading	Tractors/Loaders/Backhoes	2	8	45	45	2	720
Building Construction	Cranes	1	7	500	200	3	3500
Building Construction	Forklifts	3	8	500	200	8	12000
Building Construction	Generator Sets	1	8	500	200	3	4000
Building Construction	Tractors/Loaders/Backhoes	3	7	500	200	8	10500
Building Construction	Welders	1	8	500	200	3	4000
Paving	Pavers	2	8	35	20	4	560
Paving	Paving Equipment	2	8	35	20	4	560
Paving	Rollers	2	8	35	20	4	560
Architectural Coating	Air Compressors	1	6	35	35	1	210
							39890

Building construction equipment increased to retain default hours with shorter schedule
Paving days reduced to reflect time required for similar projects with equipment amounts retained.

Default Schedule Phase 5

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays
1	Site Preparation	Site Preparation	2025/01/01	2025/01/28	5	20
2	Grading	Grading	2025/01/29	2025/04/01	5	45
3	Building Construction	Building Construction	2025/04/02	2027/03/02	5	500
4	Paving	Paving	2027/03/03	2027/04/20	5	35
5	Architectural Coating	Architectural Coating	2027/04/21	2027/06/08	5	35

Project Schedule

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays
1	Site Preparation	Site Preparation	2025/01/01	2025/01/14	5	10
2	Grading	Grading	2025/01/15	2025/02/25	5	30
3	Building Construction	Building Construction	2025/02/26	2025/11/19	5	191
4	Paving	Paving	2025/11/20	2025/12/03	5	10
5	Architectural Coating	Architectural Coating	2025/12/04	2025/12/31	5	20

Default Construction Equipment List

Phase Name	Offroad Equipment Type	No. of Equip.	Usage Hours/day	Work Days Used	Hours/Phase	Horsepower	Load Factor	Fuel Use (gal)
Site Preparation	Rubber Tired Dozers	3	8	20	480	247	0.4	5,928
Site Preparation	Tractors/Loaders/Backhoes	4	8	20	640	97	0.37	3,104
Grading	Excavators	2	8	45	720	158	0.38	5,688
Grading	Graders	1	8	45	360	187	0.41	3,366
Grading	Rubber Tired Dozers	1	8	45	360	247	0.4	4,446
Grading	Scrapers	2	8	45	720	367	0.48	13,212
Grading	Tractors/Loaders/Backhoes	2	8	45	720	97	0.37	3,492
Building Construction	Cranes	1	7	500	3500	231	0.29	40,425
Building Construction	Forklifts	3	8	500	12000	89	0.2	53,400
Building Construction	Generator Sets	1	8	500	4000	84	0.74	16,800
Building Construction	Tractors/Loaders/Backhoes	3	7	500	10500	97	0.37	50,925
Building Construction	Welders	1	8	500	4000	46	0.45	9,200
Paving	Pavers	2	8	35	560	130	0.42	3,640
Paving	Paving Equipment	2	8	35	560	132	0.36	3,696
Paving	Rollers	2	8	35	560	80	0.38	2,240
Architectural Coating	Air Compressors	1	6	35	210	78	0.48	819
					39890			220,381

Phase 5 Revised Construction Assumptions

Phase Name	Offroad Equipment Type	No. of Equip.	Usage Hours/day	Work Days from Defaults	Work Days from Schedule	Adjusted Equipment Numbers	Revised Hours/Phase
Site Preparation	Rubber Tired Dozers	3	8	20	20	3	480
Site Preparation	Tractors/Loaders/Backhoes	4	8	20	20	4	640
Grading	Excavators	2	8	45	45	2	720
Grading	Graders	1	8	45	45	1	360
Grading	Rubber Tired Dozers	1	8	45	45	1	360
Grading	Scrapers	2	8	45	45	2	720
Grading	Tractors/Loaders/Backhoes	2	8	45	45	2	720
Building Construction	Cranes	1	7	500	200	3	3500
Building Construction	Forklifts	3	8	500	200	8	12000
Building Construction	Generator Sets	1	8	500	200	3	4000
Building Construction	Tractors/Loaders/Backhoes	3	7	500	200	8	10500
Building Construction	Welders	1	8	500	200	3	4000
Paving	Pavers	2	8	35	20	4	560
Paving	Paving Equipment	2	8	35	20	4	560
Paving	Rollers	2	8	35	20	4	560
Architectural Coating	Air Compressors	1	6	35	35	1	210
							39890

Building construction equipment increased to retain default hours with shorter schedule
Paving days reduced to reflect time required for similar projects with equipment amounts retained.

Appendix A: Energy Analysis Assumptions and Calculations

Energy Analysis

Construction

Fuel Use	**Gallons**	**Hours**
Phase 1	220,381	39,890
Phase 2	222,479	40,130
Phase 3	220,381	39,890
Phase 4	220,381	39,890
Phase 5	220,381	39,890
Total	**1,104,003**	**199,690**

Construction VMT Fuel Use

Phase 1	**Days/Phase**	**Worker Trips/day**	**Worker Trips/Phase**	**Vendor Trips/day**	**Vendor Trips/Phase**	**Hauling Trips/day**	**Hauling Trips/Phase**	**Worker Trip Length**	**Vendor Trip Length**	**Hauling Trip Length**
Site Preparation	20	18	360	0	0	0	0	10.8	7.3	20
Grading	45	20	900	0	0	0	0			
Building Construction	205	60	12300	18	306	0	0			
Paving	20	15	300	0	0	0	0			
Architecture	35	12	420	0	0	0	0			
Totals		**125**	**14280**	**18**	**306**	**0**	**0**			
								Total		
VMT/Year			154,224		3,305		0	**157,529**		

Phase 2	Days/Phase	Worker Trips/day	Worker Trips/Phase	Vendor Trips/day	Vendor Trips/Phase	Hauling Trips/day	Hauling Trips/Phase	Worker Trip Length	Vendor Trip Length	Hauling Trip Length
Demolition	5	15	75	0	0	0	0	10.8	7.3	20
Site Preparation	20	18	360	0	0	0	0			
Grading	45	20	900	0	0	0	0			
Building Construction	205	61	12505	18	306	0	0			
Paving	20	15	300	0	0	0	0			
Architecture	35	12	420	0	0	0	0			
Totals		**126**	**14485**	**18**	**306**	**0**	**0**			
								Total		
VMT/Year			156,438		3,305		0	**159,743**		

Phase 3	Days/Phase	Worker Trips/day	Worker Trips/Phase	Vendor Trips/day	Vendor Trips/Phase	Hauling Trips/day	Hauling Trips/Phase	Worker Trip Length	Vendor Trip Length	Hauling Trip Length
Site Preparation	20	18	360	0	0	0	0	10.8	7.3	20
Grading	45	20	900	0	0	0	0			
Building Construction	200	61	12200	18	306	0	0			
Paving	20	15	300	0	0	0	0			
Architecture	35	12	420	0	0	0	0			
Totals		**126**	**14180**	**18**	**306**	**0**	**0**			
								Total		
VMT/Year			153,144		3,305		0	**156,449**		

Phase 4	Days/Phase	Worker Trips/day	Worker Trips/Phase	Vendor Trips/day	Vendor Trips/Phase	Hauling Trips/day	Hauling Trips/Phase	Worker Trip Length	Vendor Trip Length	Hauling Trip Length
Site Preparation	20	18	360	0	0	0	0	10.8	7.3	20
Grading	45	20	900	0	0	0	0			
Building Construction	200	61	12200	18	306	0	0			
Paving	20	15	300	0	0	0	0			
Architecture	35	12	420	0	0	0	0			
Totals		**126**	**14180**	**18**	**306**	**0**	**0**			
								Total		
VMT/Year			153,144		3,305		0	**156,449**		

Phase 5	Days/Phase	Worker Trips/day	Worker Trips/Phase	Vendor Trips/day	Vendor Trips/Phase	Hauling Trips/day	Hauling Trips/Phase	Worker Trip Length	Vendor Trip Length	Hauling Trip Length
Site Preparation	20	18	360	0	0	0	0	10.8	7.3	20
Grading	45	20	900	0	0	0	0			
Building Construction	200	61	12200	18	306	0	0			
Paving	20	15	300	0	0	0	0			
Architecture	35	12	420	0	0	0	0			
Totals		**126**	**14180**	**18**	**306**	**0**	**0**			
								Total		
VMT/Year			153,144		3,305		0	**156,449**		

Total VMT All Phases	Worker	Vendor	Total
Phase 1	154,224	3,305	157,529
Phase 2	156,438	3,305	159,743
Phase 3	153,144	3,305	156,449
Phase 4	153,144	3,305	156,449
Phase 5	153,144	3,305	156,449
Total	**770,094**	**16,524**	**786,618**

Vender Truck MPG	8.29	
Vender Fuel Use (gal)	1,993	All Fuels
Worker Vehicles MPG	30.7	
Worker Fuel Use (gal)	25,076.3	All Fuels
Total	27,069.6	

Operational VMT	**VMT/Year**	
Buildout 2025	21,848,042	
Residential MPG	29.75	
Fuel Use	734,388	All Fuels

Electricity Usage

	kWh/yr
Electricity Use	7,335,230

Water Usage

	Mgal/yr	**Intensity Factor Supply (kWhr/Mgal)**	**Intensity Factor Treat (kWhr/Mgal)**	**Intensity Factor Distribute (kWhr/Mgal)**	**Intensity Factor WW Treatment (kWhr/Mgal)**	**Total Intensity (kWhr/Mgal)**	**Electricity Usage kWh/Yr.**
Indoor Water Usage	43.992	2,117	111	1,272	1,911	5,411	238,041
Outdoor Water Usage	27.7341	2,117	111	1,272		3,500	97,069
	71.7261						**335,110**

	kBTU/yr
Natural Gas Usage	20,741,900

EMFAC2017 (v1.0.2) Emissions Inventory

Region Type: County
Region: FRESNO
Calendar Year: 2025
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption. Note 'day' in the unit is operation day.

Region	alendar Ye	hicle Categ	Model Year	Speed	Fuel	Population	VMT	Trips	Fuel Consumption
FRESNO	2025	All Other B	Aggregated	Aggregated	DSL	189	11,330	1,586	1.14
FRESNO	2025	LDA	Aggregated	Aggregated	GAS	402,342	14,870,530	1,893,082	433.61
FRESNO	2025	LDA	Aggregated	Aggregated	DSL	3,827	151,390	18,314	2.70
FRESNO	2025	LDA	Aggregated	Aggregated	ELEC	11,574	493,328	57,214	0.00
FRESNO	2025	LDT1	Aggregated	Aggregated	GAS	42,206	1,442,553	191,841	49.75
FRESNO	2025	LDT1	Aggregated	Aggregated	DSL	20	303	64	0.01
FRESNO	2025	LDT1	Aggregated	Aggregated	ELEC	480	21,699	2,417	0.00
FRESNO	2025	LDT2	Aggregated	Aggregated	GAS	137,851	4,825,387	635,369	176.87
FRESNO	2025	LDT2	Aggregated	Aggregated	DSL	859	34,717	4,182	0.83
FRESNO	2025	LDT2	Aggregated	Aggregated	ELEC	2,008	61,699	10,062	0.00
FRESNO	2025	LHD1	Aggregated	Aggregated	GAS	9,788	320,660	145,830	37.06
FRESNO	2025	LHD1	Aggregated	Aggregated	DSL	10,240	335,868	128,810	18.11
FRESNO	2025	LHD2	Aggregated	Aggregated	GAS	1,674	52,534	24,947	7.02
FRESNO	2025	LHD2	Aggregated	Aggregated	DSL	3,658	120,967	46,008	7.31
FRESNO	2025	MCY	Aggregated	Aggregated	GAS	18,838	142,269	37,677	3.76
FRESNO	2025	MDV	Aggregated	Aggregated	GAS	117,788	3,718,220	529,815	171.73
FRESNO	2025	MDV	Aggregated	Aggregated	DSL	2,683	100,085	12,740	3.33
FRESNO	2025	MDV	Aggregated	Aggregated	ELEC	1,268	39,871	6,401	0.00
FRESNO	2025	MH	Aggregated	Aggregated	GAS	1,557	13,885	156	2.76
FRESNO	2025	MH	Aggregated	Aggregated	DSL	739	6,180	74	0.61
FRESNO	2025	Motor Coa	Aggregated	Aggregated	DSL	63	8,323	916	1.24
FRESNO	2025	OBUS	Aggregated	Aggregated	GAS	311	14,751	6,213	3.00
FRESNO	2025	PTO	Aggregated	Aggregated	DSL	0	15,963	0	2.97
FRESNO	2025	SBUS	Aggregated	Aggregated	GAS	95	5,086	380	0.52
FRESNO	2025	SBUS	Aggregated	Aggregated	DSL	1,077	33,451	12,427	4.11

FRESNO	2025	T6 Ag	Aggregated	Aggregated	DSL	65	623	285	0.07
FRESNO	2025	T6 CAIRP h	Aggregated	Aggregated	DSL	168	31,496	2,458	2.56
FRESNO	2025	T6 CAIRP sr	Aggregated	Aggregated	DSL	89	4,392	1,296	0.39
FRESNO	2025	T6 instate c	Aggregated	Aggregated	DSL	627	39,847	2,834	4.57
FRESNO	2025	T6 instate c	Aggregated	Aggregated	DSL	2,403	128,717	10,863	14.57
FRESNO	2025	T6 instate h	Aggregated	Aggregated	DSL	1,983	237,289	22,879	22.14
FRESNO	2025	T6 instate s	Aggregated	Aggregated	DSL	4,567	231,250	52,707	22.21
FRESNO	2025	T6 OOS hea	Aggregated	Aggregated	DSL	96	18,030	1,407	1.47
FRESNO	2025	T6 OOS sm	Aggregated	Aggregated	DSL	52	2,573	762	0.23
FRESNO	2025	T6 Public	Aggregated	Aggregated	DSL	459	6,943	1,393	0.94
FRESNO	2025	T6 utility	Aggregated	Aggregated	DSL	115	1,916	1,324	0.20
FRESNO	2025	T6TS	Aggregated	Aggregated	GAS	918	53,049	18,359	10.50
FRESNO	2025	T7 Ag	Aggregated	Aggregated	DSL	73	760	322	0.13
FRESNO	2025	T7 CAIRP	Aggregated	Aggregated	DSL	2,749	504,699	40,130	69.15
FRESNO	2025	T7 CAIRP co	Aggregated	Aggregated	DSL	157	28,622	708	4.56
FRESNO	2025	T7 NNOOS	Aggregated	Aggregated	DSL	3,232	615,235	47,183	79.26
FRESNO	2025	T7 NOOS	Aggregated	Aggregated	DSL	1,095	198,301	15,986	27.89
FRESNO	2025	T7 other po	Aggregated	Aggregated	DSL	55	9,878	421	1.55
FRESNO	2025	T7 POAK	Aggregated	Aggregated	DSL	303	40,436	2,303	6.62
FRESNO	2025	T7 POLA	Aggregated	Aggregated	DSL	292	41,019	2,216	6.80
FRESNO	2025	T7 Public	Aggregated	Aggregated	DSL	920	18,619	2,792	3.14
FRESNO	2025	T7 Single	Aggregated	Aggregated	DSL	1,148	80,392	13,242	11.72
FRESNO	2025	T7 single co	Aggregated	Aggregated	DSL	1,015	71,007	4,588	12.13
FRESNO	2025	T7 SWCV	Aggregated	Aggregated	DSL	399	16,261	1,554	6.33
FRESNO	2025	T7 SWCV	Aggregated	Aggregated	NG	62	2,524	241	1.06
FRESNO	2025	T7 tractor	Aggregated	Aggregated	DSL	5,798	742,228	73,632	92.09
FRESNO	2025	T7 tractor c	Aggregated	Aggregated	DSL	863	58,574	3,902	10.09
FRESNO	2025	T7 utility	Aggregated	Aggregated	DSL	37	747	423	0.12
FRESNO	2025	T7IS	Aggregated	Aggregated	GAS	3	503	68	0.12
FRESNO	2025	UBUS	Aggregated	Aggregated	GAS	83	7,145	331	1.53
FRESNO	2025	UBUS	Aggregated	Aggregated	DSL	25	2,668	100	0.35
FRESNO	2025	UBUS	Aggregated	Aggregated	NG	122	13,685	490	3.13
							30,050,476		1,346
									1,346,059
Overall Fuel Economy All Fuels						MPG	22.32		

Truck Only Fleet Average Fuel Economy

FRESNO	2025	LHD1	Aggregated	Aggregated	GAS	9,788	320,660	145,830	37.06
FRESNO	2025	LHD1	Aggregated	Aggregated	DSL	10,240	335,868	128,810	18.11
FRESNO	2025	LHD2	Aggregated	Aggregated	GAS	1,674	52,534	24,947	7.02
FRESNO	2025	LHD2	Aggregated	Aggregated	DSL	3,658	120,967	46,008	7.31
FRESNO	2025	T6 Ag	Aggregated	Aggregated	DSL	65	623	285	0.07
FRESNO	2025	T6 CAIRP h	Aggregated	Aggregated	DSL	168	31,496	2,458	2.56
FRESNO	2025	T6 CAIRP sr	Aggregated	Aggregated	DSL	89	4,392	1,296	0.39
FRESNO	2025	T6 instate c	Aggregated	Aggregated	DSL	627	39,847	2,834	4.57
FRESNO	2025	T6 instate c	Aggregated	Aggregated	DSL	2,403	128,717	10,863	14.57
FRESNO	2025	T6 instate h	Aggregated	Aggregated	DSL	1,983	237,289	22,879	22.14
FRESNO	2025	T6 instate s	Aggregated	Aggregated	DSL	4,567	231,250	52,707	22.21
FRESNO	2025	T6 OOS hea	Aggregated	Aggregated	DSL	96	18,030	1,407	1.47
FRESNO	2025	T6 OOS sm	Aggregated	Aggregated	DSL	52	2,573	762	0.23
FRESNO	2025	T6 Public	Aggregated	Aggregated	DSL	459	6,943	1,393	0.94
FRESNO	2025	T6 utility	Aggregated	Aggregated	DSL	115	1,916	1,324	0.20
FRESNO	2025	T6TS	Aggregated	Aggregated	GAS	918	53,049	18,359	10.50
FRESNO	2025	T7 Ag	Aggregated	Aggregated	DSL	73	760	322	0.13
FRESNO	2025	T7 CAIRP	Aggregated	Aggregated	DSL	2,749	504,699	40,130	69.15
FRESNO	2025	T7 CAIRP cc	Aggregated	Aggregated	DSL	157	28,622	708	4.56
FRESNO	2025	T7 NNOOS	Aggregated	Aggregated	DSL	3,232	615,235	47,183	79.26
FRESNO	2025	T7 NOOS	Aggregated	Aggregated	DSL	1,095	198,301	15,986	27.89
FRESNO	2025	T7 other pc	Aggregated	Aggregated	DSL	55	9,878	421	1.55
FRESNO	2025	T7 POAK	Aggregated	Aggregated	DSL	303	40,436	2,303	6.62
FRESNO	2025	T7 POLA	Aggregated	Aggregated	DSL	292	41,019	2,216	6.80
FRESNO	2025	T7 Public	Aggregated	Aggregated	DSL	920	18,619	2,792	3.14
FRESNO	2025	T7 Single	Aggregated	Aggregated	DSL	1,148	80,392	13,242	11.72
FRESNO	2025	T7 single cc	Aggregated	Aggregated	DSL	1,015	71,007	4,588	12.13
FRESNO	2025	T7 SWCV	Aggregated	Aggregated	DSL	399	16,261	1,554	6.33
FRESNO	2025	T7 SWCV	Aggregated	Aggregated	NG	62	2,524	241	1.06
FRESNO	2025	T7 tractor	Aggregated	Aggregated	DSL	5,798	742,228	73,632	92.09
FRESNO	2025	T7 tractor c	Aggregated	Aggregated	DSL	863	58,574	3,902	10.09
FRESNO	2025	T7 utility	Aggregated	Aggregated	DSL	37	747	423	0.12
FRESNO	2025	T7IS	Aggregated	Aggregated	GAS	3	503	68	0.12

FRESNO	2025	UBUS	Aggregated	Aggregated	GAS	83	7,145	331	1.53
FRESNO	2025	UBUS	Aggregated	Aggregated	DSL	25	2,668	100	0.35
FRESNO	2025	UBUS	Aggregated	Aggregated	NG	122	13,685	490	3.13
							4,039,456		487.11
Truck Fleet Fuel Efficiency						MPG	8.29		487,109

Passenger Car and Light Truck Fleet Efficiency

FRESNO	2025	LDA	Aggregated	Aggregated	GAS	402,342	14,870,530	1,893,082	433.61
FRESNO	2025	LDA	Aggregated	Aggregated	DSL	3,827	151,390	18,314	2.70
FRESNO	2025	LDA	Aggregated	Aggregated	ELEC	11,574	493,328	57,214	0.00
FRESNO	2025	LDT1	Aggregated	Aggregated	GAS	42,206	1,442,553	191,841	49.75
FRESNO	2025	LDT1	Aggregated	Aggregated	DSL	20	303	64	0.01
FRESNO	2025	LDT1	Aggregated	Aggregated	ELEC	480	21,699	2,417	0.00
FRESNO	2025	LDT2	Aggregated	Aggregated	GAS	137,851	4,825,387	635,369	176.87
FRESNO	2025	LDT2	Aggregated	Aggregated	DSL	859	34,717	4,182	0.83
FRESNO	2025	LDT2	Aggregated	Aggregated	ELEC	2,008	61,699	10,062	0.00
FRESNO	2025	MDV	Aggregated	Aggregated	GAS	117,788	3,718,220	529,815	171.73
FRESNO	2025	MDV	Aggregated	Aggregated	DSL	2,683	100,085	12,740	3.33
FRESNO	2025	MDV	Aggregated	Aggregated	ELEC	1,268	39,871	6,401	0.00
							25,759,782		838.83
									838,834
Passenger Car and Light Truck Fleet Efficiency						MPG	30.71		

Residential Fleet Mix Average Fuel Efficiency

FleetMixLa	LDA	LDT1	LDT2	MDV	Fraction	LHD1	LHD2	MHD	HHD	Fraction
Single Fami	0.5244	0.212	0.1677	0.0563	0.9604	0.0008	0.0009	0.0076	0.0212	0.0305
MPG					30.71					8.29
Weighted Average		29.75			29.49					0.25

Appendix A: Emissions Summary

Emission Summary

			Tons per Year				
Construction Emissions (Unmitigated Annual)	**ROG**	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**	**PM2.5 Ex**
Phase 1 2021	**0.57**	**5.36**	**4.66**	**0.01**	**0.50**	**0.35**	**0.25**
Phase 1 2022	1.27	0.41	0.50	0.00	0.03	0.02	0.02
Phase 2 2022	0.61	5.65	5.42	0.01	0.51	0.35	0.25
	1.87	**6.06**	**5.92**	**0.01**	**0.53**	**0.37**	**0.27**
Phase 2 2023	1.29	0.44	0.57	0.00	0.03	0.02	0.02
Phase 3 2023	0.56	5.19	5.42	0.01	0.47	0.32	0.22
	1.85	**5.63**	**5.99**	**0.01**	**0.50**	**0.34**	**0.24**
Phase 3 2024	1.27	0.31	0.45	0.00	0.02	0.02	0.01
Phase 4 2024	0.54	4.92	5.43	0.01	0.45	0.30	0.20
	1.81	**5.23**	**5.88**	**0.01**	**0.47**	**0.31**	**0.21**
Phase 4 2025	1.27	0.25	0.40	0.00	0.02	0.01	0.01
Phase 5 2025	0.25	2.26	2.49	0.01	0.32	0.18	0.08
	1.51	**2.51**	**2.89**	**0.01**	**0.34**	**0.19**	**0.09**
Phase 5 2026	**1.26**	**0.13**	**0.22**	**0.00**	**0.01**	**0.01**	**0.01**
Total	**8.87**	**24.92**	**25.55**	**0.05**	**2.35**	**1.58**	**1.08**
Highest Emissions Any Year	**1.87**	**6.06**	**5.99**	**0.01**	**0.53**	**0.37**	

			Tons Per Year			
Operational Emissions (Unmitigated)	**ROG**	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
Phase 1 2021	3.17	2.42	17.54	0.05	3.41	2.14
Phase 2 2022	2.52	2.21	12.85	0.04	2.73	1.46
Phase 3 2023	2.48	1.89	12.38	0.04	2.72	1.46
Phase 4 2024	2.45	1.80	12.00	0.04	2.72	1.46
Phase 5 2025	2.43	1.73	11.70	0.04	2.73	1.46
Total All Phases	**13.06**	**10.04**	**66.46**	**0.21**	**14.32**	**7.98**

			Tons Per Year			
Operational Emissions (Mitigated)	**ROG**	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
Phase 1 2021	2.06	2.18	7.25	0.02	1.68	0.48
Phase 2 2022	1.87	2.04	6.77	0.02	1.68	0.48
Phase 3 2023	1.83	1.74	6.32	0.02	1.68	0.48
Phase 4 2024	1.80	1.65	5.95	0.02	1.68	0.48
Phase 5 2025	1.95	1.59	5.66	0.02	1.69	0.48
Total All Phases	**9.50**	**9.20**	**31.94**	**0.09**	**8.40**	**2.39**

With onsite design features and natural gas fireplaces

Operations			**Pounds per Day**			
Maximum Daily Emissions (Max Daily Per Phase)	**ROG**	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
Phase 1 2021	12.69	13.45	52.91	0.13	10.09	2.96
Phase 2 2022	11.51	12.44	49.04	0.12	9.83	2.89
Phase 3 2023	11.22	10.79	46.27	0.12	9.81	2.88
Phase 4 2024	11.00	10.30	43.99	0.11	9.80	2.87
Phase 5 2025	11.77	9.97	42.21	0.11	9.85	2.89
	58.20	**56.95**	**234.42**	**0.59**	**49.38**	**14.49**

Operations			**Pounds per Day**			
Maximum Daily Emissions (Max Daily Entire Project)	**ROG**	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
Area	8.72	1.71	14.67	0.01	0.20	0.20
Energy	0.12	1.05	0.45	0.01	0.09	0.09
Mobile	2.92	7.20	27.09	0.09	9.57	2.60
Total	**11.77**	**9.97**	**42.21**	**0.11**	**9.85**	**2.89**
Onsite Mobile Emissions within 0.5 mile	0.20	0.49	1.86	0.01	0.66	0.18
Total Onsite Emissions	**9.05**	**3.26**	**16.98**	**0.02**	**0.94**	**0.47**

Mobile reduced by multiplying emissions by 0.5/7.3 mile trip length from CalEEMod

Daily Construction Emissions

	Pounds per Day					
	ROG	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
Phase 1 2021	**4.42**	45.45	**38.33**	**0.07**	**10.32**	**6.39**
Phase 1 2022	**70.12**	**35.77**	**37.70**	**0.07**	**2.39**	**1.83**
Phase 2 2022	5.17	46.35	47.87	0.09	9.89	5.99
Total for 2022	**75.29**	**82.12**	**85.58**	**0.15**	**12.28**	**7.82**
Phase 2 2023	70.94	42.45	47.34	0.09	2.60	2.03
Phase 3 2023	4.76	42.45	47.34	0.09	9.54	5.67
Total for 2023	**75.69**	**84.90**	**94.68**	**0.17**	**12.15**	**7.71**
Phase 3 2024	70.92	39.76	46.98	0.09	2.36	1.80
Phase 4 2024	4.45	39.76	46.98	0.09	9.51	5.64
Total for 2024	**75.37**	**79.51**	**93.97**	**0.17**	**11.87**	**7.44**
Phase 4 2025	70.91	36.98	46.63	0.09	2.12	1.58
Phase 5 2025	2.97	27.97	26.75	0.06	9.37	5.51
Total for 2025	**73.88**	**64.95**	**73.38**	**0.15**	**11.48**	**7.09**
Phase 5 2026	**71.33**	**14.01**	**17.46**	**0.04**	**1.15**	**0.67**
Highest Phase Emissions	**75.69**	**84.90**	**94.68**	**0.17**	**12.15**	**7.71**

Construction GHG Emissions

Year	**Tons/Year CO2e**
Phase 1 2021	741.72
Phase 1 2022	73.74
Phase 2 2022	879.52
Phase 2 2023	84.40
Phase 3 2023	888.95
Phase 3 2024	65.61
Phase 4 2024	894.52
Phase 4 2025	58.04
Phase 5 2025	468.77
Phase 5 2026	32.91
Total	**4,188.17**
Amortized over 30 years	139.61

Total at Buildout Operational GHG Mitigated from Residential Phases

	BAU MTCO2e per Year	2025 MTCO2e/ year	Reduction Fraction	
Area	1,100.88	378.28	65.64%	
Energy	3,344.00	2,085.37	37.6%	
Mobile	10,372.18	6,428.71	38.0%	
Waste	437.04	327.78	25.0%	
Water	197.19	104.28	47.1%	
Total	15,451.29	**9,324.42**	**39.7%**	
Construction	139.61	**139.61**	0.0%	
Total with Amortized Construction	15,590.89	9,464.03	**39.3%**	**39.3%**
Reduction from BAU		**6,126.86**	**21.7%**	29.7%
			17.6%	9.6%
Mobile from CalEEMod		7,143.01		
LCFS in 2020 reduction 10% not in CalEEMod		0.9		
Mobile with LCFS		6,428.71		

Operational GHG Emissions in 2030 Target Year

	BAU MTCO2e per Year	2030 MTCO2e/ year	Reduction Fraction	
Area	1,100.88	378.28	65.64%	
Energy	3,344.00	2,085.37	37.6%	
Mobile	10,372.18	5,023.12	51.6%	
Waste	437.04	327.78	25.0%	
Water	197.19	104.28	47.1%	
Total	15,451.29	**7,918.83**	**48.7%**	
Construction	139.61	139.61	0.0%	
Total with Amortized Construction	**15,590.89**	**8,058.44**	**48.3%**	**48.3%**
Reduction from BAU		**7,532.46**	**21.7%**	29%
			26.61%	**19.31%**
Mobile from CalEEMod		6278.9		
LCFS in 2030 reduction 20% not in CalEEMod		0.8		
Mobile with LCFS		5,023.12		

Appendix A: CalEEMod Output

CalEEMod Output

Phase 1 Construction and Operations (Annual)

Parc West Phase 1 (Tract 6212 and 6276)

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	167.00	Dwelling Unit	31.77	300,600.00	478

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.025	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Energy Intensity

Land Use - Site plan acreage

Construction Phase - Ajdusted schedule to reflect 5 year buildout for full project

Architectural Coating - SJVAPCD Rule 4601 Architectural Coatings

Vehicle Trips - ITE 10th Edition Trip Rates 9.44, 9.54, 8.55

Area Coating - Rule 4601 Architectural Coatings compliance

Energy Use -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation -

Energy Mitigation -

Water Mitigation - CalGreen Code and MWELO water conservation requirements

Waste Mitigation - CalRecycle 75% Recycling Mandate

Fleet Mix - SJVAPCD Fleet Mix 2021

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Off-road Equipment -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	150.00	65.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	65.00
tblConstructionPhase	NumDays	500.00	205.00
tblConstructionPhase	NumDays	35.00	20.00
tblFleetMix	HHD	0.12	0.02
tblFleetMix	LDA	0.49	0.54
tblFleetMix	LDT1	0.03	0.20
tblFleetMix	LDT2	0.17	0.17

tblFleetMix	LHD1	0.02	1.4000e-003
tblFleetMix	LHD2	4.7320e-003	9.0000e-004
tblFleetMix	MCY	5.1540e-003	2.6000e-003
tblFleetMix	MDV	0.12	0.05
tblFleetMix	MH	6.2900e-004	1.6000e-003
tblFleetMix	MHD	0.03	9.0000e-003
tblFleetMix	OBUS	2.3660e-003	0.00
tblFleetMix	SBUS	1.0970e-003	9.0000e-004
tblFleetMix	UBUS	1.5900e-003	4.4000e-003
tblLandUse	LotAcreage	54.22	31.77
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	7.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	7.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.025
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblTripsAndVMT	WorkerTripNumber	30.00	15.00
tblVehicleTrips	HO_TTP	35.70	36.00
tblVehicleTrips	HS_TTP	15.90	16.00
tblVehicleTrips	HW_TTP	48.40	48.00
tblWoodstoves	NumberCatalytic	31.77	54.22
tblWoodstoves	NumberNoncatalytic	31.77	54.22

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.5658	5.3582	4.6577	8.4500e-003	0.4396	0.2717	0.7112	0.1974	0.2537	0.4512	0.0000	737.2526	737.2526	0.1786	0.0000	741.7173
2022	1.2673	0.4090	0.5004	8.4000e-004	5.5700e-003	0.0208	0.0264	1.4900e-003	0.0194	0.0209	0.0000	73.2608	73.2608	0.0191	0.0000	73.7391
Maximum	**1.2673**	**5.3582**	**4.6577**	**8.4500e-003**	**0.4396**	**0.2717**	**0.7112**	**0.1974**	**0.2537**	**0.4512**	**0.0000**	**737.2526**	**737.2526**	**0.1786**	**0.0000**	**741.7173**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.5658	5.3582	4.6577	8.4500e-003	0.2329	0.2717	0.5045	0.0983	0.2537	0.3520	0.0000	737.2518	737.2518	0.1786	0.0000	741.7165
2022	1.2673	0.4090	0.5004	8.4000e-004	5.5700e-003	0.0208	0.0264	1.4900e-003	0.0194	0.0209	0.0000	73.2607	73.2607	0.0191	0.0000	73.7390
Maximum	**1.2673**	**5.3582**	**4.6577**	**8.4500e-003**	**0.2329**	**0.2717**	**0.5045**	**0.0983**	**0.2537**	**0.3520**	**0.0000**	**737.2518**	**737.2518**	**0.1786**	**0.0000**	**741.7165**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**46.44**	**0.00**	**28.02**	**49.83**	**0.00**	**21.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-1-2021**	**3-31-2021**	1.5684	1.5684
2	**4-1-2021**	**6-30-2021**	1.4408	1.4408
3	**7-1-2021**	**9-30-2021**	1.4543	1.4543
4	**10-1-2021**	**12-31-2021**	1.4551	1.4551
5	**1-1-2022**	**3-31-2022**	1.6823	1.6823
		Highest	1.6823	1.6823

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.6061	0.2405	11.3041	0.0332		1.6489	1.6489		1.6489	1.6489	219.1964	74.3711	293.5676	1.0281	1.3300e-003	319.6640
Energy	0.0235	0.2012	0.0856	1.2800e-003		0.0163	0.0163		0.0163	0.0163	0.0000	425.4514	425.4514	0.0211	7.5900e-003	428.2395
Mobile	0.5415	1.9795	6.1485	0.0187	1.7317	0.0168	1.7485	0.4636	0.0157	0.4793	0.0000	1,714.2571	1,714.2571	0.1187	0.0000	1,717.2241
Waste						0.0000	0.0000		0.0000	0.0000	34.9307	0.0000	34.9307	2.0643	0.0000	86.5393
Water						0.0000	0.0000		0.0000	0.0000	3.4520	10.9027	14.3547	0.3555	8.5600e-003	25.7927
Total	**3.1711**	**2.4212**	**17.5383**	**0.0532**	**1.7317**	**1.6820**	**3.4137**	**0.4636**	**1.6809**	**2.1445**	**257.5791**	**2,224.9824**	**2,482.5614**	**3.5876**	**0.0175**	**2,577.4596**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.5011	0.0768	1.2693	4.6000e-004		0.0119	0.0119		0.0119	0.0119	0.0000	74.3711	74.3711	3.3500e-003	1.3300e-003	74.8501
Energy	0.0221	0.1891	0.0805	1.2100e-003		0.0153	0.0153		0.0153	0.0153	0.0000	409.9324	409.9324	0.0207	7.3100e-003	412.6263
Mobile	0.5339	1.9188	5.9012	0.0178	1.6405	0.0160	1.6566	0.4392	0.0150	0.4542	0.0000	1,629.7572	1,629.7572	0.1147	0.0000	1,632.6245
Waste						0.0000	0.0000		0.0000	0.0000	26.1980	0.0000	26.1980	1.5483	0.0000	64.9045
Water						0.0000	0.0000		0.0000	0.0000	2.7616	8.7222	11.4837	0.2844	6.8500e-003	20.6341
Total	**2.0571**	**2.1848**	**7.2509**	**0.0194**	**1.6405**	**0.0432**	**1.6837**	**0.4392**	**0.0422**	**0.4814**	**28.9596**	**2,122.7829**	**2,151.7425**	**1.9714**	**0.0155**	**2,205.6395**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**35.13**	**9.77**	**58.66**	**63.46**	**5.27**	**97.43**	**50.68**	**5.27**	**97.49**	**77.55**	**88.76**	**4.59**	**13.33**	**45.05**	**11.38**	**14.43**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2021	1/28/2021	5	20	
2	Grading	Grading	1/29/2021	4/1/2021	5	45	
3	Building Construction	Building Construction	4/2/2021	1/13/2022	5	205	
4	Paving	Paving	1/14/2022	2/10/2022	5	20	
5	Architectural Coating	Architectural Coating	2/11/2022	3/31/2022	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 608,715; Residential Outdoor: 202,905; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Parc West Phase 1 (Tract 6212 and 6276) - Fresno County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	2	7.00	231	0.29
Building Construction	Forklifts	7	8.00	89	0.20
Building Construction	Generator Sets	2	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	7	7.00	97	0.37
Building Construction	Welders	2	8.00	46	0.45
Paving	Pavers	4	8.00	130	0.42
Paving	Paving Equipment	4	8.00	132	0.36
Paving	Rollers	4	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	20	60.00	18.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	12	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	12.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0389	0.4050	0.2115	3.8000e-004		0.0204	0.0204		0.0188	0.0188	0.0000	33.4357	33.4357	0.0108	0.0000	33.7061
Total	**0.0389**	**0.4050**	**0.2115**	**3.8000e-004**	**0.1807**	**0.0204**	**0.2011**	**0.0993**	**0.0188**	**0.1181**	**0.0000**	**33.4357**	**33.4357**	**0.0108**	**0.0000**	**33.7061**

3.2 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2000e-004	4.4000e-004	4.5400e-003	1.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2028	1.2028	3.0000e-005	0.0000	1.2036
Total	**7.2000e-004**	**4.4000e-004**	**4.5400e-003**	**1.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.2028**	**1.2028**	**3.0000e-005**	**0.0000**	**1.2036**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0813	0.0000	0.0813	0.0447	0.0000	0.0447	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0389	0.4050	0.2115	3.8000e-004		0.0204	0.0204		0.0188	0.0188	0.0000	33.4357	33.4357	0.0108	0.0000	33.7060
Total	**0.0389**	**0.4050**	**0.2115**	**3.8000e-004**	**0.0813**	**0.0204**	**0.1017**	**0.0447**	**0.0188**	**0.0635**	**0.0000**	**33.4357**	**33.4357**	**0.0108**	**0.0000**	**33.7060**

3.2 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2000e-004	4.4000e-004	4.5400e-003	1.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2028	1.2028	3.0000e-005	0.0000	1.2036
Total	**7.2000e-004**	**4.4000e-004**	**4.5400e-003**	**1.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.2028**	**1.2028**	**3.0000e-005**	**0.0000**	**1.2036**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1952	0.0000	0.1952	0.0809	0.0000	0.0809	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0943	1.0440	0.6948	1.4000e-003		0.0447	0.0447		0.0411	0.0411	0.0000	122.6137	122.6137	0.0397	0.0000	123.6051
Total	**0.0943**	**1.0440**	**0.6948**	**1.4000e-003**	**0.1952**	**0.0447**	**0.2398**	**0.0809**	**0.0411**	**0.1220**	**0.0000**	**122.6137**	**122.6137**	**0.0397**	**0.0000**	**123.6051**

3.3 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7900e-003	1.1000e-003	0.0114	3.0000e-005	3.6000e-003	2.0000e-005	3.6200e-003	9.6000e-004	2.0000e-005	9.8000e-004	0.0000	3.0070	3.0070	7.0000e-005	0.0000	3.0089
Total	**1.7900e-003**	**1.1000e-003**	**0.0114**	**3.0000e-005**	**3.6000e-003**	**2.0000e-005**	**3.6200e-003**	**9.6000e-004**	**2.0000e-005**	**9.8000e-004**	**0.0000**	**3.0070**	**3.0070**	**7.0000e-005**	**0.0000**	**3.0089**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0878	0.0000	0.0878	0.0364	0.0000	0.0364	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0943	1.0440	0.6948	1.4000e-003		0.0447	0.0447		0.0411	0.0411	0.0000	122.6136	122.6136	0.0397	0.0000	123.6050
Total	**0.0943**	**1.0440**	**0.6948**	**1.4000e-003**	**0.0878**	**0.0447**	**0.1325**	**0.0364**	**0.0411**	**0.0775**	**0.0000**	**122.6136**	**122.6136**	**0.0397**	**0.0000**	**123.6050**

3.3 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7900e-003	1.1000e-003	0.0114	3.0000e-005	3.6000e-003	2.0000e-005	3.6200e-003	9.6000e-004	2.0000e-005	9.8000e-004	0.0000	3.0070	3.0070	7.0000e-005	0.0000	3.0089
Total	**1.7900e-003**	**1.1000e-003**	**0.0114**	**3.0000e-005**	**3.6000e-003**	**2.0000e-005**	**3.6200e-003**	**9.6000e-004**	**2.0000e-005**	**9.8000e-004**	**0.0000**	**3.0070**	**3.0070**	**7.0000e-005**	**0.0000**	**3.0089**

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4013	3.6948	3.5570	5.6900e-003		0.2057	0.2057		0.1930	0.1930	0.0000	490.5770	490.5770	0.1214	0.0000	493.6109
Total	**0.4013**	**3.6948**	**3.5570**	**5.6900e-003**		**0.2057**	**0.2057**		**0.1930**	**0.1930**	**0.0000**	**490.5770**	**490.5770**	**0.1214**	**0.0000**	**493.6109**

3.4 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.3300e-003	0.1986	0.0303	5.0000e-004	0.0117	5.3000e-004	0.0122	3.3800e-003	5.1000e-004	3.8900e-003	0.0000	47.1246	47.1246	5.6900e-003	0.0000	47.2667
Worker	0.0235	0.0143	0.1483	4.3000e-004	0.0470	2.9000e-004	0.0473	0.0125	2.7000e-004	0.0128	0.0000	39.2918	39.2918	9.7000e-004	0.0000	39.3160
Total	**0.0288**	**0.2129**	**0.1785**	**9.3000e-004**	**0.0587**	**8.2000e-004**	**0.0595**	**0.0159**	**7.8000e-004**	**0.0167**	**0.0000**	**86.4163**	**86.4163**	**6.6600e-003**	**0.0000**	**86.5828**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4013	3.6948	3.5570	5.6900e-003		0.2057	0.2057		0.1930	0.1930	0.0000	490.5764	490.5764	0.1214	0.0000	493.6104
Total	**0.4013**	**3.6948**	**3.5570**	**5.6900e-003**		**0.2057**	**0.2057**		**0.1930**	**0.1930**	**0.0000**	**490.5764**	**490.5764**	**0.1214**	**0.0000**	**493.6104**

3.4 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.3300e-003	0.1986	0.0303	5.0000e-004	0.0117	5.3000e-004	0.0122	3.3800e-003	5.1000e-004	3.8900e-003	0.0000	47.1246	47.1246	5.6900e-003	0.0000	47.2667
Worker	0.0235	0.0143	0.1483	4.3000e-004	0.0470	2.9000e-004	0.0473	0.0125	2.7000e-004	0.0128	0.0000	39.2918	39.2918	9.7000e-004	0.0000	39.3160
Total	**0.0288**	**0.2129**	**0.1785**	**9.3000e-004**	**0.0587**	**8.2000e-004**	**0.0595**	**0.0159**	**7.8000e-004**	**0.0167**	**0.0000**	**86.4163**	**86.4163**	**6.6600e-003**	**0.0000**	**86.5828**

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0165	0.1519	0.1613	2.6000e-004		7.9500e-003	7.9500e-003		7.4700e-003	7.4700e-003	0.0000	22.5356	22.5356	5.5400e-003	0.0000	22.6741
Total	**0.0165**	**0.1519**	**0.1613**	**2.6000e-004**		**7.9500e-003**	**7.9500e-003**		**7.4700e-003**	**7.4700e-003**	**0.0000**	**22.5356**	**22.5356**	**5.5400e-003**	**0.0000**	**22.6741**

3.4 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.3000e-004	8.6400e-003	1.2900e-003	2.0000e-005	5.4000e-004	2.0000e-005	5.6000e-004	1.6000e-004	2.0000e-005	1.8000e-004	0.0000	2.1432	2.1432	2.5000e-004	0.0000	2.1496
Worker	1.0000e-003	5.9000e-004	6.2100e-003	2.0000e-005	2.1600e-003	1.0000e-005	2.1700e-003	5.7000e-004	1.0000e-005	5.9000e-004	0.0000	1.7394	1.7394	4.0000e-005	0.0000	1.7404
Total	**1.2300e-003**	**9.2300e-003**	**7.5000e-003**	**4.0000e-005**	**2.7000e-003**	**3.0000e-005**	**2.7300e-003**	**7.3000e-004**	**3.0000e-005**	**7.7000e-004**	**0.0000**	**3.8826**	**3.8826**	**2.9000e-004**	**0.0000**	**3.8900**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0165	0.1519	0.1613	2.6000e-004		7.9500e-003	7.9500e-003		7.4700e-003	7.4700e-003	0.0000	22.5356	22.5356	5.5400e-003	0.0000	22.6741
Total	**0.0165**	**0.1519**	**0.1613**	**2.6000e-004**		**7.9500e-003**	**7.9500e-003**		**7.4700e-003**	**7.4700e-003**	**0.0000**	**22.5356**	**22.5356**	**5.5400e-003**	**0.0000**	**22.6741**

3.4 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.3000e-004	8.6400e-003	1.2900e-003	2.0000e-005	5.4000e-004	2.0000e-005	5.6000e-004	1.6000e-004	2.0000e-005	1.8000e-004	0.0000	2.1432	2.1432	2.5000e-004	0.0000	2.1496
Worker	1.0000e-003	5.9000e-004	6.2100e-003	2.0000e-005	2.1600e-003	1.0000e-005	2.1700e-003	5.7000e-004	1.0000e-005	5.9000e-004	0.0000	1.7394	1.7394	4.0000e-005	0.0000	1.7404
Total	**1.2300e-003**	**9.2300e-003**	**7.5000e-003**	**4.0000e-005**	**2.7000e-003**	**3.0000e-005**	**2.7300e-003**	**7.3000e-004**	**3.0000e-005**	**7.7000e-004**	**0.0000**	**3.8826**	**3.8826**	**2.9000e-004**	**0.0000**	**3.8900**

3.5 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0221	0.2225	0.2916	4.6000e-004		0.0114	0.0114		0.0105	0.0105	0.0000	40.0551	40.0551	0.0130	0.0000	40.3790
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0221**	**0.2225**	**0.2916**	**4.6000e-004**		**0.0114**	**0.0114**		**0.0105**	**0.0105**	**0.0000**	**40.0551**	**40.0551**	**0.0130**	**0.0000**	**40.3790**

3.5 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.6000e-004	3.3000e-004	3.4500e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9663	0.9663	2.0000e-005	0.0000	0.9669
Total	**5.6000e-004**	**3.3000e-004**	**3.4500e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**0.9663**	**0.9663**	**2.0000e-005**	**0.0000**	**0.9669**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0221	0.2225	0.2916	4.6000e-004		0.0114	0.0114		0.0105	0.0105	0.0000	40.0551	40.0551	0.0130	0.0000	40.3789
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0221**	**0.2225**	**0.2916**	**4.6000e-004**		**0.0114**	**0.0114**		**0.0105**	**0.0105**	**0.0000**	**40.0551**	**40.0551**	**0.0130**	**0.0000**	**40.3789**

3.5 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.6000e-004	3.3000e-004	3.4500e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9663	0.9663	2.0000e-005	0.0000	0.9669
Total	**5.6000e-004**	**3.3000e-004**	**3.4500e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**0.9663**	**0.9663**	**2.0000e-005**	**0.0000**	**0.9669**

3.6 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.2226					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.5800e-003	0.0247	0.0317	5.0000e-005		1.4300e-003	1.4300e-003		1.4300e-003	1.4300e-003	0.0000	4.4682	4.4682	2.9000e-004	0.0000	4.4755
Total	**1.2262**	**0.0247**	**0.0317**	**5.0000e-005**		**1.4300e-003**	**1.4300e-003**		**1.4300e-003**	**1.4300e-003**	**0.0000**	**4.4682**	**4.4682**	**2.9000e-004**	**0.0000**	**4.4755**

3.6 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.8000e-004	4.6000e-004	4.8300e-003	1.0000e-005	1.6800e-003	1.0000e-005	1.6900e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.3529	1.3529	3.0000e-005	0.0000	1.3536
Total	**7.8000e-004**	**4.6000e-004**	**4.8300e-003**	**1.0000e-005**	**1.6800e-003**	**1.0000e-005**	**1.6900e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.3529**	**1.3529**	**3.0000e-005**	**0.0000**	**1.3536**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.2226					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.5800e-003	0.0247	0.0317	5.0000e-005		1.4300e-003	1.4300e-003		1.4300e-003	1.4300e-003	0.0000	4.4682	4.4682	2.9000e-004	0.0000	4.4755
Total	**1.2262**	**0.0247**	**0.0317**	**5.0000e-005**		**1.4300e-003**	**1.4300e-003**		**1.4300e-003**	**1.4300e-003**	**0.0000**	**4.4682**	**4.4682**	**2.9000e-004**	**0.0000**	**4.4755**

3.6 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.8000e-004	4.6000e-004	4.8300e-003	1.0000e-005	1.6800e-003	1.0000e-005	1.6900e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.3529	1.3529	3.0000e-005	0.0000	1.3536
Total	**7.8000e-004**	**4.6000e-004**	**4.8300e-003**	**1.0000e-005**	**1.6800e-003**	**1.0000e-005**	**1.6900e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.3529**	**1.3529**	**3.0000e-005**	**0.0000**	**1.3536**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5339	1.9188	5.9012	0.0178	1.6405	0.0160	1.6566	0.4392	0.0150	0.4542	0.0000	1,629.7572	1,629.7572	0.1147	0.0000	1,632.6245
Unmitigated	0.5415	1.9795	6.1485	0.0187	1.7317	0.0168	1.7485	0.4636	0.0157	0.4793	0.0000	1,714.2571	1,714.2571	0.1187	0.0000	1,717.2241

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,589.84	1,654.97	1439.54	4,615,230	4,372,162
Total	1,589.84	1,654.97	1,439.54	4,615,230	4,372,162

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	48.00	16.00	36.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.537300	0.200000	0.167100	0.054200	0.001400	0.000900	0.009000	0.020600	0.000000	0.004400	0.002600	0.000900	0.001600

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	190.9199	190.9199	0.0165	3.2900e-003	192.3123
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	192.4514	192.4514	0.0166	3.3200e-003	193.8549
NaturalGas Mitigated	0.0221	0.1891	0.0805	1.2100e-003		0.0153	0.0153		0.0153	0.0153	0.0000	219.0125	219.0125	4.2000e-003	4.0200e-003	220.3140
NaturalGas Unmitigated	0.0235	0.2012	0.0856	1.2800e-003		0.0163	0.0163		0.0163	0.0163	0.0000	233.0000	233.0000	4.4700e-003	4.2700e-003	234.3846

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	4.36626e+006	0.0235	0.2012	0.0856	1.2800e-003		0.0163	0.0163		0.0163	0.0163	0.0000	233.0000	233.0000	4.4700e-003	4.2700e-003	234.3846
Total		**0.0235**	**0.2012**	**0.0856**	**1.2800e-003**		**0.0163**	**0.0163**		**0.0163**	**0.0163**	**0.0000**	**233.0000**	**233.0000**	**4.4700e-003**	**4.2700e-003**	**234.3846**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	4.10414e+006	0.0221	0.1891	0.0805	1.2100e-003		0.0153	0.0153		0.0153	0.0153	0.0000	219.0125	219.0125	4.2000e-003	4.0200e-003	220.3140
Total		**0.0221**	**0.1891**	**0.0805**	**1.2100e-003**		**0.0153**	**0.0153**		**0.0153**	**0.0153**	**0.0000**	**219.0125**	**219.0125**	**4.2000e-003**	**4.0200e-003**	**220.3140**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.46304e+006	192.4514	0.0166	3.3200e-003	193.8549
Total		**192.4514**	**0.0166**	**3.3200e-003**	**193.8549**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.4514e+006	190.9199	0.0165	3.2900e-003	192.3123
Total		**190.9199**	**0.0165**	**3.2900e-003**	**192.3123**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.5011	0.0768	1.2693	4.6000e-004		0.0119	0.0119		0.0119	0.0119	0.0000	74.3711	74.3711	3.3500e-003	1.3300e-003	74.8501
Unmitigated	2.6061	0.2405	11.3041	0.0332		1.6489	1.6489		1.6489	1.6489	219.1964	74.3711	293.5676	1.0281	1.3300e-003	319.6640

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2821					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.1740					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.1123	0.2262	10.0615	0.0331		1.6421	1.6421		1.6421	1.6421	219.1964	72.3456	291.5421	1.0261	1.3300e-003	317.5895
Landscaping	0.0377	0.0143	1.2427	7.0000e-005		6.8500e-003	6.8500e-003		6.8500e-003	6.8500e-003	0.0000	2.0255	2.0255	1.9600e-003	0.0000	2.0746
Total	**2.6061**	**0.2405**	**11.3042**	**0.0332**		**1.6489**	**1.6489**		**1.6489**	**1.6489**	**219.1964**	**74.3712**	**293.5676**	**1.0281**	**1.3300e-003**	**319.6640**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2821					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.1740					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	7.3100e-003	0.0625	0.0266	4.0000e-004		5.0500e-003	5.0500e-003		5.0500e-003	5.0500e-003	0.0000	72.3456	72.3456	1.3900e-003	1.3300e-003	72.7756
Landscaping	0.0377	0.0143	1.2427	7.0000e-005		6.8500e-003	6.8500e-003		6.8500e-003	6.8500e-003	0.0000	2.0255	2.0255	1.9600e-003	0.0000	2.0746
Total	**1.5011**	**0.0768**	**1.2693**	**4.7000e-004**		**0.0119**	**0.0119**		**0.0119**	**0.0119**	**0.0000**	**74.3712**	**74.3712**	**3.3500e-003**	**1.3300e-003**	**74.8501**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	11.4837	0.2844	6.8500e-003	20.6341
Unmitigated	14.3547	0.3555	8.5600e-003	25.7927

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	10.8807 / 6.85959	14.3547	0.3555	8.5600e-003	25.7927
Total		**14.3547**	**0.3555**	**8.5600e-003**	**25.7927**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	8.70458 / 5.48767	11.4837	0.2844	6.8500e-003	20.6341
Total		**11.4837**	**0.2844**	**6.8500e-003**	**20.6341**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	26.1980	1.5483	0.0000	64.9045
Unmitigated	34.9307	2.0643	0.0000	86.5393

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	172.08	34.9307	2.0643	0.0000	86.5393
Total		**34.9307**	**2.0643**	**0.0000**	**86.5393**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	129.06	26.1980	1.5483	0.0000	64.9045
Total		**26.1980**	**1.5483**	**0.0000**	**64.9045**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Phase 2 Construction and Operations (Annual)

Parc West Phase 2 Const and Ops 2022

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	169.00	Dwelling Unit	31.60	304,200.00	483

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.025	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Energy Intensity

Land Use - Phase 2 Acreage

Construction Phase - Ajdusted schedule to reflect 5 year buildout for full project

Off-road Equipment -

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Architectural Coating - SJVAPCD Rule 4601 Architectural Coatings

Vehicle Trips - ITE 10th Edition Trip Rates 9.44, 9.54, 8.55

Area Coating - Rule 4601 Architectural Coatings compliance

Energy Use -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation - Rule 4601 Compliant Coatings

Energy Mitigation -

Water Mitigation - CalGreen Code and MWELO water conservation requirements

Waste Mitigation - CalRecycle 75% Recycling Mandate

Fleet Mix - SJVAPCD Fleet Mix 2022

Woodstoves -

Demolition - Remove 2 houses and a barn

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Removing 3 structures

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	150.00	65.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	65.00
tblAreaCoating	Area_EF_Residential_Exterior	150	65

tblAreaCoating	Area_EF_Residential_Interior	150	65
tblConstructionPhase	NumDays	30.00	5.00
tblConstructionPhase	NumDays	500.00	200.00
tblConstructionPhase	NumDays	35.00	20.00
tblFleetMix	HHD	0.13	0.02
tblFleetMix	LDA	0.49	0.53
tblFleetMix	LDT1	0.03	0.20
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LHD1	0.02	1.3000e-003
tblFleetMix	LHD2	4.5020e-003	9.0000e-004
tblFleetMix	MCY	5.0620e-003	2.5000e-003
tblFleetMix	MDV	0.12	0.05
tblFleetMix	MH	5.9400e-004	1.8000e-003
tblFleetMix	MHD	0.03	9.0000e-003
tblFleetMix	OBUS	2.3630e-003	0.00
tblFleetMix	SBUS	1.0830e-003	7.0000e-004
tblFleetMix	UBUS	1.5190e-003	4.4000e-003
tblLandUse	LotAcreage	54.87	31.60
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	8.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.025
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblTripsAndVMT	WorkerTripNumber	8.00	15.00
tblTripsAndVMT	WorkerTripNumber	30.00	15.00
tblVehicleTrips	HO_TTP	35.70	36.00
tblVehicleTrips	HS_TTP	15.90	16.00
tblVehicleTrips	HW_TTP	48.40	48.00
tblVehicleTrips	ST_TR	9.91	9.54
tblVehicleTrips	SU_TR	8.62	8.55
tblVehicleTrips	WD_TR	9.52	9.44

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.6075	5.6522	5.4213	0.0101	0.4454	0.2718	0.7172	0.1983	0.2549	0.4532	0.0000	874.3972	874.3972	0.2048	0.0000	879.5163
2023	1.2861	0.4397	0.5667	9.6000e-004	5.9100e-003	0.0214	0.0273	1.5900e-003	0.0200	0.0216	0.0000	83.8709	83.8709	0.0212	0.0000	84.4000
Maximum	**1.2861**	**5.6522**	**5.4213**	**0.0101**	**0.4454**	**0.2718**	**0.7172**	**0.1983**	**0.2549**	**0.4532**	**0.0000**	**874.3972**	**874.3972**	**0.2048**	**0.0000**	**879.5163**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.6075	5.6522	5.4213	0.0101	0.2353	0.2718	0.5071	0.0987	0.2549	0.3535	0.0000	874.3963	874.3963	0.2048	0.0000	879.5154
2023	1.2861	0.4397	0.5667	9.6000e-004	5.9100e-003	0.0214	0.0273	1.5900e-003	0.0200	0.0216	0.0000	83.8708	83.8708	0.0212	0.0000	84.3999
Maximum	**1.2861**	**5.6522**	**5.4213**	**0.0101**	**0.2353**	**0.2718**	**0.5071**	**0.0987**	**0.2549**	**0.3535**	**0.0000**	**874.3963**	**874.3963**	**0.2048**	**0.0000**	**879.5154**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**46.54**	**0.00**	**28.22**	**49.84**	**0.00**	**20.99**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-1-2022**	**3-31-2022**	1.2443	1.2443
2	**4-1-2022**	**6-30-2022**	1.6488	1.6488
3	**7-1-2022**	**9-30-2022**	1.6927	1.6927
4	**10-1-2022**	**12-31-2022**	1.6933	1.6933
5	**1-1-2023**	**3-31-2023**	1.7092	1.7092
		Highest	1.7092	1.7092

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.0011	0.1731	7.1315	0.0196		0.9661	0.9661		0.9661	0.9661	127.7500	75.2618	203.0119	0.6006	1.3400e-003	218.4265
Energy	0.0238	0.2036	0.0866	1.3000e-003		0.0165	0.0165		0.0165	0.0165	0.0000	430.5466	430.5466	0.0213	7.6800e-003	433.3682
Mobile	0.4996	1.8291	5.6294	0.0181	1.7296	0.0158	1.7454	0.4629	0.0148	0.4777	0.0000	1,662.5360	1,662.5360	0.1117	0.0000	1,665.3287
Waste						0.0000	0.0000		0.0000	0.0000	35.2961	0.0000	35.2961	2.0859	0.0000	87.4445
Water						0.0000	0.0000		0.0000	0.0000	3.4933	11.0333	14.5266	0.3598	8.6600e-003	26.1016
Total	**2.5245**	**2.2058**	**12.8476**	**0.0389**	**1.7296**	**0.9984**	**2.7280**	**0.4629**	**0.9973**	**1.4603**	**166.5394**	**2,179.3777**	**2,345.9171**	**3.1793**	**0.0177**	**2,430.6694**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3571	0.0777	1.2831	4.7000e-004		0.0121	0.0121		0.0121	0.0121	0.0000	75.2618	75.2618	3.3800e-003	1.3400e-003	75.7463
Energy	0.0224	0.1914	0.0814	1.2200e-003		0.0155	0.0155		0.0155	0.0155	0.0000	414.8418	414.8418	0.0209	7.3900e-003	417.5679
Mobile	0.4926	1.7747	5.4021	0.0172	1.6385	0.0151	1.6536	0.4385	0.0141	0.4526	0.0000	1,580.6693	1,580.6693	0.1080	0.0000	1,583.3693
Waste						0.0000	0.0000		0.0000	0.0000	26.4721	0.0000	26.4721	1.5645	0.0000	65.5834
Water						0.0000	0.0000		0.0000	0.0000	2.7946	8.8266	11.6213	0.2878	6.9300e-003	20.8812
Total	**1.8721**	**2.0438**	**6.7666**	**0.0189**	**1.6385**	**0.0426**	**1.6811**	**0.4385**	**0.0416**	**0.4801**	**29.2667**	**2,079.5996**	**2,108.8662**	**1.9845**	**0.0157**	**2,163.1482**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**25.84**	**7.35**	**47.33**	**51.49**	**5.27**	**95.74**	**38.38**	**5.27**	**95.83**	**67.12**	**82.43**	**4.58**	**10.10**	**37.58**	**11.43**	**11.01**

3.0 Construction Detail

Construction Phase

Parc West Phase 2 Const and Ops 2022 - Fresno County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2022	1/7/2022	5	5	
2	Site Preparation	Site Preparation	1/8/2022	2/4/2022	5	20	
3	Grading	Grading	2/5/2022	4/8/2022	5	45	
4	Building Construction	Building Construction	4/9/2022	1/13/2023	5	200	
5	Paving	Paving	1/14/2023	2/10/2023	5	20	
6	Architectural Coating	Architectural Coating	2/11/2023	3/31/2023	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 616,005; Residential Outdoor: 205,335; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Parc West Phase 2 Const and Ops 2022 - Fresno County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	1	8.00	158	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	3	7.00	231	0.29
Building Construction	Forklifts	8	8.00	89	0.20
Building Construction	Generator Sets	3	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	8	7.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Pavers	4	8.00	130	0.42
Paving	Paving Equipment	4	8.00	132	0.36
Paving	Rollers	4	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	3	15.00	0.00	56.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	25	61.00	18.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	12	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	12.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.1000e-003	0.0000	6.1000e-003	9.2000e-004	0.0000	9.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.4900e-003	0.0334	0.0263	5.0000e-005		1.6300e-003	1.6300e-003		1.5300e-003	1.5300e-003	0.0000	4.3538	4.3538	1.0500e-003	0.0000	4.3800
Total	**3.4900e-003**	**0.0334**	**0.0263**	**5.0000e-005**	**6.1000e-003**	**1.6300e-003**	**7.7300e-003**	**9.2000e-004**	**1.5300e-003**	**2.4500e-003**	**0.0000**	**4.3538**	**4.3538**	**1.0500e-003**	**0.0000**	**4.3800**

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-004	6.6000e-003	9.8000e-004	2.0000e-005	4.8000e-004	2.0000e-005	5.0000e-004	1.3000e-004	2.0000e-005	1.5000e-004	0.0000	2.0792	2.0792	1.8000e-004	0.0000	2.0837
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	8.0000e-005	8.6000e-004	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2416	0.2416	1.0000e-005	0.0000	0.2417
Total	**3.4000e-004**	**6.6800e-003**	**1.8400e-003**	**2.0000e-005**	**7.8000e-004**	**2.0000e-005**	**8.0000e-004**	**2.1000e-004**	**2.0000e-005**	**2.3000e-004**	**0.0000**	**2.3208**	**2.3208**	**1.9000e-004**	**0.0000**	**2.3254**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7400e-003	0.0000	2.7400e-003	4.2000e-004	0.0000	4.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.4900e-003	0.0334	0.0263	5.0000e-005		1.6300e-003	1.6300e-003		1.5300e-003	1.5300e-003	0.0000	4.3538	4.3538	1.0500e-003	0.0000	4.3800
Total	**3.4900e-003**	**0.0334**	**0.0263**	**5.0000e-005**	**2.7400e-003**	**1.6300e-003**	**4.3700e-003**	**4.2000e-004**	**1.5300e-003**	**1.9500e-003**	**0.0000**	**4.3538**	**4.3538**	**1.0500e-003**	**0.0000**	**4.3800**

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-004	6.6000e-003	9.8000e-004	2.0000e-005	4.8000e-004	2.0000e-005	5.0000e-004	1.3000e-004	2.0000e-005	1.5000e-004	0.0000	2.0792	2.0792	1.8000e-004	0.0000	2.0837
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	8.0000e-005	8.6000e-004	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2416	0.2416	1.0000e-005	0.0000	0.2417
Total	**3.4000e-004**	**6.6800e-003**	**1.8400e-003**	**2.0000e-005**	**7.8000e-004**	**2.0000e-005**	**8.0000e-004**	**2.1000e-004**	**2.0000e-005**	**2.3000e-004**	**0.0000**	**2.3208**	**2.3208**	**1.9000e-004**	**0.0000**	**2.3254**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0317	0.3308	0.1970	3.8000e-004		0.0161	0.0161		0.0148	0.0148	0.0000	33.4394	33.4394	0.0108	0.0000	33.7098
Total	**0.0317**	**0.3308**	**0.1970**	**3.8000e-004**	**0.1807**	**0.0161**	**0.1968**	**0.0993**	**0.0148**	**0.1142**	**0.0000**	**33.4394**	**33.4394**	**0.0108**	**0.0000**	**33.7098**

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.7000e-004	3.9000e-004	4.1400e-003	1.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1596	1.1596	3.0000e-005	0.0000	1.1603
Total	**6.7000e-004**	**3.9000e-004**	**4.1400e-003**	**1.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.1596**	**1.1596**	**3.0000e-005**	**0.0000**	**1.1603**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0813	0.0000	0.0813	0.0447	0.0000	0.0447	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0317	0.3308	0.1970	3.8000e-004		0.0161	0.0161		0.0148	0.0148	0.0000	33.4394	33.4394	0.0108	0.0000	33.7097
Total	**0.0317**	**0.3308**	**0.1970**	**3.8000e-004**	**0.0813**	**0.0161**	**0.0974**	**0.0447**	**0.0148**	**0.0595**	**0.0000**	**33.4394**	**33.4394**	**0.0108**	**0.0000**	**33.7097**

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.7000e-004	3.9000e-004	4.1400e-003	1.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1596	1.1596	3.0000e-005	0.0000	1.1603
Total	**6.7000e-004**	**3.9000e-004**	**4.1400e-003**	**1.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.1596**	**1.1596**	**3.0000e-005**	**0.0000**	**1.1603**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1952	0.0000	0.1952	0.0809	0.0000	0.0809	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0816	0.8740	0.6534	1.4000e-003		0.0368	0.0368		0.0338	0.0338	0.0000	122.7029	122.7029	0.0397	0.0000	123.6950
Total	**0.0816**	**0.8740**	**0.6534**	**1.4000e-003**	**0.1952**	**0.0368**	**0.2319**	**0.0809**	**0.0338**	**0.1148**	**0.0000**	**122.7029**	**122.7029**	**0.0397**	**0.0000**	**123.6950**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6700e-003	9.8000e-004	0.0104	3.0000e-005	3.6000e-003	2.0000e-005	3.6200e-003	9.6000e-004	2.0000e-005	9.8000e-004	0.0000	2.8990	2.8990	7.0000e-005	0.0000	2.9007
Total	**1.6700e-003**	**9.8000e-004**	**0.0104**	**3.0000e-005**	**3.6000e-003**	**2.0000e-005**	**3.6200e-003**	**9.6000e-004**	**2.0000e-005**	**9.8000e-004**	**0.0000**	**2.8990**	**2.8990**	**7.0000e-005**	**0.0000**	**2.9007**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0878	0.0000	0.0878	0.0364	0.0000	0.0364	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0816	0.8740	0.6534	1.4000e-003		0.0368	0.0368		0.0338	0.0338	0.0000	122.7027	122.7027	0.0397	0.0000	123.6948
Total	**0.0816**	**0.8740**	**0.6534**	**1.4000e-003**	**0.0878**	**0.0368**	**0.1246**	**0.0364**	**0.0338**	**0.0703**	**0.0000**	**122.7027**	**122.7027**	**0.0397**	**0.0000**	**123.6948**

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6700e-003	9.8000e-004	0.0104	3.0000e-005	3.6000e-003	2.0000e-005	3.6200e-003	9.6000e-004	2.0000e-005	9.8000e-004	0.0000	2.8990	2.8990	7.0000e-005	0.0000	2.9007
Total	**1.6700e-003**	**9.8000e-004**	**0.0104**	**3.0000e-005**	**3.6000e-003**	**2.0000e-005**	**3.6200e-003**	**9.6000e-004**	**2.0000e-005**	**9.8000e-004**	**0.0000**	**2.8990**	**2.8990**	**7.0000e-005**	**0.0000**	**2.9007**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4618	4.2110	4.3679	7.2700e-003		0.2164	0.2164		0.2039	0.2039	0.0000	624.9429	624.9429	0.1467	0.0000	628.6115
Total	**0.4618**	**4.2110**	**4.3679**	**7.2700e-003**		**0.2164**	**0.2164**		**0.2039**	**0.2039**	**0.0000**	**624.9429**	**624.9429**	**0.1467**	**0.0000**	**628.6115**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.8100e-003	0.1824	0.0272	4.8000e-004	0.0113	4.4000e-004	0.0118	3.2700e-003	4.3000e-004	3.7000e-003	0.0000	45.2459	45.2459	5.3500e-003	0.0000	45.3796
Worker	0.0215	0.0126	0.1332	4.1000e-004	0.0463	2.8000e-004	0.0466	0.0123	2.6000e-004	0.0126	0.0000	37.3328	37.3328	8.5000e-004	0.0000	37.3541
Total	**0.0263**	**0.1950**	**0.1604**	**8.9000e-004**	**0.0577**	**7.2000e-004**	**0.0584**	**0.0156**	**6.9000e-004**	**0.0163**	**0.0000**	**82.5787**	**82.5787**	**6.2000e-003**	**0.0000**	**82.7337**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4618	4.2110	4.3679	7.2700e-003		0.2164	0.2164		0.2039	0.2039	0.0000	624.9422	624.9422	0.1467	0.0000	628.6108
Total	**0.4618**	**4.2110**	**4.3679**	**7.2700e-003**		**0.2164**	**0.2164**		**0.2039**	**0.2039**	**0.0000**	**624.9422**	**624.9422**	**0.1467**	**0.0000**	**628.6108**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.8100e-003	0.1824	0.0272	4.8000e-004	0.0113	4.4000e-004	0.0118	3.2700e-003	4.3000e-004	3.7000e-003	0.0000	45.2459	45.2459	5.3500e-003	0.0000	45.3796
Worker	0.0215	0.0126	0.1332	4.1000e-004	0.0463	2.8000e-004	0.0466	0.0123	2.6000e-004	0.0126	0.0000	37.3328	37.3328	8.5000e-004	0.0000	37.3541
Total	**0.0263**	**0.1950**	**0.1604**	**8.9000e-004**	**0.0577**	**7.2000e-004**	**0.0584**	**0.0156**	**6.9000e-004**	**0.0163**	**0.0000**	**82.5787**	**82.5787**	**6.2000e-003**	**0.0000**	**82.7337**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0224	0.2043	0.2282	3.8000e-004		9.8700e-003	9.8700e-003		9.3000e-003	9.3000e-003	0.0000	32.9023	32.9023	7.6700e-003	0.0000	33.0940
Total	**0.0224**	**0.2043**	**0.2282**	**3.8000e-004**		**9.8700e-003**	**9.8700e-003**		**9.3000e-003**	**9.3000e-003**	**0.0000**	**32.9023**	**32.9023**	**7.6700e-003**	**0.0000**	**33.0940**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.7000e-004	7.5000e-003	1.1600e-003	2.0000e-005	6.0000e-004	1.0000e-005	6.0000e-004	1.7000e-004	1.0000e-005	1.8000e-004	0.0000	2.3232	2.3232	1.9000e-004	0.0000	2.3279
Worker	1.0500e-003	5.9000e-004	6.4000e-003	2.0000e-005	2.4400e-003	1.0000e-005	2.4500e-003	6.5000e-004	1.0000e-005	6.6000e-004	0.0000	1.8912	1.8912	4.0000e-005	0.0000	1.8922
Total	**1.2200e-003**	**8.0900e-003**	**7.5600e-003**	**4.0000e-005**	**3.0400e-003**	**2.0000e-005**	**3.0500e-003**	**8.2000e-004**	**2.0000e-005**	**8.4000e-004**	**0.0000**	**4.2144**	**4.2144**	**2.3000e-004**	**0.0000**	**4.2202**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0224	0.2043	0.2282	3.8000e-004		9.8700e-003	9.8700e-003		9.3000e-003	9.3000e-003	0.0000	32.9023	32.9023	7.6700e-003	0.0000	33.0940
Total	**0.0224**	**0.2043**	**0.2282**	**3.8000e-004**		**9.8700e-003**	**9.8700e-003**		**9.3000e-003**	**9.3000e-003**	**0.0000**	**32.9023**	**32.9023**	**7.6700e-003**	**0.0000**	**33.0940**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.7000e-004	7.5000e-003	1.1600e-003	2.0000e-005	6.0000e-004	1.0000e-005	6.0000e-004	1.7000e-004	1.0000e-005	1.8000e-004	0.0000	2.3232	2.3232	1.9000e-004	0.0000	2.3279
Worker	1.0500e-003	5.9000e-004	6.4000e-003	2.0000e-005	2.4400e-003	1.0000e-005	2.4500e-003	6.5000e-004	1.0000e-005	6.6000e-004	0.0000	1.8912	1.8912	4.0000e-005	0.0000	1.8922
Total	**1.2200e-003**	**8.0900e-003**	**7.5600e-003**	**4.0000e-005**	**3.0400e-003**	**2.0000e-005**	**3.0500e-003**	**8.2000e-004**	**2.0000e-005**	**8.4000e-004**	**0.0000**	**4.2144**	**4.2144**	**2.3000e-004**	**0.0000**	**4.2202**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0207	0.2038	0.2917	4.6000e-004		0.0102	0.0102		9.3900e-003	9.3900e-003	0.0000	40.0537	40.0537	0.0130	0.0000	40.3776
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0207**	**0.2038**	**0.2917**	**4.6000e-004**		**0.0102**	**0.0102**		**9.3900e-003**	**9.3900e-003**	**0.0000**	**40.0537**	**40.0537**	**0.0130**	**0.0000**	**40.3776**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.2000e-004	2.9000e-004	3.1500e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9301	0.9301	2.0000e-005	0.0000	0.9306
Total	**5.2000e-004**	**2.9000e-004**	**3.1500e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**0.9301**	**0.9301**	**2.0000e-005**	**0.0000**	**0.9306**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0207	0.2038	0.2917	4.6000e-004		0.0102	0.0102		9.3900e-003	9.3900e-003	0.0000	40.0537	40.0537	0.0130	0.0000	40.3775
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0207**	**0.2038**	**0.2917**	**4.6000e-004**		**0.0102**	**0.0102**		**9.3900e-003**	**9.3900e-003**	**0.0000**	**40.0537**	**40.0537**	**0.0130**	**0.0000**	**40.3775**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.2000e-004	2.9000e-004	3.1500e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9301	0.9301	2.0000e-005	0.0000	0.9306
Total	**5.2000e-004**	**2.9000e-004**	**3.1500e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**0.9301**	**0.9301**	**2.0000e-005**	**0.0000**	**0.9306**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.2373					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.3500e-003	0.0228	0.0317	5.0000e-005		1.2400e-003	1.2400e-003		1.2400e-003	1.2400e-003	0.0000	4.4682	4.4682	2.7000e-004	0.0000	4.4749
Total	**1.2406**	**0.0228**	**0.0317**	**5.0000e-005**		**1.2400e-003**	**1.2400e-003**		**1.2400e-003**	**1.2400e-003**	**0.0000**	**4.4682**	**4.4682**	**2.7000e-004**	**0.0000**	**4.4749**

3.7 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2000e-004	4.1000e-004	4.4100e-003	1.0000e-005	1.6800e-003	1.0000e-005	1.6900e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.3021	1.3021	3.0000e-005	0.0000	1.3028
Total	**7.2000e-004**	**4.1000e-004**	**4.4100e-003**	**1.0000e-005**	**1.6800e-003**	**1.0000e-005**	**1.6900e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.3021**	**1.3021**	**3.0000e-005**	**0.0000**	**1.3028**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.2373					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.3500e-003	0.0228	0.0317	5.0000e-005		1.2400e-003	1.2400e-003		1.2400e-003	1.2400e-003	0.0000	4.4682	4.4682	2.7000e-004	0.0000	4.4749
Total	**1.2406**	**0.0228**	**0.0317**	**5.0000e-005**		**1.2400e-003**	**1.2400e-003**		**1.2400e-003**	**1.2400e-003**	**0.0000**	**4.4682**	**4.4682**	**2.7000e-004**	**0.0000**	**4.4749**

3.7 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2000e-004	4.1000e-004	4.4100e-003	1.0000e-005	1.6800e-003	1.0000e-005	1.6900e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.3021	1.3021	3.0000e-005	0.0000	1.3028
Total	**7.2000e-004**	**4.1000e-004**	**4.4100e-003**	**1.0000e-005**	**1.6800e-003**	**1.0000e-005**	**1.6900e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.3021**	**1.3021**	**3.0000e-005**	**0.0000**	**1.3028**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4926	1.7747	5.4021	0.0172	1.6385	0.0151	1.6536	0.4385	0.0141	0.4526	0.0000	1,580.6693	1,580.6693	0.1080	0.0000	1,583.3693
Unmitigated	0.4996	1.8291	5.6294	0.0181	1.7296	0.0158	1.7454	0.4629	0.0148	0.4777	0.0000	1,662.5360	1,662.5360	0.1117	0.0000	1,665.3287

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,595.36	1,612.26	1444.95	4,611,177	4,368,321
Total	1,595.36	1,612.26	1,444.95	4,611,177	4,368,321

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	48.00	16.00	36.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.534300	0.203000	0.167300	0.054500	0.001300	0.000900	0.009000	0.020700	0.000000	0.004400	0.002500	0.000700	0.001800

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	193.2064	193.2064	0.0167	3.3300e-003	194.6154
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	194.7562	194.7562	0.0168	3.3600e-003	196.1766
NaturalGas Mitigated	0.0224	0.1914	0.0814	1.2200e-003		0.0155	0.0155		0.0155	0.0155	0.0000	221.6354	221.6354	4.2500e-003	4.0600e-003	222.9525
NaturalGas Unmitigated	0.0238	0.2036	0.0866	1.3000e-003		0.0165	0.0165		0.0165	0.0165	0.0000	235.7904	235.7904	4.5200e-003	4.3200e-003	237.1916

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	4.41855e+006	0.0238	0.2036	0.0866	1.3000e-003		0.0165	0.0165		0.0165	0.0165	0.0000	235.7904	235.7904	4.5200e-003	4.3200e-003	237.1916
Total		**0.0238**	**0.2036**	**0.0866**	**1.3000e-003**		**0.0165**	**0.0165**		**0.0165**	**0.0165**	**0.0000**	**235.7904**	**235.7904**	**4.5200e-003**	**4.3200e-003**	**237.1916**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	4.15329e+006	0.0224	0.1914	0.0814	1.2200e-003		0.0155	0.0155		0.0155	0.0155	0.0000	221.6354	221.6354	4.2500e-003	4.0600e-003	222.9525
Total		**0.0224**	**0.1914**	**0.0814**	**1.2200e-003**		**0.0155**	**0.0155**		**0.0155**	**0.0155**	**0.0000**	**221.6354**	**221.6354**	**4.2500e-003**	**4.0600e-003**	**222.9525**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.48057e+006	194.7562	0.0168	3.3600e-003	196.1766
Total		**194.7562**	**0.0168**	**3.3600e-003**	**196.1766**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.46878e+006	193.2064	0.0167	3.3300e-003	194.6154
Total		**193.2064**	**0.0167**	**3.3300e-003**	**194.6154**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.3571	0.0777	1.2831	4.7000e-004		0.0121	0.0121		0.0121	0.0121	0.0000	75.2618	75.2618	3.3800e-003	1.3400e-003	75.7463
Unmitigated	2.0011	0.1731	7.1315	0.0196		0.9661	0.9661		0.9661	0.9661	127.7500	75.2618	203.0119	0.6006	1.3400e-003	218.4265

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1237					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.1881					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.6514	0.1586	5.8753	0.0195		0.9592	0.9592		0.9592	0.9592	127.7500	73.2121	200.9621	0.5986	1.3400e-003	216.3273
Landscaping	0.0379	0.0145	1.2562	7.0000e-005		6.9400e-003	6.9400e-003		6.9400e-003	6.9400e-003	0.0000	2.0498	2.0498	1.9800e-003	0.0000	2.0992
Total	**2.0011**	**0.1731**	**7.1315**	**0.0196**		**0.9661**	**0.9661**		**0.9661**	**0.9661**	**127.7500**	**75.2618**	**203.0119**	**0.6006**	**1.3400e-003**	**218.4265**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1237					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.1881					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	7.4000e-003	0.0632	0.0269	4.0000e-004		5.1100e-003	5.1100e-003		5.1100e-003	5.1100e-003	0.0000	73.2121	73.2121	1.4000e-003	1.3400e-003	73.6471
Landscaping	0.0379	0.0145	1.2562	7.0000e-005		6.9400e-003	6.9400e-003		6.9400e-003	6.9400e-003	0.0000	2.0498	2.0498	1.9800e-003	0.0000	2.0992
Total	**1.3571**	**0.0777**	**1.2831**	**4.7000e-004**		**0.0121**	**0.0121**		**0.0121**	**0.0121**	**0.0000**	**75.2618**	**75.2618**	**3.3800e-003**	**1.3400e-003**	**75.7463**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	11.6213	0.2878	6.9300e-003	20.8812
Unmitigated	14.5266	0.3598	8.6600e-003	26.1016

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	11.011 / 6.94174	14.5266	0.3598	8.6600e-003	26.1016
Total		**14.5266**	**0.3598**	**8.6600e-003**	**26.1016**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	8.80882 / 5.55339	11.6213	0.2878	6.9300e-003	20.8812
Total		**11.6213**	**0.2878**	**6.9300e-003**	**20.8812**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	26.4721	1.5645	0.0000	65.5834
Unmitigated	35.2961	2.0859	0.0000	87.4445

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	173.88	35.2961	2.0859	0.0000	87.4445
Total		**35.2961**	**2.0859**	**0.0000**	**87.4445**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	130.41	26.4721	1.5645	0.0000	65.5834
Total		**26.4721**	**1.5645**	**0.0000**	**65.5834**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Phase 3 Construction and Operations (Annual)

Parc West Phase 3 Const and Ops 2023

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	169.00	Dwelling Unit	31.60	304,200.00	483

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.025	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Energy Intensity

Land Use - Phase 2 Acreage

Construction Phase - Ajdusted schedule to reflect 5 year buildout for full project

Off-road Equipment -

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Off-road Equipment - Removing 3 structures

Off-road Equipment -

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Off-road Equipment -

Demolition - Remove 2 houses and a barn

Architectural Coating - SJVAPCD Rule 4601 Architectural Coatings

Vehicle Trips - ITE 10th Edition Trip Rates 9.44, 9.54, 8.55

Woodstoves -

Area Coating - Rule 4601 Architectural Coatings compliance

Energy Use -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation - Rule 4601 Compliant Coatings

Energy Mitigation -

Water Mitigation - CalGreen Code and MWELO water conservation requirements

Waste Mitigation - CalRecycle 75% Recycling Mandate

Fleet Mix - SJVAPCD Fleet Mix 2023

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	150.00	65.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	65.00
tblAreaCoating	Area_EF_Residential_Exterior	150	65

Parc West Phase 3 Const and Ops 2023 - Fresno County, Annual

tblAreaCoating	Area_EF_Residential_Interior	150	65
tblConstructionPhase	NumDays	500.00	200.00
tblConstructionPhase	NumDays	35.00	20.00
tblConstructionPhase	PhaseEndDate	2/28/2025	1/5/2024
tblConstructionPhase	PhaseEndDate	4/18/2025	2/2/2024
tblConstructionPhase	PhaseEndDate	6/6/2025	3/22/2024
tblConstructionPhase	PhaseStartDate	3/1/2025	1/6/2024
tblConstructionPhase	PhaseStartDate	4/19/2025	2/3/2024
tblFleetMix	HHD	0.13	0.02
tblFleetMix	LDA	0.50	0.53
tblFleetMix	LDT1	0.03	0.21
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LHD1	0.01	1.1000e-003
tblFleetMix	LHD2	4.2870e-003	9.0000e-004
tblFleetMix	MCY	4.9660e-003	2.5000e-003
tblFleetMix	MDV	0.11	0.06
tblFleetMix	MH	5.6200e-004	1.9000e-003
tblFleetMix	MHD	0.03	8.5000e-003
tblFleetMix	OBUS	2.3600e-003	0.00
tblFleetMix	SBUS	1.0700e-003	4.0000e-004
tblFleetMix	UBUS	1.4600e-003	4.3000e-003
tblLandUse	LotAcreage	54.87	31.60
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.025
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblTripsAndVMT	WorkerTripNumber	30.00	15.00
tblVehicleTrips	HO_TTP	35.70	36.00
tblVehicleTrips	HS_TTP	15.90	16.00
tblVehicleTrips	HW_TTP	48.40	48.00
tblVehicleTrips	ST_TR	9.91	9.54
tblVehicleTrips	SU_TR	8.62	8.55
tblVehicleTrips	WD_TR	9.52	9.44

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.5645	5.1939	5.4237	0.0102	0.4400	0.2376	0.6776	0.1976	0.2229	0.4204	0.0000	883.8371	883.8371	0.2046	0.0000	888.9518
2024	1.2724	0.3119	0.4482	7.5000e-004	4.4000e-003	0.0148	0.0192	1.1800e-003	0.0138	0.0150	0.0000	65.1818	65.1818	0.0172	0.0000	65.6111
Maximum	**1.2724**	**5.1939**	**5.4237**	**0.0102**	**0.4400**	**0.2376**	**0.6776**	**0.1976**	**0.2229**	**0.4204**	**0.0000**	**883.8371**	**883.8371**	**0.2046**	**0.0000**	**888.9518**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.5645	5.1939	5.4237	0.0102	0.2333	0.2376	0.4709	0.0984	0.2229	0.3213	0.0000	883.8362	883.8362	0.2046	0.0000	888.9509
2024	1.2724	0.3119	0.4482	7.5000e-004	4.4000e-003	0.0148	0.0192	1.1800e-003	0.0138	0.0150	0.0000	65.1817	65.1817	0.0172	0.0000	65.6110
Maximum	**1.2724**	**5.1939**	**5.4237**	**0.0102**	**0.2333**	**0.2376**	**0.4709**	**0.0984**	**0.2229**	**0.3213**	**0.0000**	**883.8362**	**883.8362**	**0.2046**	**0.0000**	**888.9509**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**46.51**	**0.00**	**29.66**	**49.87**	**0.00**	**22.77**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-1-2023**	**3-31-2023**	1.1460	1.1460
2	**4-1-2023**	**6-30-2023**	1.5342	1.5342
3	**7-1-2023**	**9-30-2023**	1.5511	1.5511
4	**10-1-2023**	**12-31-2023**	1.5514	1.5514
5	**1-1-2024**	**3-31-2024**	1.5529	1.5529
		Highest	1.5529	1.5529

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.0010	0.1731	7.1305	0.0196		0.9661	0.9661		0.9661	0.9661	127.7500	75.2618	203.0119	0.6006	1.3400e-003	218.4263
Energy	0.0238	0.2036	0.0866	1.3000e-003		0.0165	0.0165		0.0165	0.0165	0.0000	430.5466	430.5466	0.0213	7.6800e-003	433.3682
Mobile	0.4567	1.5145	5.1626	0.0175	1.7281	0.0136	1.7417	0.4623	0.0127	0.4749	0.0000	1,611.2223	1,611.2223	0.0947	0.0000	1,613.5889
Waste						0.0000	0.0000		0.0000	0.0000	35.2961	0.0000	35.2961	2.0859	0.0000	87.4445
Water						0.0000	0.0000		0.0000	0.0000	3.4933	11.0333	14.5266	0.3598	8.6600e-003	26.1016
Total	**2.4815**	**1.8912**	**12.3797**	**0.0384**	**1.7281**	**0.9962**	**2.7243**	**0.4623**	**0.9952**	**1.4575**	**166.5394**	**2,128.0640**	**2,294.6034**	**3.1622**	**0.0177**	**2,378.9294**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3570	0.0777	1.2820	4.7000e-004		0.0121	0.0121		0.0121	0.0121	0.0000	75.2618	75.2618	3.3700e-003	1.3400e-003	75.7462
Energy	0.0224	0.1914	0.0814	1.2200e-003		0.0155	0.0155		0.0155	0.0155	0.0000	414.8418	414.8418	0.0209	7.3900e-003	417.5679
Mobile	0.4505	1.4721	4.9527	0.0167	1.6371	0.0130	1.6501	0.4379	0.0121	0.4500	0.0000	1,532.0551	1,532.0551	0.0913	0.0000	1,534.3367
Waste						0.0000	0.0000		0.0000	0.0000	26.4721	0.0000	26.4721	1.5645	0.0000	65.5834
Water						0.0000	0.0000		0.0000	0.0000	2.7946	8.8266	11.6213	0.2878	6.9300e-003	20.8812
Total	**1.8299**	**1.7411**	**6.3162**	**0.0184**	**1.6371**	**0.0405**	**1.6776**	**0.4379**	**0.0396**	**0.4775**	**29.2667**	**2,030.9853**	**2,060.2520**	**1.9678**	**0.0157**	**2,114.1154**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**26.26**	**7.93**	**48.98**	**52.18**	**5.27**	**95.94**	**38.42**	**5.27**	**96.02**	**67.24**	**82.43**	**4.56**	**10.21**	**37.77**	**11.43**	**11.13**

3.0 Construction Detail

Construction Phase

Parc West Phase 3 Const and Ops 2023 - Fresno County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2023	1/27/2023	5	20	
2	Grading	Grading	1/28/2023	3/31/2023	5	45	
3	Building Construction	Building Construction	4/1/2023	1/5/2024	5	200	
4	Paving	Paving	1/6/2024	2/2/2024	5	20	
5	Architectural Coating	Architectural Coating	2/3/2024	3/22/2024	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 616,005; Residential Outdoor: 205,335; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Parc West Phase 3 Const and Ops 2023 - Fresno County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	3	7.00	231	0.29
Building Construction	Forklifts	8	8.00	89	0.20
Building Construction	Generator Sets	3	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	8	7.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Pavers	4	8.00	130	0.42
Paving	Paving Equipment	4	8.00	132	0.36
Paving	Rollers	4	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	25	61.00	18.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	12	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	12.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0266	0.2752	0.1824	3.8000e-004		0.0127	0.0127		0.0117	0.0117	0.0000	33.4507	33.4507	0.0108	0.0000	33.7212
Total	**0.0266**	**0.2752**	**0.1824**	**3.8000e-004**	**0.1807**	**0.0127**	**0.1933**	**0.0993**	**0.0117**	**0.1110**	**0.0000**	**33.4507**	**33.4507**	**0.0108**	**0.0000**	**33.7212**

3.2 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2000e-004	3.5000e-004	3.7800e-003	1.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1161	1.1161	2.0000e-005	0.0000	1.1167
Total	**6.2000e-004**	**3.5000e-004**	**3.7800e-003**	**1.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.1161**	**1.1161**	**2.0000e-005**	**0.0000**	**1.1167**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0813	0.0000	0.0813	0.0447	0.0000	0.0447	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0266	0.2752	0.1824	3.8000e-004		0.0127	0.0127		0.0117	0.0117	0.0000	33.4507	33.4507	0.0108	0.0000	33.7211
Total	**0.0266**	**0.2752**	**0.1824**	**3.8000e-004**	**0.0813**	**0.0127**	**0.0940**	**0.0447**	**0.0117**	**0.0563**	**0.0000**	**33.4507**	**33.4507**	**0.0108**	**0.0000**	**33.7211**

3.2 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2000e-004	3.5000e-004	3.7800e-003	1.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.1161	1.1161	2.0000e-005	0.0000	1.1167
Total	**6.2000e-004**	**3.5000e-004**	**3.7800e-003**	**1.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.1161**	**1.1161**	**2.0000e-005**	**0.0000**	**1.1167**

3.3 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1952	0.0000	0.1952	0.0809	0.0000	0.0809	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0747	0.7766	0.6312	1.4000e-003		0.0321	0.0321		0.0295	0.0295	0.0000	122.7042	122.7042	0.0397	0.0000	123.6964
Total	**0.0747**	**0.7766**	**0.6312**	**1.4000e-003**	**0.1952**	**0.0321**	**0.2272**	**0.0809**	**0.0295**	**0.1104**	**0.0000**	**122.7042**	**122.7042**	**0.0397**	**0.0000**	**123.6964**

3.3 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5500e-003	8.8000e-004	9.4500e-003	3.0000e-005	3.6000e-003	2.0000e-005	3.6200e-003	9.6000e-004	2.0000e-005	9.8000e-004	0.0000	2.7903	2.7903	6.0000e-005	0.0000	2.7918
Total	**1.5500e-003**	**8.8000e-004**	**9.4500e-003**	**3.0000e-005**	**3.6000e-003**	**2.0000e-005**	**3.6200e-003**	**9.6000e-004**	**2.0000e-005**	**9.8000e-004**	**0.0000**	**2.7903**	**2.7903**	**6.0000e-005**	**0.0000**	**2.7918**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0878	0.0000	0.0878	0.0364	0.0000	0.0364	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0747	0.7766	0.6312	1.4000e-003		0.0321	0.0321		0.0295	0.0295	0.0000	122.7041	122.7041	0.0397	0.0000	123.6962
Total	**0.0747**	**0.7766**	**0.6312**	**1.4000e-003**	**0.0878**	**0.0321**	**0.1199**	**0.0364**	**0.0295**	**0.0659**	**0.0000**	**122.7041**	**122.7041**	**0.0397**	**0.0000**	**123.6962**

3.3 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5500e-003	8.8000e-004	9.4500e-003	3.0000e-005	3.6000e-003	2.0000e-005	3.6200e-003	9.6000e-004	2.0000e-005	9.8000e-004	0.0000	2.7903	2.7903	6.0000e-005	0.0000	2.7918
Total	**1.5500e-003**	**8.8000e-004**	**9.4500e-003**	**3.0000e-005**	**3.6000e-003**	**2.0000e-005**	**3.6200e-003**	**9.6000e-004**	**2.0000e-005**	**9.8000e-004**	**0.0000**	**2.7903**	**2.7903**	**6.0000e-005**	**0.0000**	**2.7918**

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4371	3.9830	4.4494	7.4700e-003		0.1924	0.1924		0.1813	0.1813	0.0000	641.5952	641.5952	0.1495	0.0000	645.3329
Total	**0.4371**	**3.9830**	**4.4494**	**7.4700e-003**		**0.1924**	**0.1924**		**0.1813**	**0.1813**	**0.0000**	**641.5952**	**641.5952**	**0.1495**	**0.0000**	**645.3329**

3.4 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3800e-003	0.1463	0.0226	4.8000e-004	0.0116	1.4000e-004	0.0118	3.3600e-003	1.3000e-004	3.4900e-003	0.0000	45.3021	45.3021	3.7100e-003	0.0000	45.3949
Worker	0.0205	0.0116	0.1248	4.1000e-004	0.0476	2.8000e-004	0.0478	0.0126	2.6000e-004	0.0129	0.0000	36.8785	36.8785	7.8000e-004	0.0000	36.8980
Total	**0.0239**	**0.1578**	**0.1475**	**8.9000e-004**	**0.0592**	**4.2000e-004**	**0.0596**	**0.0160**	**3.9000e-004**	**0.0164**	**0.0000**	**82.1806**	**82.1806**	**4.4900e-003**	**0.0000**	**82.2929**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4371	3.9830	4.4494	7.4700e-003		0.1924	0.1924		0.1813	0.1813	0.0000	641.5944	641.5944	0.1495	0.0000	645.3322
Total	**0.4371**	**3.9830**	**4.4494**	**7.4700e-003**		**0.1924**	**0.1924**		**0.1813**	**0.1813**	**0.0000**	**641.5944**	**641.5944**	**0.1495**	**0.0000**	**645.3322**

3.4 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3800e-003	0.1463	0.0226	4.8000e-004	0.0116	1.4000e-004	0.0118	3.3600e-003	1.3000e-004	3.4900e-003	0.0000	45.3021	45.3021	3.7100e-003	0.0000	45.3949
Worker	0.0205	0.0116	0.1248	4.1000e-004	0.0476	2.8000e-004	0.0478	0.0126	2.6000e-004	0.0129	0.0000	36.8785	36.8785	7.8000e-004	0.0000	36.8980
Total	**0.0239**	**0.1578**	**0.1475**	**8.9000e-004**	**0.0592**	**4.2000e-004**	**0.0596**	**0.0160**	**3.9000e-004**	**0.0164**	**0.0000**	**82.1806**	**82.1806**	**4.4900e-003**	**0.0000**	**82.2929**

3.4 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0105	0.0955	0.1135	1.9000e-004		4.3300e-003	4.3300e-003		4.0800e-003	4.0800e-003	0.0000	16.4541	16.4541	3.8100e-003	0.0000	16.5494
Total	**0.0105**	**0.0955**	**0.1135**	**1.9000e-004**		**4.3300e-003**	**4.3300e-003**		**4.0800e-003**	**4.0800e-003**	**0.0000**	**16.4541**	**16.4541**	**3.8100e-003**	**0.0000**	**16.5494**

3.4 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.0000e-005	3.7200e-003	5.5000e-004	1.0000e-005	3.0000e-004	0.0000	3.0000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	1.1528	1.1528	1.0000e-004	0.0000	1.1552
Worker	4.9000e-004	2.7000e-004	2.9400e-003	1.0000e-005	1.2200e-003	1.0000e-005	1.2300e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9087	0.9087	2.0000e-005	0.0000	0.9091
Total	**5.7000e-004**	**3.9900e-003**	**3.4900e-003**	**2.0000e-005**	**1.5200e-003**	**1.0000e-005**	**1.5300e-003**	**4.1000e-004**	**1.0000e-005**	**4.2000e-004**	**0.0000**	**2.0614**	**2.0614**	**1.2000e-004**	**0.0000**	**2.0643**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0105	0.0955	0.1135	1.9000e-004		4.3300e-003	4.3300e-003		4.0800e-003	4.0800e-003	0.0000	16.4541	16.4541	3.8100e-003	0.0000	16.5493
Total	**0.0105**	**0.0955**	**0.1135**	**1.9000e-004**		**4.3300e-003**	**4.3300e-003**		**4.0800e-003**	**4.0800e-003**	**0.0000**	**16.4541**	**16.4541**	**3.8100e-003**	**0.0000**	**16.5493**

3.4 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.0000e-005	3.7200e-003	5.5000e-004	1.0000e-005	3.0000e-004	0.0000	3.0000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	1.1528	1.1528	1.0000e-004	0.0000	1.1552
Worker	4.9000e-004	2.7000e-004	2.9400e-003	1.0000e-005	1.2200e-003	1.0000e-005	1.2300e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.9087	0.9087	2.0000e-005	0.0000	0.9091
Total	**5.7000e-004**	**3.9900e-003**	**3.4900e-003**	**2.0000e-005**	**1.5200e-003**	**1.0000e-005**	**1.5300e-003**	**4.1000e-004**	**1.0000e-005**	**4.2000e-004**	**0.0000**	**2.0614**	**2.0614**	**1.2000e-004**	**0.0000**	**2.0643**

3.5 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0198	0.1905	0.2925	4.6000e-004		9.3700e-003	9.3700e-003		8.6200e-003	8.6200e-003	0.0000	40.0531	40.0531	0.0130	0.0000	40.3769
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0198**	**0.1905**	**0.2925**	**4.6000e-004**		**9.3700e-003**	**9.3700e-003**		**8.6200e-003**	**8.6200e-003**	**0.0000**	**40.0531**	**40.0531**	**0.0130**	**0.0000**	**40.3769**

3.5 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.8000e-004	2.6000e-004	2.9000e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.8938	0.8938	2.0000e-005	0.0000	0.8942
Total	**4.8000e-004**	**2.6000e-004**	**2.9000e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**0.8938**	**0.8938**	**2.0000e-005**	**0.0000**	**0.8942**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0198	0.1905	0.2925	4.6000e-004		9.3700e-003	9.3700e-003		8.6200e-003	8.6200e-003	0.0000	40.0530	40.0530	0.0130	0.0000	40.3769
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0198**	**0.1905**	**0.2925**	**4.6000e-004**		**9.3700e-003**	**9.3700e-003**		**8.6200e-003**	**8.6200e-003**	**0.0000**	**40.0530**	**40.0530**	**0.0130**	**0.0000**	**40.3769**

3.5 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.8000e-004	2.6000e-004	2.9000e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	0.8938	0.8938	2.0000e-005	0.0000	0.8942
Total	**4.8000e-004**	**2.6000e-004**	**2.9000e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**0.8938**	**0.8938**	**2.0000e-005**	**0.0000**	**0.8942**

3.6 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.2373					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1600e-003	0.0213	0.0317	5.0000e-005		1.0700e-003	1.0700e-003		1.0700e-003	1.0700e-003	0.0000	4.4682	4.4682	2.5000e-004	0.0000	4.4745
Total	**1.2404**	**0.0213**	**0.0317**	**5.0000e-005**		**1.0700e-003**	**1.0700e-003**		**1.0700e-003**	**1.0700e-003**	**0.0000**	**4.4682**	**4.4682**	**2.5000e-004**	**0.0000**	**4.4745**

3.6 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.8000e-004	3.7000e-004	4.0500e-003	1.0000e-005	1.6800e-003	1.0000e-005	1.6900e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.2513	1.2513	2.0000e-005	0.0000	1.2519
Total	**6.8000e-004**	**3.7000e-004**	**4.0500e-003**	**1.0000e-005**	**1.6800e-003**	**1.0000e-005**	**1.6900e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.2513**	**1.2513**	**2.0000e-005**	**0.0000**	**1.2519**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.2373					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1600e-003	0.0213	0.0317	5.0000e-005		1.0700e-003	1.0700e-003		1.0700e-003	1.0700e-003	0.0000	4.4682	4.4682	2.5000e-004	0.0000	4.4745
Total	**1.2404**	**0.0213**	**0.0317**	**5.0000e-005**		**1.0700e-003**	**1.0700e-003**		**1.0700e-003**	**1.0700e-003**	**0.0000**	**4.4682**	**4.4682**	**2.5000e-004**	**0.0000**	**4.4745**

3.6 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.8000e-004	3.7000e-004	4.0500e-003	1.0000e-005	1.6800e-003	1.0000e-005	1.6900e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.2513	1.2513	2.0000e-005	0.0000	1.2519
Total	**6.8000e-004**	**3.7000e-004**	**4.0500e-003**	**1.0000e-005**	**1.6800e-003**	**1.0000e-005**	**1.6900e-003**	**4.5000e-004**	**1.0000e-005**	**4.6000e-004**	**0.0000**	**1.2513**	**1.2513**	**2.0000e-005**	**0.0000**	**1.2519**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4505	1.4721	4.9527	0.0167	1.6371	0.0130	1.6501	0.4379	0.0121	0.4500	0.0000	1,532.0551	1,532.0551	0.0913	0.0000	1,534.3367
Unmitigated	0.4567	1.5145	5.1626	0.0175	1.7281	0.0136	1.7417	0.4623	0.0127	0.4749	0.0000	1,611.2223	1,611.2223	0.0947	0.0000	1,613.5889

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,595.36	1,612.26	1444.95	4,611,177	4,368,321
Total	1,595.36	1,612.26	1,444.95	4,611,177	4,368,321

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	48.00	16.00	36.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.530500	0.205800	0.167300	0.055000	0.001100	0.000900	0.008500	0.021800	0.000000	0.004300	0.002500	0.000400	0.001900

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	193.2064	193.2064	0.0167	3.3300e-003	194.6154
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	194.7562	194.7562	0.0168	3.3600e-003	196.1766
NaturalGas Mitigated	0.0224	0.1914	0.0814	1.2200e-003		0.0155	0.0155		0.0155	0.0155	0.0000	221.6354	221.6354	4.2500e-003	4.0600e-003	222.9525
NaturalGas Unmitigated	0.0238	0.2036	0.0866	1.3000e-003		0.0165	0.0165		0.0165	0.0165	0.0000	235.7904	235.7904	4.5200e-003	4.3200e-003	237.1916

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	4.41855e+006	0.0238	0.2036	0.0866	1.3000e-003		0.0165	0.0165		0.0165	0.0165	0.0000	235.7904	235.7904	4.5200e-003	4.3200e-003	237.1916
Total		**0.0238**	**0.2036**	**0.0866**	**1.3000e-003**		**0.0165**	**0.0165**		**0.0165**	**0.0165**	**0.0000**	**235.7904**	**235.7904**	**4.5200e-003**	**4.3200e-003**	**237.1916**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	4.15329e+006	0.0224	0.1914	0.0814	1.2200e-003		0.0155	0.0155		0.0155	0.0155	0.0000	221.6354	221.6354	4.2500e-003	4.0600e-003	222.9525
Total		**0.0224**	**0.1914**	**0.0814**	**1.2200e-003**		**0.0155**	**0.0155**		**0.0155**	**0.0155**	**0.0000**	**221.6354**	**221.6354**	**4.2500e-003**	**4.0600e-003**	**222.9525**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.48057e+006	194.7562	0.0168	3.3600e-003	196.1766
Total		**194.7562**	**0.0168**	**3.3600e-003**	**196.1766**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.46878e+006	193.2064	0.0167	3.3300e-003	194.6154
Total		**193.2064**	**0.0167**	**3.3300e-003**	**194.6154**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.3570	0.0777	1.2820	4.7000e-004		0.0121	0.0121		0.0121	0.0121	0.0000	75.2618	75.2618	3.3700e-003	1.3400e-003	75.7462
Unmitigated	2.0010	0.1731	7.1305	0.0196		0.9661	0.9661		0.9661	0.9661	127.7500	75.2618	203.0119	0.6006	1.3400e-003	218.4263

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1237					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.1881					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.6514	0.1586	5.8753	0.0195		0.9592	0.9592		0.9592	0.9592	127.7500	73.2121	200.9621	0.5986	1.3400e-003	216.3273
Landscaping	0.0378	0.0145	1.2551	7.0000e-005		6.9500e-003	6.9500e-003		6.9500e-003	6.9500e-003	0.0000	2.0498	2.0498	1.9700e-003	0.0000	2.0990
Total	**2.0010**	**0.1731**	**7.1305**	**0.0196**		**0.9661**	**0.9661**		**0.9661**	**0.9661**	**127.7500**	**75.2618**	**203.0119**	**0.6006**	**1.3400e-003**	**218.4263**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1237					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.1881					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	7.4000e-003	0.0632	0.0269	4.0000e-004		5.1100e-003	5.1100e-003		5.1100e-003	5.1100e-003	0.0000	73.2121	73.2121	1.4000e-003	1.3400e-003	73.6471
Landscaping	0.0378	0.0145	1.2551	7.0000e-005		6.9500e-003	6.9500e-003		6.9500e-003	6.9500e-003	0.0000	2.0498	2.0498	1.9700e-003	0.0000	2.0990
Total	**1.3570**	**0.0777**	**1.2820**	**4.7000e-004**		**0.0121**	**0.0121**		**0.0121**	**0.0121**	**0.0000**	**75.2618**	**75.2618**	**3.3700e-003**	**1.3400e-003**	**75.7462**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	11.6213	0.2878	6.9300e-003	20.8812
Unmitigated	14.5266	0.3598	8.6600e-003	26.1016

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	11.011 / 6.94174	14.5266	0.3598	8.6600e-003	26.1016
Total		**14.5266**	**0.3598**	**8.6600e-003**	**26.1016**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	8.80882 / 5.55339	11.6213	0.2878	6.9300e-003	20.8812
Total		**11.6213**	**0.2878**	**6.9300e-003**	**20.8812**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	26.4721	1.5645	0.0000	65.5834
Unmitigated	35.2961	2.0859	0.0000	87.4445

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	173.88	35.2961	2.0859	0.0000	87.4445
Total		**35.2961**	**2.0859**	**0.0000**	**87.4445**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	130.41	26.4721	1.5645	0.0000	65.5834
Total		**26.4721**	**1.5645**	**0.0000**	**65.5834**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Phase 4 Construction and Operations (Annual)

Parc West Phase 4 Const and Ops 2024

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	169.00	Dwelling Unit	31.60	304,200.00	483

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.025	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Energy Intensity

Land Use - Phase 4 Acreage

Construction Phase - Ajdusted schedule to reflect 5 year buildout for full project

Off-road Equipment -

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Off-road Equipment - Removing 3 structures

Off-road Equipment -

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Off-road Equipment -

Demolition - Remove 2 houses and a barn

Architectural Coating - SJVAPCD Rule 4601 Architectural Coatings

Vehicle Trips - ITE 10th Edition Trip Rates 9.44, 9.54, 8.55

Woodstoves -

Area Coating - Rule 4601 Architectural Coatings compliance

Energy Use -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation - Rule 4601 Compliant Coatings

Energy Mitigation -

Water Mitigation - CalGreen Code and MWELO water conservation requirements

Waste Mitigation - CalRecycle 75% Recycling Mandate

Fleet Mix - SJVAPCD Fleet Mix 2024

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	150.00	65.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	65.00
tblAreaCoating	Area_EF_Residential_Exterior	150	65

Parc West Phase 4 Const and Ops 2024 - Fresno County, Annual

tblAreaCoating	Area_EF_Residential_Interior	150	65
tblConstructionPhase	NumDays	500.00	200.00
tblConstructionPhase	NumDays	35.00	20.00
tblConstructionPhase	PhaseEndDate	2/27/2026	1/3/2025
tblConstructionPhase	PhaseEndDate	4/17/2026	1/31/2025
tblConstructionPhase	PhaseEndDate	6/5/2026	3/21/2025
tblConstructionPhase	PhaseStartDate	2/28/2026	1/4/2025
tblConstructionPhase	PhaseStartDate	4/18/2026	2/1/2025
tblFleetMix	HHD	0.13	0.02
tblFleetMix	LDA	0.50	0.53
tblFleetMix	LDT1	0.03	0.21
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LHD1	0.01	9.0000e-004
tblFleetMix	LHD2	4.0970e-003	9.0000e-004
tblFleetMix	MCY	4.8840e-003	2.5000e-003
tblFleetMix	MDV	0.11	0.06
tblFleetMix	MH	5.3500e-004	2.0000e-003
tblFleetMix	MHD	0.03	8.0000e-003
tblFleetMix	OBUS	2.3410e-003	0.00
tblFleetMix	SBUS	1.0580e-003	2.0000e-004
tblFleetMix	UBUS	1.4060e-003	4.3000e-003
tblLandUse	LotAcreage	54.87	31.60
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.025
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblTripsAndVMT	WorkerTripNumber	30.00	15.00
tblVehicleTrips	HO_TTP	35.70	36.00
tblVehicleTrips	HS_TTP	15.90	16.00
tblVehicleTrips	HW_TTP	48.40	48.00
tblVehicleTrips	ST_TR	9.91	9.54
tblVehicleTrips	SU_TR	8.62	8.55
tblVehicleTrips	WD_TR	9.52	9.44

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	0.5369	4.9193	5.4294	0.0102	0.4406	0.2133	0.6539	0.1977	0.2000	0.3977	0.0000	889.3912	889.3912	0.2052	0.0000	894.5202
2025	1.2658	0.2477	0.3993	6.6000e-004	3.7900e-003	0.0115	0.0153	1.0100e-003	0.0107	0.0117	0.0000	57.6519	57.6519	0.0156	0.0000	58.0412
Maximum	**1.2658**	**4.9193**	**5.4294**	**0.0102**	**0.4406**	**0.2133**	**0.6539**	**0.1977**	**0.2000**	**0.3977**	**0.0000**	**889.3912**	**889.3912**	**0.2052**	**0.0000**	**894.5202**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	0.5369	4.9193	5.4294	0.0102	0.2339	0.2133	0.4472	0.0986	0.2000	0.2986	0.0000	889.3902	889.3902	0.2052	0.0000	894.5192
2025	1.2658	0.2477	0.3993	6.6000e-004	3.7900e-003	0.0115	0.0153	1.0100e-003	0.0107	0.0117	0.0000	57.6518	57.6518	0.0156	0.0000	58.0411
Maximum	**1.2658**	**4.9193**	**5.4294**	**0.0102**	**0.2339**	**0.2133**	**0.4472**	**0.0986**	**0.2000**	**0.2986**	**0.0000**	**889.3902**	**889.3902**	**0.2052**	**0.0000**	**894.5192**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**46.51**	**0.00**	**30.89**	**49.88**	**0.00**	**24.21**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-1-2024**	**3-31-2024**	1.1128	1.1128
2	**4-1-2024**	**6-30-2024**	1.4368	1.4368
3	**7-1-2024**	**9-30-2024**	1.4525	1.4525
4	**10-1-2024**	**12-31-2024**	1.4529	1.4529
5	**1-1-2025**	**3-31-2025**	1.4961	1.4961
		Highest	1.4961	1.4961

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.0009	0.1731	7.1297	0.0196		0.9661	0.9661		0.9661	0.9661	127.7500	75.2618	203.0119	0.6006	1.3400e-003	218.4262
Energy	0.0238	0.2036	0.0866	1.3000e-003		0.0165	0.0165		0.0165	0.0165	0.0000	430.5466	430.5466	0.0213	7.6800e-003	433.3682
Mobile	0.4251	1.4194	4.7815	0.0169	1.7270	0.0131	1.7401	0.4618	0.0122	0.4740	0.0000	1,553.3812	1,553.3812	0.0890	0.0000	1,555.6072
Waste						0.0000	0.0000		0.0000	0.0000	35.2961	0.0000	35.2961	2.0859	0.0000	87.4445
Water						0.0000	0.0000		0.0000	0.0000	3.4933	11.0333	14.5266	0.3598	8.6600e-003	26.1016
Total	**2.4499**	**1.7961**	**11.9978**	**0.0377**	**1.7270**	**0.9957**	**2.7227**	**0.4618**	**0.9948**	**1.4566**	**166.5394**	**2,070.2229**	**2,236.7623**	**3.1566**	**0.0177**	**2,320.9477**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3569	0.0777	1.2812	4.7000e-004		0.0121	0.0121		0.0121	0.0121	0.0000	75.2618	75.2618	3.3700e-003	1.3400e-003	75.7461
Energy	0.0224	0.1914	0.0814	1.2200e-003		0.0155	0.0155		0.0155	0.0155	0.0000	414.8418	414.8418	0.0209	7.3900e-003	417.5679
Mobile	0.4194	1.3804	4.5862	0.0161	1.6360	0.0125	1.6486	0.4375	0.0117	0.4491	0.0000	1,477.0506	1,477.0506	0.0859	0.0000	1,479.1979
Waste						0.0000	0.0000		0.0000	0.0000	26.4721	0.0000	26.4721	1.5645	0.0000	65.5834
Water						0.0000	0.0000		0.0000	0.0000	2.7946	8.8266	11.6213	0.2878	6.9300e-003	20.8812
Total	**1.7987**	**1.6495**	**5.9489**	**0.0177**	**1.6360**	**0.0401**	**1.6761**	**0.4375**	**0.0392**	**0.4767**	**29.2667**	**1,975.9808**	**2,005.2475**	**1.9624**	**0.0157**	**2,058.9765**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**26.58**	**8.16**	**50.42**	**52.98**	**5.27**	**95.98**	**38.44**	**5.27**	**96.06**	**67.28**	**82.43**	**4.55**	**10.35**	**37.83**	**11.43**	**11.29**

3.0 Construction Detail

Construction Phase

Parc West Phase 4 Const and Ops 2024 - Fresno County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2024	1/26/2024	5	20	
2	Grading	Grading	1/27/2024	3/29/2024	5	45	
3	Building Construction	Building Construction	3/30/2024	1/3/2025	5	200	
4	Paving	Paving	1/4/2025	1/31/2025	5	20	
5	Architectural Coating	Architectural Coating	2/1/2025	3/21/2025	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 616,005; Residential Outdoor: 205,335; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Parc West Phase 4 Const and Ops 2024 - Fresno County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	3	7.00	231	0.29
Building Construction	Forklifts	8	8.00	89	0.20
Building Construction	Generator Sets	3	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	8	7.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Pavers	4	8.00	130	0.42
Paving	Paving Equipment	4	8.00	132	0.36
Paving	Rollers	4	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	25	61.00	18.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	12	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	12.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0266	0.2718	0.1834	3.8000e-004		0.0123	0.0123		0.0113	0.0113	0.0000	33.4571	33.4571	0.0108	0.0000	33.7276
Total	**0.0266**	**0.2718**	**0.1834**	**3.8000e-004**	**0.1807**	**0.0123**	**0.1930**	**0.0993**	**0.0113**	**0.1106**	**0.0000**	**33.4571**	**33.4571**	**0.0108**	**0.0000**	**33.7276**

3.2 Site Preparation - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.8000e-004	3.1000e-004	3.4700e-003	1.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.0725	1.0725	2.0000e-005	0.0000	1.0731
Total	**5.8000e-004**	**3.1000e-004**	**3.4700e-003**	**1.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.0725**	**1.0725**	**2.0000e-005**	**0.0000**	**1.0731**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0813	0.0000	0.0813	0.0447	0.0000	0.0447	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0266	0.2718	0.1834	3.8000e-004		0.0123	0.0123		0.0113	0.0113	0.0000	33.4570	33.4570	0.0108	0.0000	33.7275
Total	**0.0266**	**0.2718**	**0.1834**	**3.8000e-004**	**0.0813**	**0.0123**	**0.0936**	**0.0447**	**0.0113**	**0.0560**	**0.0000**	**33.4570**	**33.4570**	**0.0108**	**0.0000**	**33.7275**

3.2 Site Preparation - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.8000e-004	3.1000e-004	3.4700e-003	1.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.0725	1.0725	2.0000e-005	0.0000	1.0731
Total	**5.8000e-004**	**3.1000e-004**	**3.4700e-003**	**1.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.0725**	**1.0725**	**2.0000e-005**	**0.0000**	**1.0731**

3.3 Grading - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1952	0.0000	0.1952	0.0809	0.0000	0.0809	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0724	0.7285	0.6238	1.4000e-003		0.0301	0.0301		0.0276	0.0276	0.0000	122.6689	122.6689	0.0397	0.0000	123.6608
Total	**0.0724**	**0.7285**	**0.6238**	**1.4000e-003**	**0.1952**	**0.0301**	**0.2252**	**0.0809**	**0.0276**	**0.1086**	**0.0000**	**122.6689**	**122.6689**	**0.0397**	**0.0000**	**123.6608**

3.3 Grading - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4500e-003	7.9000e-004	8.6900e-003	3.0000e-005	3.6000e-003	2.0000e-005	3.6200e-003	9.6000e-004	2.0000e-005	9.8000e-004	0.0000	2.6813	2.6813	5.0000e-005	0.0000	2.6826
Total	**1.4500e-003**	**7.9000e-004**	**8.6900e-003**	**3.0000e-005**	**3.6000e-003**	**2.0000e-005**	**3.6200e-003**	**9.6000e-004**	**2.0000e-005**	**9.8000e-004**	**0.0000**	**2.6813**	**2.6813**	**5.0000e-005**	**0.0000**	**2.6826**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0878	0.0000	0.0878	0.0364	0.0000	0.0364	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0724	0.7285	0.6238	1.4000e-003		0.0301	0.0301		0.0276	0.0276	0.0000	122.6688	122.6688	0.0397	0.0000	123.6606
Total	**0.0724**	**0.7285**	**0.6238**	**1.4000e-003**	**0.0878**	**0.0301**	**0.1179**	**0.0364**	**0.0276**	**0.0641**	**0.0000**	**122.6688**	**122.6688**	**0.0397**	**0.0000**	**123.6606**

3.3 Grading - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4500e-003	7.9000e-004	8.6900e-003	3.0000e-005	3.6000e-003	2.0000e-005	3.6200e-003	9.6000e-004	2.0000e-005	9.8000e-004	0.0000	2.6813	2.6813	5.0000e-005	0.0000	2.6826
Total	**1.4500e-003**	**7.9000e-004**	**8.6900e-003**	**3.0000e-005**	**3.6000e-003**	**2.0000e-005**	**3.6200e-003**	**9.6000e-004**	**2.0000e-005**	**9.8000e-004**	**0.0000**	**2.6813**	**2.6813**	**5.0000e-005**	**0.0000**	**2.6826**

3.4 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4132	3.7608	4.4724	7.5400e-003		0.1705	0.1705		0.1606	0.1606	0.0000	648.2919	648.2919	0.1501	0.0000	652.0444
Total	**0.4132**	**3.7608**	**4.4724**	**7.5400e-003**		**0.1705**	**0.1705**		**0.1606**	**0.1606**	**0.0000**	**648.2919**	**648.2919**	**0.1501**	**0.0000**	**652.0444**

3.4 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3300e-003	0.1466	0.0217	4.8000e-004	0.0118	1.4000e-004	0.0119	3.3900e-003	1.3000e-004	3.5300e-003	0.0000	45.4183	45.4183	3.7800e-003	0.0000	45.5129
Worker	0.0194	0.0105	0.1160	4.0000e-004	0.0480	2.8000e-004	0.0483	0.0128	2.5000e-004	0.0130	0.0000	35.8012	35.8012	7.1000e-004	0.0000	35.8189
Total	**0.0227**	**0.1572**	**0.1377**	**8.8000e-004**	**0.0598**	**4.2000e-004**	**0.0602**	**0.0162**	**3.8000e-004**	**0.0166**	**0.0000**	**81.2195**	**81.2195**	**4.4900e-003**	**0.0000**	**81.3318**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4132	3.7608	4.4724	7.5400e-003		0.1705	0.1705		0.1606	0.1606	0.0000	648.2911	648.2911	0.1501	0.0000	652.0436
Total	**0.4132**	**3.7608**	**4.4724**	**7.5400e-003**		**0.1705**	**0.1705**		**0.1606**	**0.1606**	**0.0000**	**648.2911**	**648.2911**	**0.1501**	**0.0000**	**652.0436**

3.4 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.3300e-003	0.1466	0.0217	4.8000e-004	0.0118	1.4000e-004	0.0119	3.3900e-003	1.3000e-004	3.5300e-003	0.0000	45.4183	45.4183	3.7800e-003	0.0000	45.5129
Worker	0.0194	0.0105	0.1160	4.0000e-004	0.0480	2.8000e-004	0.0483	0.0128	2.5000e-004	0.0130	0.0000	35.8012	35.8012	7.1000e-004	0.0000	35.8189
Total	**0.0227**	**0.1572**	**0.1377**	**8.8000e-004**	**0.0598**	**4.2000e-004**	**0.0602**	**0.0162**	**3.8000e-004**	**0.0166**	**0.0000**	**81.2195**	**81.2195**	**4.4900e-003**	**0.0000**	**81.3318**

3.4 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.8500e-003	0.0531	0.0678	1.1000e-004		2.2400e-003	2.2400e-003		2.1100e-003	2.1100e-003	0.0000	9.8753	9.8753	2.2700e-003	0.0000	9.9321
Total	**5.8500e-003**	**0.0531**	**0.0678**	**1.1000e-004**		**2.2400e-003**	**2.2400e-003**		**2.1100e-003**	**2.1100e-003**	**0.0000**	**9.8753**	**9.8753**	**2.2700e-003**	**0.0000**	**9.9321**

3.4 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0000e-005	2.2200e-003	3.2000e-004	1.0000e-005	1.8000e-004	0.0000	1.8000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.6867	0.6867	6.0000e-005	0.0000	0.6882
Worker	2.8000e-004	1.4000e-004	1.6300e-003	1.0000e-005	7.3000e-004	0.0000	7.4000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.5235	0.5235	1.0000e-005	0.0000	0.5237
Total	**3.3000e-004**	**2.3600e-003**	**1.9500e-003**	**2.0000e-005**	**9.1000e-004**	**0.0000**	**9.2000e-004**	**2.4000e-004**	**0.0000**	**2.5000e-004**	**0.0000**	**1.2102**	**1.2102**	**7.0000e-005**	**0.0000**	**1.2119**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.8500e-003	0.0531	0.0678	1.1000e-004		2.2400e-003	2.2400e-003		2.1100e-003	2.1100e-003	0.0000	9.8753	9.8753	2.2700e-003	0.0000	9.9321
Total	**5.8500e-003**	**0.0531**	**0.0678**	**1.1000e-004**		**2.2400e-003**	**2.2400e-003**		**2.1100e-003**	**2.1100e-003**	**0.0000**	**9.8753**	**9.8753**	**2.2700e-003**	**0.0000**	**9.9321**

3.4 Building Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0000e-005	2.2200e-003	3.2000e-004	1.0000e-005	1.8000e-004	0.0000	1.8000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.6867	0.6867	6.0000e-005	0.0000	0.6882
Worker	2.8000e-004	1.4000e-004	1.6300e-003	1.0000e-005	7.3000e-004	0.0000	7.4000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.5235	0.5235	1.0000e-005	0.0000	0.5237
Total	**3.3000e-004**	**2.3600e-003**	**1.9500e-003**	**2.0000e-005**	**9.1000e-004**	**0.0000**	**9.2000e-004**	**2.4000e-004**	**0.0000**	**2.5000e-004**	**0.0000**	**1.2102**	**1.2102**	**7.0000e-005**	**0.0000**	**1.2119**

3.5 Paving - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0183	0.1716	0.2916	4.6000e-004		8.3700e-003	8.3700e-003		7.7000e-003	7.7000e-003	0.0000	40.0385	40.0385	0.0130	0.0000	40.3622
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0183**	**0.1716**	**0.2916**	**4.6000e-004**		**8.3700e-003**	**8.3700e-003**		**7.7000e-003**	**7.7000e-003**	**0.0000**	**40.0385**	**40.0385**	**0.0130**	**0.0000**	**40.3622**

3.5 Paving - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5000e-004	2.4000e-004	2.6700e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.8582	0.8582	2.0000e-005	0.0000	0.8586
Total	**4.5000e-004**	**2.4000e-004**	**2.6700e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.8582**	**0.8582**	**2.0000e-005**	**0.0000**	**0.8586**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0183	0.1716	0.2916	4.6000e-004		8.3700e-003	8.3700e-003		7.7000e-003	7.7000e-003	0.0000	40.0385	40.0385	0.0130	0.0000	40.3622
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0183**	**0.1716**	**0.2916**	**4.6000e-004**		**8.3700e-003**	**8.3700e-003**		**7.7000e-003**	**7.7000e-003**	**0.0000**	**40.0385**	**40.0385**	**0.0130**	**0.0000**	**40.3622**

3.5 Paving - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.5000e-004	2.4000e-004	2.6700e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.8582	0.8582	2.0000e-005	0.0000	0.8586
Total	**4.5000e-004**	**2.4000e-004**	**2.6700e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.8582**	**0.8582**	**2.0000e-005**	**0.0000**	**0.8586**

3.6 Architectural Coating - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.2373					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9900e-003	0.0201	0.0317	5.0000e-005		9.0000e-004	9.0000e-004		9.0000e-004	9.0000e-004	0.0000	4.4682	4.4682	2.4000e-004	0.0000	4.4743
Total	**1.2402**	**0.0201**	**0.0317**	**5.0000e-005**		**9.0000e-004**	**9.0000e-004**		**9.0000e-004**	**9.0000e-004**	**0.0000**	**4.4682**	**4.4682**	**2.4000e-004**	**0.0000**	**4.4743**

3.6 Architectural Coating - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.4000e-004	3.3000e-004	3.7300e-003	1.0000e-005	1.6800e-003	1.0000e-005	1.6900e-003	4.5000e-004	1.0000e-005	4.5000e-004	0.0000	1.2015	1.2015	2.0000e-005	0.0000	1.2020
Total	**6.4000e-004**	**3.3000e-004**	**3.7300e-003**	**1.0000e-005**	**1.6800e-003**	**1.0000e-005**	**1.6900e-003**	**4.5000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.2015**	**1.2015**	**2.0000e-005**	**0.0000**	**1.2020**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.2373					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9900e-003	0.0201	0.0317	5.0000e-005		9.0000e-004	9.0000e-004		9.0000e-004	9.0000e-004	0.0000	4.4682	4.4682	2.4000e-004	0.0000	4.4743
Total	**1.2402**	**0.0201**	**0.0317**	**5.0000e-005**		**9.0000e-004**	**9.0000e-004**		**9.0000e-004**	**9.0000e-004**	**0.0000**	**4.4682**	**4.4682**	**2.4000e-004**	**0.0000**	**4.4743**

3.6 Architectural Coating - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.4000e-004	3.3000e-004	3.7300e-003	1.0000e-005	1.6800e-003	1.0000e-005	1.6900e-003	4.5000e-004	1.0000e-005	4.5000e-004	0.0000	1.2015	1.2015	2.0000e-005	0.0000	1.2020
Total	**6.4000e-004**	**3.3000e-004**	**3.7300e-003**	**1.0000e-005**	**1.6800e-003**	**1.0000e-005**	**1.6900e-003**	**4.5000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.2015**	**1.2015**	**2.0000e-005**	**0.0000**	**1.2020**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4194	1.3804	4.5862	0.0161	1.6360	0.0125	1.6486	0.4375	0.0117	0.4491	0.0000	1,477.0506	1,477.0506	0.0859	0.0000	1,479.1979
Unmitigated	0.4251	1.4194	4.7815	0.0169	1.7270	0.0131	1.7401	0.4618	0.0122	0.4740	0.0000	1,553.3812	1,553.3812	0.0890	0.0000	1,555.6072

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,595.36	1,612.26	1444.95	4,611,177	4,368,321
Total	1,595.36	1,612.26	1,444.95	4,611,177	4,368,321

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	48.00	16.00	36.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.527700	0.209000	0.167500	0.055600	0.000900	0.000900	0.008000	0.021400	0.000000	0.004300	0.002500	0.000200	0.002000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	193.2064	193.2064	0.0167	3.3300e-003	194.6154
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	194.7562	194.7562	0.0168	3.3600e-003	196.1766
NaturalGas Mitigated	0.0224	0.1914	0.0814	1.2200e-003		0.0155	0.0155		0.0155	0.0155	0.0000	221.6354	221.6354	4.2500e-003	4.0600e-003	222.9525
NaturalGas Unmitigated	0.0238	0.2036	0.0866	1.3000e-003		0.0165	0.0165		0.0165	0.0165	0.0000	235.7904	235.7904	4.5200e-003	4.3200e-003	237.1916

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	4.41855e+006	0.0238	0.2036	0.0866	1.3000e-003		0.0165	0.0165		0.0165	0.0165	0.0000	235.7904	235.7904	4.5200e-003	4.3200e-003	237.1916
Total		**0.0238**	**0.2036**	**0.0866**	**1.3000e-003**		**0.0165**	**0.0165**		**0.0165**	**0.0165**	**0.0000**	**235.7904**	**235.7904**	**4.5200e-003**	**4.3200e-003**	**237.1916**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	4.15329e+006	0.0224	0.1914	0.0814	1.2200e-003		0.0155	0.0155		0.0155	0.0155	0.0000	221.6354	221.6354	4.2500e-003	4.0600e-003	222.9525
Total		**0.0224**	**0.1914**	**0.0814**	**1.2200e-003**		**0.0155**	**0.0155**		**0.0155**	**0.0155**	**0.0000**	**221.6354**	**221.6354**	**4.2500e-003**	**4.0600e-003**	**222.9525**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.48057e+006	194.7562	0.0168	3.3600e-003	196.1766
Total		**194.7562**	**0.0168**	**3.3600e-003**	**196.1766**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.46878e+006	193.2064	0.0167	3.3300e-003	194.6154
Total		**193.2064**	**0.0167**	**3.3300e-003**	**194.6154**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.3569	0.0777	1.2812	4.7000e-004		0.0121	0.0121		0.0121	0.0121	0.0000	75.2618	75.2618	3.3700e-003	1.3400e-003	75.7461
Unmitigated	2.0009	0.1731	7.1297	0.0196		0.9661	0.9661		0.9661	0.9661	127.7500	75.2618	203.0119	0.6006	1.3400e-003	218.4262

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1237					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.1881					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.6514	0.1586	5.8753	0.0195		0.9592	0.9592		0.9592	0.9592	127.7500	73.2121	200.9621	0.5986	1.3400e-003	216.3273
Landscaping	0.0377	0.0145	1.2543	7.0000e-005		6.9500e-003	6.9500e-003		6.9500e-003	6.9500e-003	0.0000	2.0498	2.0498	1.9700e-003	0.0000	2.0989
Total	**2.0009**	**0.1731**	**7.1297**	**0.0196**		**0.9661**	**0.9661**		**0.9661**	**0.9661**	**127.7500**	**75.2618**	**203.0119**	**0.6006**	**1.3400e-003**	**218.4262**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1237					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.1881					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	7.4000e-003	0.0632	0.0269	4.0000e-004		5.1100e-003	5.1100e-003		5.1100e-003	5.1100e-003	0.0000	73.2121	73.2121	1.4000e-003	1.3400e-003	73.6471
Landscaping	0.0377	0.0145	1.2543	7.0000e-005		6.9500e-003	6.9500e-003		6.9500e-003	6.9500e-003	0.0000	2.0498	2.0498	1.9700e-003	0.0000	2.0989
Total	**1.3569**	**0.0777**	**1.2812**	**4.7000e-004**		**0.0121**	**0.0121**		**0.0121**	**0.0121**	**0.0000**	**75.2618**	**75.2618**	**3.3700e-003**	**1.3400e-003**	**75.7460**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	11.6213	0.2878	6.9300e-003	20.8812
Unmitigated	14.5266	0.3598	8.6600e-003	26.1016

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	11.011 / 6.94174	14.5266	0.3598	8.6600e-003	26.1016
Total		**14.5266**	**0.3598**	**8.6600e-003**	**26.1016**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	8.80882 / 5.55339	11.6213	0.2878	6.9300e-003	20.8812
Total		**11.6213**	**0.2878**	**6.9300e-003**	**20.8812**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	26.4721	1.5645	0.0000	65.5834
Unmitigated	35.2961	2.0859	0.0000	87.4445

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	173.88	35.2961	2.0859	0.0000	87.4445
Total		**35.2961**	**2.0859**	**0.0000**	**87.4445**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	130.41	26.4721	1.5645	0.0000	65.5834
Total		**26.4721**	**1.5645**	**0.0000**	**65.5834**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Phase 5 Construction and Operations (Annual)

Parc West Phase 5 Const and Ops 2025

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	170.00	Dwelling Unit	31.60	306,000.00	486

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.025	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Energy Intensity

Land Use - Phase 5 Acreage

Construction Phase - Ajdusted schedule to reflect 5 year buildout for full project

Off-road Equipment -

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Off-road Equipment - Removing 3 structures

Off-road Equipment -

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Off-road Equipment -

Demolition - Remove 2 houses and a barn

Architectural Coating - SJVAPCD Rule 4601 Architectural Coatings

Vehicle Trips - ITE 10th Edition Trip Rates 9.44, 9.54, 8.55

Woodstoves - SJVAPCD Rule 4901 Compliance

Area Coating - Rule 4601 Architectural Coatings compliance

Energy Use -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation - Rule 4601 Compliant Coatings

Energy Mitigation -

Water Mitigation - CalGreen Code and MWELO water conservation requirements

Waste Mitigation - CalRecycle 75% Recycling Mandate

Fleet Mix - SJVAPCD Fleet Mix 2025

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	150.00	65.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	65.00
tblAreaCoating	Area_EF_Residential_Exterior	150	65

Parc West Phase 5 Const and Ops 2025 - Fresno County, Annual

tblAreaCoating	Area_EF_Residential_Interior	150	65
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	65	150
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	65	150
tblConstructionPhase	NumDays	500.00	200.00
tblConstructionPhase	NumDays	35.00	20.00
tblConstructionPhase	PhaseEndDate	3/2/2027	1/6/2026
tblConstructionPhase	PhaseEndDate	4/20/2027	2/3/2026
tblConstructionPhase	PhaseEndDate	6/8/2027	3/24/2026
tblConstructionPhase	PhaseStartDate	3/3/2027	1/7/2026
tblConstructionPhase	PhaseStartDate	4/21/2027	2/4/2026
tblFleetMix	HHD	0.13	0.02
tblFleetMix	LDA	0.51	0.52
tblFleetMix	LDT1	0.03	0.21
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LHD1	0.01	8.0000e-004
tblFleetMix	LHD2	3.9290e-003	9.0000e-004
tblFleetMix	MCY	4.8100e-003	2.5000e-003
tblFleetMix	MDV	0.10	0.06
tblFleetMix	MH	5.1200e-004	2.2000e-003
tblFleetMix	MHD	0.03	7.6000e-003
tblFleetMix	OBUS	2.3280e-003	0.00
tblFleetMix	SBUS	1.0480e-003	1.0000e-004
tblFleetMix	UBUS	1.3540e-003	4.3000e-003
tblLandUse	LotAcreage	55.19	31.60
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.025
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005

tblVehicleTrips	HO_TTP	35.70	36.00
tblVehicleTrips	HS_TTP	15.90	16.00
tblVehicleTrips	HW_TTP	48.40	48.00
tblVehicleTrips	ST_TR	9.91	9.54
tblVehicleTrips	SU_TR	8.62	8.55
tblVehicleTrips	WD_TR	9.52	9.44

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2025	0.2473	2.2583	2.4862	5.3100e-003	0.4403	0.0885	0.5288	0.1977	0.0825	0.2801	0.0000	466.0595	466.0595	0.1084	0.0000	468.7694
2026	1.2609	0.1344	0.2180	3.7000e-004	4.0900e-003	6.1700e-003	0.0103	1.0900e-003	5.7700e-003	6.8600e-003	0.0000	32.7068	32.7068	7.9300e-003	0.0000	32.9051
Maximum	**1.2609**	**2.2583**	**2.4862**	**5.3100e-003**	**0.4403**	**0.0885**	**0.5288**	**0.1977**	**0.0825**	**0.2801**	**0.0000**	**466.0595**	**466.0595**	**0.1084**	**0.0000**	**468.7694**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2025	0.2473	2.2583	2.4862	5.3100e-003	0.2336	0.0885	0.3221	0.0985	0.0825	0.1810	0.0000	466.0590	466.0590	0.1084	0.0000	468.7689
2026	1.2609	0.1344	0.2180	3.7000e-004	4.0900e-003	6.1700e-003	0.0103	1.0900e-003	5.7700e-003	6.8600e-003	0.0000	32.7068	32.7068	7.9300e-003	0.0000	32.9051
Maximum	**1.2609**	**2.2583**	**2.4862**	**5.3100e-003**	**0.2336**	**0.0885**	**0.3221**	**0.0985**	**0.0825**	**0.1810**	**0.0000**	**466.0590**	**466.0590**	**0.1084**	**0.0000**	**468.7689**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**46.51**	**0.00**	**38.34**	**49.88**	**0.00**	**34.54**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-1-2025**	**3-31-2025**	0.9631	0.9631
2	**4-1-2025**	**6-30-2025**	0.5136	0.5136
3	**7-1-2025**	**9-30-2025**	0.5137	0.5137
4	**10-1-2025**	**12-31-2025**	0.5140	0.5140
5	**1-1-2026**	**3-31-2026**	1.3977	1.3977
		Highest	1.3977	1.3977

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.0088	0.1735	7.1366	0.0196		0.9662	0.9662		0.9662	0.9662	127.7500	75.7072	203.4572	0.6006	1.3500e-003	218.8743
Energy	0.0240	0.2048	0.0872	1.3100e-003		0.0166	0.0166		0.0166	0.0166	0.0000	433.0942	433.0942	0.0214	7.7300e-003	435.9325
Mobile	0.4013	1.3514	4.4724	0.0164	1.7365	0.0128	1.7493	0.4643	0.0119	0.4761	0.0000	1,508.8485	1,508.8485	0.0851	0.0000	1,510.9752
Waste						0.0000	0.0000		0.0000	0.0000	35.5153	0.0000	35.5153	2.0989	0.0000	87.9877
Water						0.0000	0.0000		0.0000	0.0000	3.5140	11.0986	14.6126	0.3619	8.7100e-003	26.2560
Total	**2.4341**	**1.7297**	**11.6961**	**0.0373**	**1.7365**	**0.9956**	**2.7321**	**0.4643**	**0.9947**	**1.4589**	**166.7793**	**2,028.7484**	**2,195.5277**	**3.1679**	**0.0178**	**2,280.0256**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.5276	0.0781	1.2881	4.7000e-004		0.0121	0.0121		0.0121	0.0121	0.0000	75.7072	75.7072	3.3900e-003	1.3500e-003	76.1942
Energy	0.0225	0.1925	0.0819	1.2300e-003		0.0156	0.0156		0.0156	0.0156	0.0000	417.2965	417.2965	0.0210	7.4400e-003	420.0387
Mobile	0.3959	1.3151	4.2891	0.0156	1.6451	0.0122	1.6573	0.4398	0.0113	0.4511	0.0000	1,434.7307	1,434.7307	0.0821	0.0000	1,436.7835
Waste						0.0000	0.0000		0.0000	0.0000	26.6365	0.0000	26.6365	1.5742	0.0000	65.9907
Water						0.0000	0.0000		0.0000	0.0000	2.8112	8.8789	11.6900	0.2895	6.9700e-003	21.0048
Total	**1.9460**	**1.5857**	**5.6591**	**0.0173**	**1.6451**	**0.0399**	**1.6850**	**0.4398**	**0.0390**	**0.4788**	**29.4476**	**1,936.6132**	**1,966.0608**	**1.9702**	**0.0158**	**2,020.0119**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**20.05**	**8.32**	**51.62**	**53.61**	**5.27**	**95.99**	**38.33**	**5.27**	**96.08**	**67.18**	**82.34**	**4.54**	**10.45**	**37.81**	**11.41**	**11.40**

3.0 Construction Detail

Construction Phase

Parc West Phase 5 Const and Ops 2025 - Fresno County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2025	1/28/2025	5	20	
2	Grading	Grading	1/29/2025	4/1/2025	5	45	
3	Building Construction	Building Construction	4/2/2025	1/6/2026	5	200	
4	Paving	Paving	1/7/2026	2/3/2026	5	20	
5	Architectural Coating	Architectural Coating	2/4/2026	3/24/2026	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 619,650; Residential Outdoor: 206,550; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Parc West Phase 5 Const and Ops 2025 - Fresno County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	61.00	18.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	12.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0247	0.2523	0.1791	3.8000e-004		0.0109	0.0109		0.0100	0.0100	0.0000	33.4670	33.4670	0.0108	0.0000	33.7376
Total	**0.0247**	**0.2523**	**0.1791**	**3.8000e-004**	**0.1807**	**0.0109**	**0.1915**	**0.0993**	**0.0100**	**0.1093**	**0.0000**	**33.4670**	**33.4670**	**0.0108**	**0.0000**	**33.7376**

3.2 Site Preparation - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5000e-004	2.8000e-004	3.2000e-003	1.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.0298	1.0298	2.0000e-005	0.0000	1.0303
Total	**5.5000e-004**	**2.8000e-004**	**3.2000e-003**	**1.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.0298**	**1.0298**	**2.0000e-005**	**0.0000**	**1.0303**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0813	0.0000	0.0813	0.0447	0.0000	0.0447	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0247	0.2523	0.1791	3.8000e-004		0.0109	0.0109		0.0100	0.0100	0.0000	33.4670	33.4670	0.0108	0.0000	33.7375
Total	**0.0247**	**0.2523**	**0.1791**	**3.8000e-004**	**0.0813**	**0.0109**	**0.0922**	**0.0447**	**0.0100**	**0.0547**	**0.0000**	**33.4670**	**33.4670**	**0.0108**	**0.0000**	**33.7375**

3.2 Site Preparation - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.5000e-004	2.8000e-004	3.2000e-003	1.0000e-005	1.4400e-003	1.0000e-005	1.4500e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.0298	1.0298	2.0000e-005	0.0000	1.0303
Total	**5.5000e-004**	**2.8000e-004**	**3.2000e-003**	**1.0000e-005**	**1.4400e-003**	**1.0000e-005**	**1.4500e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.0298**	**1.0298**	**2.0000e-005**	**0.0000**	**1.0303**

3.3 Grading - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1952	0.0000	0.1952	0.0809	0.0000	0.0809	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0653	0.6287	0.5925	1.4000e-003		0.0255	0.0255		0.0234	0.0234	0.0000	122.6390	122.6390	0.0397	0.0000	123.6306
Total	**0.0653**	**0.6287**	**0.5925**	**1.4000e-003**	**0.1952**	**0.0255**	**0.2206**	**0.0809**	**0.0234**	**0.1043**	**0.0000**	**122.6390**	**122.6390**	**0.0397**	**0.0000**	**123.6306**

3.3 Grading - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3600e-003	7.1000e-004	8.0000e-003	3.0000e-005	3.6000e-003	2.0000e-005	3.6200e-003	9.6000e-004	2.0000e-005	9.7000e-004	0.0000	2.5746	2.5746	5.0000e-005	0.0000	2.5758
Total	**1.3600e-003**	**7.1000e-004**	**8.0000e-003**	**3.0000e-005**	**3.6000e-003**	**2.0000e-005**	**3.6200e-003**	**9.6000e-004**	**2.0000e-005**	**9.7000e-004**	**0.0000**	**2.5746**	**2.5746**	**5.0000e-005**	**0.0000**	**2.5758**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0878	0.0000	0.0878	0.0364	0.0000	0.0364	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0653	0.6287	0.5925	1.4000e-003		0.0255	0.0255		0.0234	0.0234	0.0000	122.6388	122.6388	0.0397	0.0000	123.6304
Total	**0.0653**	**0.6287**	**0.5925**	**1.4000e-003**	**0.0878**	**0.0255**	**0.1133**	**0.0364**	**0.0234**	**0.0598**	**0.0000**	**122.6388**	**122.6388**	**0.0397**	**0.0000**	**123.6304**

3.3 Grading - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3600e-003	7.1000e-004	8.0000e-003	3.0000e-005	3.6000e-003	2.0000e-005	3.6200e-003	9.6000e-004	2.0000e-005	9.7000e-004	0.0000	2.5746	2.5746	5.0000e-005	0.0000	2.5758
Total	**1.3600e-003**	**7.1000e-004**	**8.0000e-003**	**3.0000e-005**	**3.6000e-003**	**2.0000e-005**	**3.6200e-003**	**9.6000e-004**	**2.0000e-005**	**9.7000e-004**	**0.0000**	**2.5746**	**2.5746**	**5.0000e-005**	**0.0000**	**2.5758**

3.4 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1340	1.2220	1.5763	2.6400e-003		0.0517	0.0517		0.0486	0.0486	0.0000	227.2811	227.2811	0.0534	0.0000	228.6167
Total	**0.1340**	**1.2220**	**1.5763**	**2.6400e-003**		**0.0517**	**0.0517**		**0.0486**	**0.0486**	**0.0000**	**227.2811**	**227.2811**	**0.0534**	**0.0000**	**228.6167**

3.4 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.2300e-003	0.1447	0.0208	4.7000e-004	0.0117	1.4000e-004	0.0118	3.3800e-003	1.3000e-004	3.5100e-003	0.0000	44.8661	44.8661	3.7800e-003	0.0000	44.9607
Worker	0.0181	9.4400e-003	0.1063	3.8000e-004	0.0478	2.7000e-004	0.0481	0.0127	2.5000e-004	0.0130	0.0000	34.2019	34.2019	6.3000e-004	0.0000	34.2177
Total	**0.0214**	**0.1542**	**0.1271**	**8.5000e-004**	**0.0595**	**4.1000e-004**	**0.0599**	**0.0161**	**3.8000e-004**	**0.0165**	**0.0000**	**79.0680**	**79.0680**	**4.4100e-003**	**0.0000**	**79.1784**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1340	1.2220	1.5763	2.6400e-003		0.0517	0.0517		0.0486	0.0486	0.0000	227.2808	227.2808	0.0534	0.0000	228.6165
Total	**0.1340**	**1.2220**	**1.5763**	**2.6400e-003**		**0.0517**	**0.0517**		**0.0486**	**0.0486**	**0.0000**	**227.2808**	**227.2808**	**0.0534**	**0.0000**	**228.6165**

3.4 Building Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.2300e-003	0.1447	0.0208	4.7000e-004	0.0117	1.4000e-004	0.0118	3.3800e-003	1.3000e-004	3.5100e-003	0.0000	44.8661	44.8661	3.7800e-003	0.0000	44.9607
Worker	0.0181	9.4400e-003	0.1063	3.8000e-004	0.0478	2.7000e-004	0.0481	0.0127	2.5000e-004	0.0130	0.0000	34.2019	34.2019	6.3000e-004	0.0000	34.2177
Total	**0.0214**	**0.1542**	**0.1271**	**8.5000e-004**	**0.0595**	**4.1000e-004**	**0.0599**	**0.0161**	**3.8000e-004**	**0.0165**	**0.0000**	**79.0680**	**79.0680**	**4.4100e-003**	**0.0000**	**79.1784**

3.4 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.7300e-003	0.0249	0.0322	5.0000e-005		1.0600e-003	1.0600e-003		9.9000e-004	9.9000e-004	0.0000	4.6384	4.6384	1.0900e-003	0.0000	4.6657
Total	**2.7300e-003**	**0.0249**	**0.0322**	**5.0000e-005**		**1.0600e-003**	**1.0600e-003**		**9.9000e-004**	**9.9000e-004**	**0.0000**	**4.6384**	**4.6384**	**1.0900e-003**	**0.0000**	**4.6657**

3.4 Building Construction - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0000e-005	2.9300e-003	4.1000e-004	1.0000e-005	2.4000e-004	0.0000	2.4000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.9097	0.9097	8.0000e-005	0.0000	0.9117
Worker	3.5000e-004	1.8000e-004	2.0300e-003	1.0000e-005	9.8000e-004	1.0000e-005	9.8000e-004	2.6000e-004	0.0000	2.6000e-004	0.0000	0.6761	0.6761	1.0000e-005	0.0000	0.6764
Total	**4.1000e-004**	**3.1100e-003**	**2.4400e-003**	**2.0000e-005**	**1.2200e-003**	**1.0000e-005**	**1.2200e-003**	**3.3000e-004**	**0.0000**	**3.3000e-004**	**0.0000**	**1.5859**	**1.5859**	**9.0000e-005**	**0.0000**	**1.5881**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.7300e-003	0.0249	0.0322	5.0000e-005		1.0600e-003	1.0600e-003		9.9000e-004	9.9000e-004	0.0000	4.6384	4.6384	1.0900e-003	0.0000	4.6656
Total	**2.7300e-003**	**0.0249**	**0.0322**	**5.0000e-005**		**1.0600e-003**	**1.0600e-003**		**9.9000e-004**	**9.9000e-004**	**0.0000**	**4.6384**	**4.6384**	**1.0900e-003**	**0.0000**	**4.6656**

3.4 Building Construction - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0000e-005	2.9300e-003	4.1000e-004	1.0000e-005	2.4000e-004	0.0000	2.4000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.9097	0.9097	8.0000e-005	0.0000	0.9117
Worker	3.5000e-004	1.8000e-004	2.0300e-003	1.0000e-005	9.8000e-004	1.0000e-005	9.8000e-004	2.6000e-004	0.0000	2.6000e-004	0.0000	0.6761	0.6761	1.0000e-005	0.0000	0.6764
Total	**4.1000e-004**	**3.1100e-003**	**2.4400e-003**	**2.0000e-005**	**1.2200e-003**	**1.0000e-005**	**1.2200e-003**	**3.3000e-004**	**0.0000**	**3.3000e-004**	**0.0000**	**1.5859**	**1.5859**	**9.0000e-005**	**0.0000**	**1.5881**

3.5 Paving - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.1500e-003	0.0858	0.1458	2.3000e-004		4.1900e-003	4.1900e-003		3.8500e-003	3.8500e-003	0.0000	20.0193	20.0193	6.4700e-003	0.0000	20.1811
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.1500e-003**	**0.0858**	**0.1458**	**2.3000e-004**		**4.1900e-003**	**4.1900e-003**		**3.8500e-003**	**3.8500e-003**	**0.0000**	**20.0193**	**20.0193**	**6.4700e-003**	**0.0000**	**20.1811**

3.5 Paving - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3000e-004	2.2000e-004	2.4900e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.8313	0.8313	1.0000e-005	0.0000	0.8317
Total	**4.3000e-004**	**2.2000e-004**	**2.4900e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.8313**	**0.8313**	**1.0000e-005**	**0.0000**	**0.8317**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.1500e-003	0.0858	0.1458	2.3000e-004		4.1900e-003	4.1900e-003		3.8500e-003	3.8500e-003	0.0000	20.0192	20.0192	6.4700e-003	0.0000	20.1811
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**9.1500e-003**	**0.0858**	**0.1458**	**2.3000e-004**		**4.1900e-003**	**4.1900e-003**		**3.8500e-003**	**3.8500e-003**	**0.0000**	**20.0192**	**20.0192**	**6.4700e-003**	**0.0000**	**20.1811**

3.5 Paving - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.3000e-004	2.2000e-004	2.4900e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.8313	0.8313	1.0000e-005	0.0000	0.8317
Total	**4.3000e-004**	**2.2000e-004**	**2.4900e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.8313**	**0.8313**	**1.0000e-005**	**0.0000**	**0.8317**

3.6 Architectural Coating - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.2446					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9900e-003	0.0201	0.0317	5.0000e-005		9.0000e-004	9.0000e-004		9.0000e-004	9.0000e-004	0.0000	4.4682	4.4682	2.4000e-004	0.0000	4.4743
Total	**1.2476**	**0.0201**	**0.0317**	**5.0000e-005**		**9.0000e-004**	**9.0000e-004**		**9.0000e-004**	**9.0000e-004**	**0.0000**	**4.4682**	**4.4682**	**2.4000e-004**	**0.0000**	**4.4743**

3.6 Architectural Coating - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	3.0000e-004	3.4900e-003	1.0000e-005	1.6800e-003	1.0000e-005	1.6900e-003	4.5000e-004	1.0000e-005	4.5000e-004	0.0000	1.1638	1.1638	2.0000e-005	0.0000	1.1643
Total	**6.0000e-004**	**3.0000e-004**	**3.4900e-003**	**1.0000e-005**	**1.6800e-003**	**1.0000e-005**	**1.6900e-003**	**4.5000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.1638**	**1.1638**	**2.0000e-005**	**0.0000**	**1.1643**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.2446					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.9900e-003	0.0201	0.0317	5.0000e-005		9.0000e-004	9.0000e-004		9.0000e-004	9.0000e-004	0.0000	4.4682	4.4682	2.4000e-004	0.0000	4.4743
Total	**1.2476**	**0.0201**	**0.0317**	**5.0000e-005**		**9.0000e-004**	**9.0000e-004**		**9.0000e-004**	**9.0000e-004**	**0.0000**	**4.4682**	**4.4682**	**2.4000e-004**	**0.0000**	**4.4743**

3.6 Architectural Coating - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	3.0000e-004	3.4900e-003	1.0000e-005	1.6800e-003	1.0000e-005	1.6900e-003	4.5000e-004	1.0000e-005	4.5000e-004	0.0000	1.1638	1.1638	2.0000e-005	0.0000	1.1643
Total	**6.0000e-004**	**3.0000e-004**	**3.4900e-003**	**1.0000e-005**	**1.6800e-003**	**1.0000e-005**	**1.6900e-003**	**4.5000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.1638**	**1.1638**	**2.0000e-005**	**0.0000**	**1.1643**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3959	1.3151	4.2891	0.0156	1.6451	0.0122	1.6573	0.4398	0.0113	0.4511	0.0000	1,434.7307	1,434.7307	0.0821	0.0000	1,436.7835
Unmitigated	0.4013	1.3514	4.4724	0.0164	1.7365	0.0128	1.7493	0.4643	0.0119	0.4761	0.0000	1,508.8485	1,508.8485	0.0851	0.0000	1,510.9752

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,604.80	1,621.80	1453.50	4,638,462	4,394,170
Total	1,604.80	1,621.80	1,453.50	4,638,462	4,394,170

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	48.00	16.00	36.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.524400	0.212000	0.167700	0.056300	0.000800	0.000900	0.007600	0.021200	0.000000	0.004300	0.002500	0.000100	0.002200

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	194.3496	194.3496	0.0168	3.3500e-003	195.7670
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	195.9086	195.9086	0.0169	3.3800e-003	197.3374
NaturalGas Mitigated	0.0225	0.1925	0.0819	1.2300e-003		0.0156	0.0156		0.0156	0.0156	0.0000	222.9469	222.9469	4.2700e-003	4.0900e-003	224.2717
NaturalGas Unmitigated	0.0240	0.2048	0.0872	1.3100e-003		0.0166	0.0166		0.0166	0.0166	0.0000	237.1856	237.1856	4.5500e-003	4.3500e-003	238.5951

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	4.44469e+006	0.0240	0.2048	0.0872	1.3100e-003		0.0166	0.0166		0.0166	0.0166	0.0000	237.1856	237.1856	4.5500e-003	4.3500e-003	238.5951
Total		**0.0240**	**0.2048**	**0.0872**	**1.3100e-003**		**0.0166**	**0.0166**		**0.0166**	**0.0166**	**0.0000**	**237.1856**	**237.1856**	**4.5500e-003**	**4.3500e-003**	**238.5951**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	4.17787e+006	0.0225	0.1925	0.0819	1.2300e-003		0.0156	0.0156		0.0156	0.0156	0.0000	222.9469	222.9469	4.2700e-003	4.0900e-003	224.2717
Total		**0.0225**	**0.1925**	**0.0819**	**1.2300e-003**		**0.0156**	**0.0156**		**0.0156**	**0.0156**	**0.0000**	**222.9469**	**222.9469**	**4.2700e-003**	**4.0900e-003**	**224.2717**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.48933e+006	195.9086	0.0169	3.3800e-003	197.3374
Total		**195.9086**	**0.0169**	**3.3800e-003**	**197.3374**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.47747e+006	194.3496	0.0168	3.3500e-003	195.7670
Total		**194.3496**	**0.0168**	**3.3500e-003**	**195.7670**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.5276	0.0781	1.2881	4.7000e-004		0.0121	0.0121		0.0121	0.0121	0.0000	75.7072	75.7072	3.3900e-003	1.3500e-003	76.1942
Unmitigated	2.0088	0.1735	7.1366	0.0196		0.9662	0.9662		0.9662	0.9662	127.7500	75.7072	203.4572	0.6006	1.3500e-003	218.8743

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1245					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.1951					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.6514	0.1590	5.8755	0.0195		0.9592	0.9592		0.9592	0.9592	127.7500	73.6453	201.3953	0.5986	1.3500e-003	216.7631
Landscaping	0.0379	0.0145	1.2611	7.0000e-005		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003	0.0000	2.0619	2.0619	1.9700e-003	0.0000	2.1113
Total	**2.0088**	**0.1735**	**7.1366**	**0.0196**		**0.9662**	**0.9662**		**0.9662**	**0.9662**	**127.7500**	**75.7072**	**203.4572**	**0.6006**	**1.3500e-003**	**218.8743**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2872					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.1951					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	7.4400e-003	0.0636	0.0271	4.1000e-004		5.1400e-003	5.1400e-003		5.1400e-003	5.1400e-003	0.0000	73.6453	73.6453	1.4100e-003	1.3500e-003	74.0829
Landscaping	0.0379	0.0145	1.2611	7.0000e-005		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003	0.0000	2.0619	2.0619	1.9700e-003	0.0000	2.1113
Total	**1.5276**	**0.0781**	**1.2881**	**4.8000e-004**		**0.0121**	**0.0121**		**0.0121**	**0.0121**	**0.0000**	**75.7072**	**75.7072**	**3.3800e-003**	**1.3500e-003**	**76.1942**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	11.6900	0.2895	6.9700e-003	21.0048
Unmitigated	14.6126	0.3619	8.7100e-003	26.2560

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	11.0762 / 6.98281	14.6126	0.3619	8.7100e-003	26.2560
Total		**14.6126**	**0.3619**	**8.7100e-003**	**26.2560**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	8.86095 / 5.58625	11.6900	0.2895	6.9700e-003	21.0048
Total		**11.6900**	**0.2895**	**6.9700e-003**	**21.0048**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	26.6365	1.5742	0.0000	65.9907
Unmitigated	35.5153	2.0989	0.0000	87.9877

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	174.96	35.5153	2.0989	0.0000	87.9877
Total		**35.5153**	**2.0989**	**0.0000**	**87.9877**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	131.22	26.6365	1.5742	0.0000	65.9907
Total		**26.6365**	**1.5742**	**0.0000**	**65.9907**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Full Project Operations 2025 (Annual)

Parc West Phase Ops All Phases

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	844.00	Dwelling Unit	160.00	1,519,200.00	2414

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.025	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Energy Intensity

Land Use - Project at Buildout in 2025

Construction Phase - Ops only run

Off-road Equipment -

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Demolition - Remove 2 houses and a barn

Architectural Coating - SJVAPCD Rule 4601 Architectural Coatings

Vehicle Trips - ITE 10th Edition Trip Rates 9.44, 9.54, 8.55

Woodstoves - SJVAPCD Rule 4901 Compliance

Area Coating - Rule 4601 Architectural Coatings compliance

Energy Use -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation - Rule 4601 Compliant Coatings

Energy Mitigation -

Water Mitigation - CalGreen Code and MWELO water conservation requirements

Waste Mitigation - CalRecycle 75% Recycling Mandate

Fleet Mix - SJVAPCD Fleet Mix 2025

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	150.00	64.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	65.00
tblAreaCoating	Area_EF_Residential_Exterior	150	65
tblAreaCoating	Area_EF_Residential_Interior	150	65
tblFleetMix	HHD	0.13	0.02
tblFleetMix	LDA	0.51	0.52
tblFleetMix	LDT1	0.03	0.21
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LHD1	0.01	8.0000e-004
tblFleetMix	LHD2	3.9290e-003	9.0000e-004
tblFleetMix	MCY	4.8100e-003	2.5000e-003
tblFleetMix	MDV	0.10	0.06
tblFleetMix	MH	5.1200e-004	2.2000e-003
tblFleetMix	MHD	0.03	7.6000e-003
tblFleetMix	OBUS	2.3280e-003	0.00
tblFleetMix	SBUS	1.0480e-003	1.0000e-004
tblFleetMix	UBUS	1.3540e-003	4.3000e-003
tblLandUse	LotAcreage	274.03	160.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.025
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblVehicleTrips	ST_TR	9.91	9.54
tblVehicleTrips	SU_TR	8.62	8.55
tblVehicleTrips	WD_TR	9.52	9.44

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2039	4.5773	0.0652	0.1932	4.9000e-004	0.0398	9.3000e-004	0.0407	0.0106	9.2000e-004	0.0115	0.0000	43.0039	43.0039	9.9000e-004	0.0000	43.0286
2040	1.6000	0.0217	0.0650	1.7000e-004	0.0139	2.4000e-004	0.0141	3.6900e-003	2.4000e-004	3.9400e-003	0.0000	14.6989	14.6989	3.2000e-004	0.0000	14.7068
Maximum	**4.5773**	**0.0652**	**0.1932**	**4.9000e-004**	**0.0398**	**9.3000e-004**	**0.0407**	**0.0106**	**9.2000e-004**	**0.0115**	**0.0000**	**43.0039**	**43.0039**	**9.9000e-004**	**0.0000**	**43.0286**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2039	4.5773	0.0652	0.1932	4.9000e-004	0.0398	9.3000e-004	0.0407	0.0106	9.2000e-004	0.0115	0.0000	43.0038	43.0038	9.9000e-004	0.0000	43.0286
2040	1.6000	0.0217	0.0650	1.7000e-004	0.0139	2.4000e-004	0.0141	3.6900e-003	2.4000e-004	3.9400e-003	0.0000	14.6989	14.6989	3.2000e-004	0.0000	14.7068
Maximum	**4.5773**	**0.0652**	**0.1932**	**4.9000e-004**	**0.0398**	**9.3000e-004**	**0.0407**	**0.0106**	**9.2000e-004**	**0.0115**	**0.0000**	**43.0038**	**43.0038**	**9.9000e-004**	**0.0000**	**43.0286**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
58	**4-1-2039**	**6-30-2039**	0.8952	0.8952
59	**7-1-2039**	**9-30-2039**	1.8719	1.8719
60	**10-1-2039**	**12-31-2039**	1.8720	1.8720
61	**1-1-2040**	**3-31-2040**	1.6260	1.6260
		Highest	1.8720	1.8720

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	10.0368	0.8709	36.0075	0.0990		4.8910	4.8910		4.8910	4.8910	646.8357	375.8637	1,022.6994	3.0406	6.7000e-003	1,100.7129
Energy	0.1190	1.0168	0.4327	6.4900e-003		0.0822	0.0822		0.0822	0.0822	0.0000	2,150.1854	2,150.1854	0.1064	0.0384	2,164.2765
Mobile	1.9931	6.7144	22.2295	0.0815	8.6342	0.0636	8.6977	2.3083	0.0591	2.3674	0.0000	7,501.3278	7,501.3278	0.4228	0.0000	7,511.8966
Waste						0.0000	0.0000		0.0000	0.0000	176.4073	0.0000	176.4073	10.4254	0.0000	437.0415
Water						0.0000	0.0000		0.0000	0.0000	17.4458	55.1012	72.5470	1.7966	0.0433	130.3533
Total	**12.1489**	**8.6021**	**58.6697**	**0.1869**	**8.6342**	**5.0368**	**13.6709**	**2.3083**	**5.0323**	**7.3406**	**840.6887**	**10,082.4781**	**10,923.1669**	**15.7918**	**0.0883**	**11,344.2808**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	6.7761	0.3878	6.3952	2.3500e-003		0.0603	0.0603		0.0603	0.0603	0.0000	375.8637	375.8637	0.0168	6.7000e-003	378.2816
Energy	0.1118	0.9558	0.4067	6.1000e-003		0.0773	0.0773		0.0773	0.0773	0.0000	2,071.7541	2,071.7541	0.1044	0.0369	2,085.3687
Mobile	1.9663	6.5339	21.3183	0.0775	8.1794	0.0606	8.2401	2.1867	0.0564	2.2431	0.0000	7,132.8105	7,132.8105	0.4080	0.0000	7,143.0115
Waste						0.0000	0.0000		0.0000	0.0000	132.3055	0.0000	132.3055	7.8190	0.0000	327.7812
Water						0.0000	0.0000		0.0000	0.0000	13.9566	44.0810	58.0376	1.4373	0.0346	104.2827
Total	**8.8542**	**7.8775**	**28.1202**	**0.0859**	**8.1794**	**0.1982**	**8.3776**	**2.1867**	**0.1939**	**2.3806**	**146.2621**	**9,624.5094**	**9,770.7714**	**9.7856**	**0.0782**	**10,038.7256**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**27.12**	**8.42**	**52.07**	**54.03**	**5.27**	**96.07**	**38.72**	**5.27**	**96.15**	**67.57**	**82.60**	**4.54**	**10.55**	**38.03**	**11.41**	**11.51**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	5/18/2039	3/20/2040	5	220	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 3,076,380; Residential Outdoor: 1,025,460; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	61.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Architectural Coating - 2039

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.5604					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.6100e-003	0.0618	0.1462	2.4000e-004		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	20.8090	20.8090	7.7000e-004	0.0000	20.8282
Total	**4.5700**	**0.0618**	**0.1462**	**2.4000e-004**		**8.1000e-004**	**8.1000e-004**		**8.1000e-004**	**8.1000e-004**	**0.0000**	**20.8090**	**20.8090**	**7.7000e-004**	**0.0000**	**20.8282**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2800e-003	3.4200e-003	0.0470	2.4000e-004	0.0398	1.2000e-004	0.0399	0.0106	1.1000e-004	0.0107	0.0000	22.1949	22.1949	2.2000e-004	0.0000	22.2004
Total	**7.2800e-003**	**3.4200e-003**	**0.0470**	**2.4000e-004**	**0.0398**	**1.2000e-004**	**0.0399**	**0.0106**	**1.1000e-004**	**0.0107**	**0.0000**	**22.1949**	**22.1949**	**2.2000e-004**	**0.0000**	**22.2004**

3.2 Architectural Coating - 2039

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.5604					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.6100e-003	0.0618	0.1462	2.4000e-004		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	20.8090	20.8090	7.7000e-004	0.0000	20.8282
Total	**4.5700**	**0.0618**	**0.1462**	**2.4000e-004**		**8.1000e-004**	**8.1000e-004**		**8.1000e-004**	**8.1000e-004**	**0.0000**	**20.8090**	**20.8090**	**7.7000e-004**	**0.0000**	**20.8282**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2800e-003	3.4200e-003	0.0470	2.4000e-004	0.0398	1.2000e-004	0.0399	0.0106	1.1000e-004	0.0107	0.0000	22.1949	22.1949	2.2000e-004	0.0000	22.2004
Total	**7.2800e-003**	**3.4200e-003**	**0.0470**	**2.4000e-004**	**0.0398**	**1.2000e-004**	**0.0399**	**0.0106**	**1.1000e-004**	**0.0107**	**0.0000**	**22.1949**	**22.1949**	**2.2000e-004**	**0.0000**	**22.2004**

3.2 Architectural Coating - 2040

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5947					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2700e-003	0.0207	0.0511	8.0000e-005		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	7.2768	7.2768	2.6000e-004	0.0000	7.2832
Total	**1.5980**	**0.0207**	**0.0511**	**8.0000e-005**		**2.1000e-004**	**2.1000e-004**		**2.1000e-004**	**2.1000e-004**	**0.0000**	**7.2768**	**7.2768**	**2.6000e-004**	**0.0000**	**7.2832**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9300e-003	9.8000e-004	0.0139	8.0000e-005	0.0139	3.0000e-005	0.0139	3.6900e-003	3.0000e-005	3.7200e-003	0.0000	7.4221	7.4221	6.0000e-005	0.0000	7.4236
Total	**1.9300e-003**	**9.8000e-004**	**0.0139**	**8.0000e-005**	**0.0139**	**3.0000e-005**	**0.0139**	**3.6900e-003**	**3.0000e-005**	**3.7200e-003**	**0.0000**	**7.4221**	**7.4221**	**6.0000e-005**	**0.0000**	**7.4236**

3.2 Architectural Coating - 2040

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5947					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2700e-003	0.0207	0.0511	8.0000e-005		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	7.2768	7.2768	2.6000e-004	0.0000	7.2832
Total	**1.5980**	**0.0207**	**0.0511**	**8.0000e-005**		**2.1000e-004**	**2.1000e-004**		**2.1000e-004**	**2.1000e-004**	**0.0000**	**7.2768**	**7.2768**	**2.6000e-004**	**0.0000**	**7.2832**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9300e-003	9.8000e-004	0.0139	8.0000e-005	0.0139	3.0000e-005	0.0139	3.6900e-003	3.0000e-005	3.7200e-003	0.0000	7.4221	7.4221	6.0000e-005	0.0000	7.4236
Total	**1.9300e-003**	**9.8000e-004**	**0.0139**	**8.0000e-005**	**0.0139**	**3.0000e-005**	**0.0139**	**3.6900e-003**	**3.0000e-005**	**3.7200e-003**	**0.0000**	**7.4221**	**7.4221**	**6.0000e-005**	**0.0000**	**7.4236**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.9663	6.5339	21.3183	0.0775	8.1794	0.0606	8.2401	2.1867	0.0564	2.2431	0.0000	7,132.8105	7,132.8105	0.4080	0.0000	7,143.0115
Unmitigated	1.9931	6.7144	22.2295	0.0815	8.6342	0.0636	8.6977	2.3083	0.0591	2.3674	0.0000	7,501.3278	7,501.3278	0.4228	0.0000	7,511.8966

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	7,967.36	8,051.76	7216.20	23,062,676	21,848,042
Total	7,967.36	8,051.76	7,216.20	23,062,676	21,848,042

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	48.40	15.90	35.70	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.524400	0.212000	0.167700	0.056300	0.000800	0.000900	0.007600	0.021200	0.000000	0.004300	0.002500	0.000100	0.002200

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	964.8886	964.8886	0.0832	0.0166	971.9256
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	972.6285	972.6285	0.0839	0.0168	979.7220
NaturalGas Mitigated	0.1118	0.9558	0.4067	6.1000e-003		0.0773	0.0773		0.0773	0.0773	0.0000	1,106.8655	1,106.8655	0.0212	0.0203	1,113.4431
NaturalGas Unmitigated	0.1190	1.0168	0.4327	6.4900e-003		0.0822	0.0822		0.0822	0.0822	0.0000	1,177.5569	1,177.5569	0.0226	0.0216	1,184.5545

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	2.20666e+007	0.1190	1.0168	0.4327	6.4900e-003		0.0822	0.0822		0.0822	0.0822	0.0000	1,177.5569	1,177.5569	0.0226	0.0216	1,184.5545
Total		**0.1190**	**1.0168**	**0.4327**	**6.4900e-003**		**0.0822**	**0.0822**		**0.0822**	**0.0822**	**0.0000**	**1,177.5569**	**1,177.5569**	**0.0226**	**0.0216**	**1,184.5545**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	2.07419e+007	0.1118	0.9558	0.4067	6.1000e-003		0.0773	0.0773		0.0773	0.0773	0.0000	1,106.8655	1,106.8655	0.0212	0.0203	1,113.4431
Total		**0.1118**	**0.9558**	**0.4067**	**6.1000e-003**		**0.0773**	**0.0773**		**0.0773**	**0.0773**	**0.0000**	**1,106.8655**	**1,106.8655**	**0.0212**	**0.0203**	**1,113.4431**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	7.39406e +006	972.6285	0.0839	0.0168	979.7220
Total		**972.6285**	**0.0839**	**0.0168**	**979.7220**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	7.33523e +006	964.8886	0.0832	0.0166	971.9256
Total		**964.8886**	**0.0832**	**0.0166**	**971.9256**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	6.7761	0.3878	6.3952	2.3500e-003		0.0603	0.0603		0.0603	0.0603	0.0000	375.8637	375.8637	0.0168	6.7000e-003	378.2816
Unmitigated	10.0368	0.8709	36.0075	0.0990		4.8910	4.8910		4.8910	4.8910	646.8357	375.8637	1,022.6994	3.0406	6.7000e-003	1,100.7129

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.6179					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	5.9332					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.2977	0.7988	29.7467	0.0986		4.8563	4.8563		4.8563	4.8563	646.8357	365.6270	1,012.4627	3.0308	6.7000e-003	1,090.2311
Landscaping	0.1880	0.0721	6.2609	3.3000e-004		0.0347	0.0347		0.0347	0.0347	0.0000	10.2367	10.2367	9.8000e-003	0.0000	10.4818
Total	**10.0368**	**0.8709**	**36.0075**	**0.0990**		**4.8910**	**4.8910**		**4.8910**	**4.8910**	**646.8357**	**375.8637**	**1,022.6994**	**3.0406**	**6.7000e-003**	**1,100.7129**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.6179					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	5.9332					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0369	0.3157	0.1343	2.0200e-003		0.0255	0.0255		0.0255	0.0255	0.0000	365.6270	365.6270	7.0100e-003	6.7000e-003	367.7998
Landscaping	0.1880	0.0721	6.2609	3.3000e-004		0.0347	0.0347		0.0347	0.0347	0.0000	10.2367	10.2367	9.8000e-003	0.0000	10.4818
Total	**6.7761**	**0.3878**	**6.3952**	**2.3500e-003**		**0.0603**	**0.0603**		**0.0603**	**0.0603**	**0.0000**	**375.8637**	**375.8637**	**0.0168**	**6.7000e-003**	**378.2816**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	58.0376	1.4373	0.0346	104.2827
Unmitigated	72.5470	1.7966	0.0433	130.3533

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	54.99 / 34.6676	72.5470	1.7966	0.0433	130.3533
Total		**72.5470**	**1.7966**	**0.0433**	**130.3533**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	43.992 / 27.7341	58.0376	1.4373	0.0346	104.2827
Total		**58.0376**	**1.4373**	**0.0346**	**104.2827**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	132.3055	7.8190	0.0000	327.7812
Unmitigated	176.4073	10.4254	0.0000	437.0415

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	869.04	176.4073	10.4254	0.0000	437.0415
Total		**176.4073**	**10.4254**	**0.0000**	**437.0415**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	651.78	132.3055	7.8190	0.0000	327.7812
Total		**132.3055**	**7.8190**	**0.0000**	**327.7812**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Phase 1 Construction and Operations

(Summer Daily)

Parc West Phase 1 (Tract 6212 and 6276)

Fresno County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	167.00	Dwelling Unit	31.77	300,600.00	478

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.025	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Parc West Phase 1 (Tract 6212 and 6276) - Fresno County, Summer

Project Characteristics - PG&E Energy Intensity

Land Use - Site plan acreage

Construction Phase - Ajdusted schedule to reflect 5 year buildout for full project

Off-road Equipment -

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Architectural Coating - SJVAPCD Rule 4601 Architectural Coatings

Vehicle Trips - ITE 10th Edition Trip Rates 9.44, 9.54, 8.55

Area Coating - Rule 4601 Architectural Coatings compliance

Energy Use -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation -

Energy Mitigation -

Water Mitigation - CalGreen Code and MWELO water conservation requirements

Waste Mitigation - CalRecycle 75% Recycling Mandate

Fleet Mix - SJVAPCD Fleet Mix 2021

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	150.00	65.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	65.00
tblConstructionPhase	NumDays	500.00	205.00
tblConstructionPhase	NumDays	35.00	20.00
tblFleetMix	HHD	0.12	0.02
tblFleetMix	LDA	0.49	0.54
tblFleetMix	LDT1	0.03	0.20
tblFleetMix	LDT2	0.17	0.17

tblFleetMix	LHD1	0.02	1.4000e-003
tblFleetMix	LHD2	4.7320e-003	9.0000e-004
tblFleetMix	MCY	5.1540e-003	2.6000e-003
tblFleetMix	MDV	0.12	0.05
tblFleetMix	MH	6.2900e-004	1.6000e-003
tblFleetMix	MHD	0.03	9.0000e-003
tblFleetMix	OBUS	2.3660e-003	0.00
tblFleetMix	SBUS	1.0970e-003	9.0000e-004
tblFleetMix	UBUS	1.5900e-003	4.4000e-003
tblLandUse	LotAcreage	54.22	31.77
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	7.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	7.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.025
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblTripsAndVMT	WorkerTripNumber	30.00	15.00
tblVehicleTrips	HO_TTP	35.70	36.00
tblVehicleTrips	HS_TTP	15.90	16.00
tblVehicleTrips	HW_TTP	48.40	48.00
tblWoodstoves	NumberCatalytic	31.77	54.22
tblWoodstoves	NumberNoncatalytic	31.77	54.22

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.4205	46.4452	38.3344	0.0681	18.2141	2.1071	20.2595	9.9699	1.9774	11.8516	0.0000	6,539.8599	6,539.8599	1.9468	0.0000	6,575.8013
2022	70.1181	35.7735	37.7046	0.0679	0.6149	1.7743	2.3891	0.1659	1.6662	1.8321	0.0000	6,519.5838	6,519.5838	1.4307	0.0000	6,555.2449
Maximum	**70.1181**	**46.4452**	**38.3344**	**0.0681**	**18.2141**	**2.1071**	**20.2595**	**9.9699**	**1.9774**	**11.8516**	**0.0000**	**6,539.8599**	**6,539.8599**	**1.9468**	**0.0000**	**6,575.8013**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.4205	46.4452	38.3344	0.0681	8.2777	2.1071	10.3230	4.5080	1.9774	6.3898	0.0000	6,539.8599	6,539.8599	1.9468	0.0000	6,575.8013
2022	70.1181	35.7735	37.7046	0.0679	0.6149	1.7743	2.3891	0.1659	1.6662	1.8321	0.0000	6,519.5838	6,519.5838	1.4307	0.0000	6,555.2449
Maximum	**70.1181**	**46.4452**	**38.3344**	**0.0681**	**8.2777**	**2.1071**	**10.3230**	**4.5080**	**1.9774**	**6.3898**	**0.0000**	**6,539.8599**	**6,539.8599**	**1.9468**	**0.0000**	**6,575.8013**

Parc West Phase 1 (Tract 6212 and 6276) - Fresno County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**52.77**	**0.00**	**43.87**	**53.89**	**0.00**	**39.92**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	35.5262	5.6757	259.2090	0.8090		40.1264	40.1264		40.1264	40.1264	5,893.2369	1,969.8671	7,863.1039	27.6110	0.0357	8,564.0056
Energy	0.1290	1.1024	0.4691	7.0400e-003		0.0891	0.0891		0.0891	0.0891		1,407.3344	1,407.3344	0.0270	0.0258	1,415.6975
Mobile	4.0408	11.0623	39.7351	0.1164	10.2521	0.0967	10.3488	2.7386	0.0904	2.8289		11,772.8561	11,772.8561	0.7625		11,791.9180
Total	**39.6960**	**17.8405**	**299.4132**	**0.9325**	**10.2521**	**40.3122**	**50.5643**	**2.7386**	**40.3059**	**43.0445**	**5,893.2369**	**15,150.0576**	**21,043.2944**	**28.4005**	**0.0615**	**21,771.6211**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	8.5755	1.6830	14.4560	0.0105		0.1993	0.1993		0.1993	0.1993	0.0000	1,969.8671	1,969.8671	0.0613	0.0357	1,982.0266
Energy	0.1213	1.0362	0.4410	6.6100e-003		0.0838	0.0838		0.0838	0.0838		1,322.8490	1,322.8490	0.0254	0.0243	1,330.7101
Mobile	3.9932	10.7326	38.0091	0.1107	9.7122	0.0922	9.8044	2.5943	0.0862	2.6805		11,191.0071	11,191.0071	0.7357		11,209.3984
Total	**12.6899**	**13.4518**	**52.9061**	**0.1277**	**9.7122**	**0.3753**	**10.0875**	**2.5943**	**0.3693**	**2.9636**	**0.0000**	**14,483.7232**	**14,483.7232**	**0.8223**	**0.0599**	**14,522.1351**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**68.03**	**24.60**	**82.33**	**86.30**	**5.27**	**99.07**	**80.05**	**5.27**	**99.08**	**93.12**	**100.00**	**4.40**	**31.17**	**97.10**	**2.52**	**33.30**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2021	1/28/2021	5	20	
2	Grading	Grading	1/29/2021	4/1/2021	5	45	
3	Building Construction	Building Construction	4/2/2021	1/13/2022	5	205	
4	Paving	Paving	1/14/2022	2/10/2022	5	20	
5	Architectural Coating	Architectural Coating	2/11/2022	3/31/2022	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 608,715; Residential Outdoor: 202,905; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Parc West Phase 1 (Tract 6212 and 6276) - Fresno County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	2	7.00	231	0.29
Building Construction	Forklifts	7	8.00	89	0.20
Building Construction	Generator Sets	2	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	7	7.00	97	0.37
Building Construction	Welders	2	8.00	46	0.45
Paving	Pavers	4	8.00	130	0.42
Paving	Paving Equipment	4	8.00	132	0.36
Paving	Rollers	4	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	20	60.00	18.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	12	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	12.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.2 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0816	0.0409	0.5263	1.4600e-003	0.1479	9.0000e-004	0.1488	0.0392	8.2000e-004	0.0401		145.4060	145.4060	3.6300e-003		145.4967
Total	**0.0816**	**0.0409**	**0.5263**	**1.4600e-003**	**0.1479**	**9.0000e-004**	**0.1488**	**0.0392**	**8.2000e-004**	**0.0401**		**145.4060**	**145.4060**	**3.6300e-003**		**145.4967**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**8.1298**	**2.0445**	**10.1743**	**4.4688**	**1.8809**	**6.3497**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.2 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0816	0.0409	0.5263	1.4600e-003	0.1479	9.0000e-004	0.1488	0.0392	8.2000e-004	0.0401		145.4060	145.4060	3.6300e-003		145.4967
Total	**0.0816**	**0.0409**	**0.5263**	**1.4600e-003**	**0.1479**	**9.0000e-004**	**0.1488**	**0.0392**	**8.2000e-004**	**0.0401**		**145.4060**	**145.4060**	**3.6300e-003**		**145.4967**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**		**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.3 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0907	0.0454	0.5847	1.6200e-003	0.1643	1.0000e-003	0.1653	0.0436	9.2000e-004	0.0445		161.5622	161.5622	4.0300e-003		161.6630
Total	**0.0907**	**0.0454**	**0.5847**	**1.6200e-003**	**0.1643**	**1.0000e-003**	**0.1653**	**0.0436**	**9.2000e-004**	**0.0445**		**161.5622**	**161.5622**	**4.0300e-003**		**161.6630**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.9030	0.0000	3.9030	1.6184	0.0000	1.6184			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**3.9030**	**1.9853**	**5.8883**	**1.6184**	**1.8265**	**3.4449**	**0.0000**	**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.3 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0907	0.0454	0.5847	1.6200e-003	0.1643	1.0000e-003	0.1653	0.0436	9.2000e-004	0.0445		161.5622	161.5622	4.0300e-003		161.6630
Total	**0.0907**	**0.0454**	**0.5847**	**1.6200e-003**	**0.1643**	**1.0000e-003**	**0.1653**	**0.0436**	**9.2000e-004**	**0.0445**		**161.5622**	**161.5622**	**4.0300e-003**		**161.6630**

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.0950	37.7022	36.2960	0.0581		2.0987	2.0987		1.9695	1.9695		5,518.0462	5,518.0462	1.3651		5,552.1726
Total	**4.0950**	**37.7022**	**36.2960**	**0.0581**		**2.0987**	**2.0987**		**1.9695**	**1.9695**		**5,518.0462**	**5,518.0462**	**1.3651**		**5,552.1726**

3.4 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0534	2.0027	0.2843	5.1200e-003	0.1220	5.3500e-003	0.1273	0.0351	5.1200e-003	0.0402		537.1271	537.1271	0.0605		538.6397
Worker	0.2721	0.1362	1.7542	4.8700e-003	0.4929	2.9900e-003	0.4959	0.1307	2.7500e-003	0.1335		484.6866	484.6866	0.0121		484.9889
Total	**0.3255**	**2.1389**	**2.0385**	**9.9900e-003**	**0.6149**	**8.3400e-003**	**0.6232**	**0.1659**	**7.8700e-003**	**0.1737**		**1,021.8137**	**1,021.8137**	**0.0726**		**1,023.6286**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.0950	37.7022	36.2960	0.0581		2.0987	2.0987		1.9695	1.9695	0.0000	5,518.0462	5,518.0462	1.3651		5,552.1726
Total	**4.0950**	**37.7022**	**36.2960**	**0.0581**		**2.0987**	**2.0987**		**1.9695**	**1.9695**	**0.0000**	**5,518.0462**	**5,518.0462**	**1.3651**		**5,552.1726**

3.4 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0534	2.0027	0.2843	5.1200e-003	0.1220	5.3500e-003	0.1273	0.0351	5.1200e-003	0.0402		537.1271	537.1271	0.0605		538.6397
Worker	0.2721	0.1362	1.7542	4.8700e-003	0.4929	2.9900e-003	0.4959	0.1307	2.7500e-003	0.1335		484.6866	484.6866	0.0121		484.9889
Total	**0.3255**	**2.1389**	**2.0385**	**9.9900e-003**	**0.6149**	**8.3400e-003**	**0.6232**	**0.1659**	**7.8700e-003**	**0.1737**		**1,021.8137**	**1,021.8137**	**0.0726**		**1,023.6286**

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.6702	33.7524	35.8388	0.0581		1.7668	1.7668		1.6592	1.6592		5,520.2821	5,520.2821	1.3570		5,554.2074
Total	**3.6702**	**33.7524**	**35.8388**	**0.0581**		**1.7668**	**1.7668**		**1.6592**	**1.6592**		**5,520.2821**	**5,520.2821**	**1.3570**		**5,554.2074**

3.4 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0497	1.8994	0.2631	5.0800e-003	0.1220	4.5900e-003	0.1266	0.0351	4.3900e-003	0.0395		532.0465	532.0465	0.0586		533.5125
Worker	0.2523	0.1217	1.6027	4.6900e-003	0.4929	2.9000e-003	0.4958	0.1307	2.6700e-003	0.1334		467.2553	467.2553	0.0108		467.5250
Total	**0.3020**	**2.0211**	**1.8658**	**9.7700e-003**	**0.6149**	**7.4900e-003**	**0.6224**	**0.1659**	**7.0600e-003**	**0.1729**		**999.3018**	**999.3018**	**0.0694**		**1,001.0375**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.6702	33.7524	35.8388	0.0581		1.7668	1.7668		1.6592	1.6592	0.0000	5,520.2821	5,520.2821	1.3570		5,554.2074
Total	**3.6702**	**33.7524**	**35.8388**	**0.0581**		**1.7668**	**1.7668**		**1.6592**	**1.6592**	**0.0000**	**5,520.2821**	**5,520.2821**	**1.3570**		**5,554.2074**

3.4 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0497	1.8994	0.2631	5.0800e-003	0.1220	4.5900e-003	0.1266	0.0351	4.3900e-003	0.0395		532.0465	532.0465	0.0586		533.5125
Worker	0.2523	0.1217	1.6027	4.6900e-003	0.4929	2.9000e-003	0.4958	0.1307	2.6700e-003	0.1334		467.2553	467.2553	0.0108		467.5250
Total	**0.3020**	**2.0211**	**1.8658**	**9.7700e-003**	**0.6149**	**7.4900e-003**	**0.6224**	**0.1659**	**7.0600e-003**	**0.1729**		**999.3018**	**999.3018**	**0.0694**		**1,001.0375**

3.5 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2056	22.2498	29.1610	0.0456		1.1358	1.1358		1.0449	1.0449		4,415.3206	4,415.3206	1.4280		4,451.0207
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.2056**	**22.2498**	**29.1610**	**0.0456**		**1.1358**	**1.1358**		**1.0449**	**1.0449**		**4,415.3206**	**4,415.3206**	**1.4280**		**4,451.0207**

3.5 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0631	0.0304	0.4007	1.1700e-003	0.1232	7.2000e-004	0.1240	0.0327	6.7000e-004	0.0334		116.8138	116.8138	2.7000e-003		116.8813
Total	**0.0631**	**0.0304**	**0.4007**	**1.1700e-003**	**0.1232**	**7.2000e-004**	**0.1240**	**0.0327**	**6.7000e-004**	**0.0334**		**116.8138**	**116.8138**	**2.7000e-003**		**116.8813**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.2056	22.2498	29.1610	0.0456		1.1358	1.1358		1.0449	1.0449	0.0000	4,415.3206	4,415.3206	1.4280		4,451.0207
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.2056**	**22.2498**	**29.1610**	**0.0456**		**1.1358**	**1.1358**		**1.0449**	**1.0449**	**0.0000**	**4,415.3206**	**4,415.3206**	**1.4280**		**4,451.0207**

3.5 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0631	0.0304	0.4007	1.1700e-003	0.1232	7.2000e-004	0.1240	0.0327	6.7000e-004	0.0334		116.8138	116.8138	2.7000e-003		116.8813
Total	**0.0631**	**0.0304**	**0.4007**	**1.1700e-003**	**0.1232**	**7.2000e-004**	**0.1240**	**0.0327**	**6.7000e-004**	**0.0334**		**116.8138**	**116.8138**	**2.7000e-003**		**116.8813**

3.6 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	69.8631					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**70.0676**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.6 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0505	0.0243	0.3206	9.4000e-004	0.0986	5.8000e-004	0.0992	0.0262	5.3000e-004	0.0267		93.4511	93.4511	2.1600e-003		93.5050
Total	**0.0505**	**0.0243**	**0.3206**	**9.4000e-004**	**0.0986**	**5.8000e-004**	**0.0992**	**0.0262**	**5.3000e-004**	**0.0267**		**93.4511**	**93.4511**	**2.1600e-003**		**93.5050**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	69.8631					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**70.0676**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.6 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0505	0.0243	0.3206	9.4000e-004	0.0986	5.8000e-004	0.0992	0.0262	5.3000e-004	0.0267		93.4511	93.4511	2.1600e-003		93.5050
Total	**0.0505**	**0.0243**	**0.3206**	**9.4000e-004**	**0.0986**	**5.8000e-004**	**0.0992**	**0.0262**	**5.3000e-004**	**0.0267**		**93.4511**	**93.4511**	**2.1600e-003**		**93.5050**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.9932	10.7326	38.0091	0.1107	9.7122	0.0922	9.8044	2.5943	0.0862	2.6805		11,191.0071	11,191.0071	0.7357		11,209.3984
Unmitigated	4.0408	11.0623	39.7351	0.1164	10.2521	0.0967	10.3488	2.7386	0.0904	2.8289		11,772.8561	11,772.8561	0.7625		11,791.9180

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,589.84	1,654.97	1439.54	4,615,230	4,372,162
Total	1,589.84	1,654.97	1,439.54	4,615,230	4,372,162

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	48.00	16.00	36.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.537300	0.200000	0.167100	0.054200	0.001400	0.000900	0.009000	0.020600	0.000000	0.004400	0.002600	0.000900	0.001600

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1213	1.0362	0.4410	6.6100e-003		0.0838	0.0838		0.0838	0.0838		1,322.8490	1,322.8490	0.0254	0.0243	1,330.7101
NaturalGas Unmitigated	0.1290	1.1024	0.4691	7.0400e-003		0.0891	0.0891		0.0891	0.0891		1,407.3344	1,407.3344	0.0270	0.0258	1,415.6975

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	11962.3	0.1290	1.1024	0.4691	7.0400e-003		0.0891	0.0891		0.0891	0.0891		1,407.3344	1,407.3344	0.0270	0.0258	1,415.6975
Total		**0.1290**	**1.1024**	**0.4691**	**7.0400e-003**		**0.0891**	**0.0891**		**0.0891**	**0.0891**		**1,407.3344**	**1,407.3344**	**0.0270**	**0.0258**	**1,415.6975**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	11.2442	0.1213	1.0362	0.4410	6.6100e-003		0.0838	0.0838		0.0838	0.0838		1,322.8490	1,322.8490	0.0254	0.0243	1,330.7101
Total		**0.1213**	**1.0362**	**0.4410**	**6.6100e-003**		**0.0838**	**0.0838**		**0.0838**	**0.0838**		**1,322.8490**	**1,322.8490**	**0.0254**	**0.0243**	**1,330.7101**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	8.5755	1.6830	14.4560	0.0105		0.1993	0.1993		0.1993	0.1993	0.0000	1,969.8671	1,969.8671	0.0613	0.0357	1,982.0266
Unmitigated	35.5262	5.6757	259.2090	0.8090		40.1264	40.1264		40.1264	40.1264	5,893.2369	1,969.8671	7,863.1039	27.6110	0.0357	8,564.0056

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.5460					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.4328					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	27.1291	5.5163	245.4014	0.8083		40.0503	40.0503		40.0503	40.0503	5,893.2369	1,945.0588	7,838.2957	27.5870	0.0357	8,538.5963
Landscaping	0.4184	0.1594	13.8077	7.3000e-004		0.0761	0.0761		0.0761	0.0761		24.8082	24.8082	0.0240		25.4093
Total	**35.5262**	**5.6757**	**259.2090**	**0.8090**		**40.1264**	**40.1264**		**40.1264**	**40.1264**	**5,893.2369**	**1,969.8671**	**7,863.1039**	**27.6110**	**0.0357**	**8,564.0056**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.5460					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.4328					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1783	1.5236	0.6484	9.7300e-003		0.1232	0.1232		0.1232	0.1232	0.0000	1,945.0588	1,945.0588	0.0373	0.0357	1,956.6173
Landscaping	0.4184	0.1594	13.8077	7.3000e-004		0.0761	0.0761		0.0761	0.0761		24.8082	24.8082	0.0240		25.4093
Total	**8.5755**	**1.6830**	**14.4560**	**0.0105**		**0.1993**	**0.1993**		**0.1993**	**0.1993**	**0.0000**	**1,969.8671**	**1,969.8671**	**0.0613**	**0.0357**	**1,982.0266**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Phase 2 Construction and Operations

(Summer Daily)

Parc West Phase 2 Const and Ops 2022

Fresno County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	169.00	Dwelling Unit	31.60	304,200.00	483

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.025	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Energy Intensity

Land Use - Phase 2 Acreage

Construction Phase - Ajdusted schedule to reflect 5 year buildout for full project

Off-road Equipment -

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Off-road Equipment - Removing 3 structures

Off-road Equipment -

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Off-road Equipment -

Demolition - Remove 2 houses and a barn

Architectural Coating - SJVAPCD Rule 4601 Architectural Coatings

Vehicle Trips - ITE 10th Edition Trip Rates 9.44, 9.54, 8.55

Woodstoves -

Area Coating - Rule 4601 Architectural Coatings compliance

Energy Use -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation - Rule 4601 Compliant Coatings

Energy Mitigation -

Water Mitigation - CalGreen Code and MWELO water conservation requirements

Waste Mitigation - CalRecycle 75% Recycling Mandate

Fleet Mix - SJVAPCD Fleet Mix 2022

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	150.00	65.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	65.00
tblAreaCoating	Area_EF_Residential_Exterior	150	65

Parc West Phase 2 Const and Ops 2022 - Fresno County, Summer

tblAreaCoating	Area_EF_Residential_Interior	150	65
tblConstructionPhase	NumDays	500.00	200.00
tblConstructionPhase	NumDays	30.00	5.00
tblConstructionPhase	NumDays	35.00	20.00
tblFleetMix	HHD	0.13	0.02
tblFleetMix	LDA	0.49	0.53
tblFleetMix	LDT1	0.03	0.20
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LHD1	0.02	1.3000e-003
tblFleetMix	LHD2	4.5020e-003	9.0000e-004
tblFleetMix	MCY	5.0620e-003	2.5000e-003
tblFleetMix	MDV	0.12	0.05
tblFleetMix	MH	5.9400e-004	1.8000e-003
tblFleetMix	MHD	0.03	9.0000e-003
tblFleetMix	OBUS	2.3630e-003	0.00
tblFleetMix	SBUS	1.0830e-003	7.0000e-004
tblFleetMix	UBUS	1.5190e-003	4.4000e-003
tblLandUse	LotAcreage	54.87	31.60
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	8.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.025
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblTripsAndVMT	WorkerTripNumber	8.00	15.00
tblTripsAndVMT	WorkerTripNumber	30.00	15.00
tblVehicleTrips	HO_TTP	35.70	36.00
tblVehicleTrips	HS_TTP	15.90	16.00
tblVehicleTrips	HW_TTP	48.40	48.00
tblVehicleTrips	ST_TR	9.91	9.54
tblVehicleTrips	SU_TR	8.62	8.55
tblVehicleTrips	WD_TR	9.52	9.44

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	5.1672	46.3490	47.8708	0.0864	18.2141	2.2859	19.8276	9.9699	2.1537	11.4543	0.0000	8,258.4752	8,258.4752	1.9478	0.0000	8,302.7832
2023	70.9384	42.4504	47.3418	0.0861	0.6231	1.9779	2.6009	0.1680	1.8637	2.0317	0.0000	8,229.9441	8,229.9441	1.7398	0.0000	8,273.4387
Maximum	**70.9384**	**46.3490**	**47.8708**	**0.0864**	**18.2141**	**2.2859**	**19.8276**	**9.9699**	**2.1537**	**11.4543**	**0.0000**	**8,258.4752**	**8,258.4752**	**1.9478**	**0.0000**	**8,302.7832**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	5.1672	46.3490	47.8708	0.0864	8.2777	2.2859	9.8911	4.5080	2.1537	5.9924	0.0000	8,258.4752	8,258.4752	1.9478	0.0000	8,302.7832
2023	70.9384	42.4504	47.3418	0.0861	0.6231	1.9779	2.6009	0.1680	1.8637	2.0317	0.0000	8,229.9441	8,229.9441	1.7398	0.0000	8,273.4387
Maximum	**70.9384**	**46.3490**	**47.8708**	**0.0864**	**8.2777**	**2.2859**	**9.8911**	**4.5080**	**2.1537**	**5.9924**	**0.0000**	**8,258.4752**	**8,258.4752**	**1.9478**	**0.0000**	**8,302.7832**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**52.75**	**0.00**	**44.30**	**53.88**	**0.00**	**40.50**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	23.4970	4.0298	157.2585	0.4760		23.4717	23.4717		23.4717	23.4717	3,434.6419	1,993.4583	5,428.1002	16.1182	0.0361	5,841.8090
Energy	0.1306	1.1156	0.4747	7.1200e-003		0.0902	0.0902		0.0902	0.0902		1,424.1887	1,424.1887	0.0273	0.0261	1,432.6520
Mobile	3.6442	9.9798	35.5296	0.1100	9.9841	0.0886	10.0727	2.6664	0.0827	2.7491		11,128.6661	11,128.6661	0.6984		11,146.1271
Total	**27.2718**	**15.1253**	**193.2629**	**0.5931**	**9.9841**	**23.6505**	**33.6346**	**2.6664**	**23.6446**	**26.3110**	**3,434.6419**	**14,546.3131**	**17,980.9550**	**16.8439**	**0.0622**	**18,420.5881**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.7898	1.7029	14.6138	0.0106		0.2018	0.2018		0.2018	0.2018	0.0000	1,993.4583	1,993.4583	0.0620	0.0361	2,005.7607
Energy	0.1227	1.0486	0.4462	6.6900e-003		0.0848	0.0848		0.0848	0.0848		1,338.6915	1,338.6915	0.0257	0.0245	1,346.6467
Mobile	3.6021	9.6915	33.9813	0.1046	9.4582	0.0845	9.5427	2.5259	0.0789	2.6048		10,579.2274	10,579.2274	0.6742		10,596.0814
Total	**11.5146**	**12.4430**	**49.0414**	**0.1218**	**9.4582**	**0.3711**	**9.8293**	**2.5259**	**0.3654**	**2.8914**	**0.0000**	**13,911.3772**	**13,911.3772**	**0.7618**	**0.0606**	**13,948.4888**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**57.78**	**17.73**	**74.62**	**79.46**	**5.27**	**98.43**	**70.78**	**5.27**	**98.45**	**89.01**	**100.00**	**4.36**	**22.63**	**95.48**	**2.52**	**24.28**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2022	1/7/2022	5	5	
2	Site Preparation	Site Preparation	1/8/2022	2/4/2022	5	20	
3	Grading	Grading	2/5/2022	4/8/2022	5	45	
4	Building Construction	Building Construction	4/9/2022	1/13/2023	5	200	
5	Paving	Paving	1/14/2023	2/10/2023	5	20	
6	Architectural Coating	Architectural Coating	2/11/2023	3/31/2023	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 616,005; Residential Outdoor: 205,335; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Parc West Phase 2 Const and Ops 2022 - Fresno County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	1	8.00	158	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	3	7.00	231	0.29
Building Construction	Forklifts	8	8.00	89	0.20
Building Construction	Generator Sets	3	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	8	7.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Pavers	4	8.00	130	0.42
Paving	Paving Equipment	4	8.00	132	0.36
Paving	Rollers	4	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	3	15.00	0.00	56.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	25	61.00	18.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	12	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	12.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.4382	0.0000	2.4382	0.3692	0.0000	0.3692			0.0000			0.0000
Off-Road	1.3972	13.3718	10.5018	0.0200		0.6535	0.6535		0.6132	0.6132		1,919.7153	1,919.7153	0.4615		1,931.2534
Total	**1.3972**	**13.3718**	**10.5018**	**0.0200**	**2.4382**	**0.6535**	**3.0917**	**0.3692**	**0.6132**	**0.9824**		**1,919.7153**	**1,919.7153**	**0.4615**		**1,931.2534**

3.2 Demolition - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0779	2.5842	0.3722	8.8100e-003	0.1961	7.8800e-003	0.2040	0.0538	7.5400e-003	0.0613		925.2413	925.2413	0.0740		927.0916
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0631	0.0304	0.4007	1.1700e-003	0.1232	7.2000e-004	0.1240	0.0327	6.7000e-004	0.0334		116.8138	116.8138	2.7000e-003		116.8813
Total	**0.1409**	**2.6147**	**0.7729**	**9.9800e-003**	**0.3193**	**8.6000e-003**	**0.3279**	**0.0865**	**8.2100e-003**	**0.0947**		**1,042.0551**	**1,042.0551**	**0.0767**		**1,043.9728**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.0972	0.0000	1.0972	0.1661	0.0000	0.1661			0.0000			0.0000
Off-Road	1.3972	13.3718	10.5018	0.0200		0.6535	0.6535		0.6132	0.6132	0.0000	1,919.7153	1,919.7153	0.4615		1,931.2534
Total	**1.3972**	**13.3718**	**10.5018**	**0.0200**	**1.0972**	**0.6535**	**1.7507**	**0.1661**	**0.6132**	**0.7793**	**0.0000**	**1,919.7153**	**1,919.7153**	**0.4615**		**1,931.2534**

3.2 Demolition - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0779	2.5842	0.3722	8.8100e-003	0.1961	7.8800e-003	0.2040	0.0538	7.5400e-003	0.0613		925.2413	925.2413	0.0740		927.0916
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0631	0.0304	0.4007	1.1700e-003	0.1232	7.2000e-004	0.1240	0.0327	6.7000e-004	0.0334		116.8138	116.8138	2.7000e-003		116.8813
Total	**0.1409**	**2.6147**	**0.7729**	**9.9800e-003**	**0.3193**	**8.6000e-003**	**0.3279**	**0.0865**	**8.2100e-003**	**0.0947**		**1,042.0551**	**1,042.0551**	**0.0767**		**1,043.9728**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836		3,686.0619	3,686.0619	1.1922		3,715.8655
Total	**3.1701**	**33.0835**	**19.6978**	**0.0380**	**18.0663**	**1.6126**	**19.6788**	**9.9307**	**1.4836**	**11.4143**		**3,686.0619**	**3,686.0619**	**1.1922**		**3,715.8655**

3.3 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0757	0.0365	0.4808	1.4100e-003	0.1479	8.7000e-004	0.1487	0.0392	8.0000e-004	0.0400		140.1766	140.1766	3.2400e-003		140.2575
Total	**0.0757**	**0.0365**	**0.4808**	**1.4100e-003**	**0.1479**	**8.7000e-004**	**0.1487**	**0.0392**	**8.0000e-004**	**0.0400**		**140.1766**	**140.1766**	**3.2400e-003**		**140.2575**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836	0.0000	3,686.0619	3,686.0619	1.1922		3,715.8655
Total	**3.1701**	**33.0835**	**19.6978**	**0.0380**	**8.1298**	**1.6126**	**9.7424**	**4.4688**	**1.4836**	**5.9524**	**0.0000**	**3,686.0619**	**3,686.0619**	**1.1922**		**3,715.8655**

3.3 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0757	0.0365	0.4808	1.4100e-003	0.1479	8.7000e-004	0.1487	0.0392	8.0000e-004	0.0400		140.1766	140.1766	3.2400e-003		140.2575
Total	**0.0757**	**0.0365**	**0.4808**	**1.4100e-003**	**0.1479**	**8.7000e-004**	**0.1487**	**0.0392**	**8.0000e-004**	**0.0400**		**140.1766**	**140.1766**	**3.2400e-003**		**140.2575**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0841	0.0406	0.5342	1.5600e-003	0.1643	9.7000e-004	0.1653	0.0436	8.9000e-004	0.0445		155.7518	155.7518	3.6000e-003		155.8417
Total	**0.0841**	**0.0406**	**0.5342**	**1.5600e-003**	**0.1643**	**9.7000e-004**	**0.1653**	**0.0436**	**8.9000e-004**	**0.0445**		**155.7518**	**155.7518**	**3.6000e-003**		**155.8417**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.9030	0.0000	3.9030	1.6184	0.0000	1.6184			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**3.9030**	**1.6349**	**5.5379**	**1.6184**	**1.5041**	**3.1225**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0841	0.0406	0.5342	1.5600e-003	0.1643	9.7000e-004	0.1653	0.0436	8.9000e-004	0.0445		155.7518	155.7518	3.6000e-003		155.8417
Total	**0.0841**	**0.0406**	**0.5342**	**1.5600e-003**	**0.1643**	**9.7000e-004**	**0.1653**	**0.0436**	**8.9000e-004**	**0.0445**		**155.7518**	**155.7518**	**3.6000e-003**		**155.8417**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.8610	44.3258	45.9783	0.0766		2.2783	2.2783		2.1466	2.1466		7,251.3858	7,251.3858	1.7027		7,293.9536
Total	**4.8610**	**44.3258**	**45.9783**	**0.0766**		**2.2783**	**2.2783**		**2.1466**	**2.1466**		**7,251.3858**	**7,251.3858**	**1.7027**		**7,293.9536**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0497	1.8994	0.2631	5.0800e-003	0.1220	4.5900e-003	0.1266	0.0351	4.3900e-003	0.0395		532.0465	532.0465	0.0586		533.5125
Worker	0.2565	0.1237	1.6295	4.7700e-003	0.5011	2.9500e-003	0.5041	0.1329	2.7100e-003	0.1356		475.0429	475.0429	0.0110		475.3171
Total	**0.3062**	**2.0231**	**1.8926**	**9.8500e-003**	**0.6231**	**7.5400e-003**	**0.6306**	**0.1680**	**7.1000e-003**	**0.1751**		**1,007.0893**	**1,007.0893**	**0.0696**		**1,008.8296**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.8610	44.3258	45.9783	0.0766		2.2783	2.2783		2.1466	2.1466	0.0000	7,251.3858	7,251.3858	1.7027		7,293.9536
Total	**4.8610**	**44.3258**	**45.9783**	**0.0766**		**2.2783**	**2.2783**		**2.1466**	**2.1466**	**0.0000**	**7,251.3858**	**7,251.3858**	**1.7027**		**7,293.9536**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0497	1.8994	0.2631	5.0800e-003	0.1220	4.5900e-003	0.1266	0.0351	4.3900e-003	0.0395		532.0465	532.0465	0.0586		533.5125
Worker	0.2565	0.1237	1.6295	4.7700e-003	0.5011	2.9500e-003	0.5041	0.1329	2.7100e-003	0.1356		475.0429	475.0429	0.0110		475.3171
Total	**0.3062**	**2.0231**	**1.8926**	**9.8500e-003**	**0.6231**	**7.5400e-003**	**0.6306**	**0.1680**	**7.1000e-003**	**0.1751**		**1,007.0893**	**1,007.0893**	**0.0696**		**1,008.8296**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.4833	40.8513	45.6348	0.0766		1.9736	1.9736		1.8597	1.8597		7,253.7195	7,253.7195	1.6903		7,295.9774
Total	**4.4833**	**40.8513**	**45.6348**	**0.0766**		**1.9736**	**1.9736**		**1.8597**	**1.8597**		**7,253.7195**	**7,253.7195**	**1.6903**		**7,295.9774**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0341	1.4884	0.2161	4.9500e-003	0.1220	1.4200e-003	0.1234	0.0351	1.3600e-003	0.0365		519.0185	519.0185	0.0397		520.0105
Worker	0.2386	0.1108	1.4909	4.5900e-003	0.5011	2.8700e-003	0.5040	0.1329	2.6400e-003	0.1356		457.2062	457.2062	9.7900e-003		457.4508
Total	**0.2727**	**1.5991**	**1.7070**	**9.5400e-003**	**0.6231**	**4.2900e-003**	**0.6274**	**0.1680**	**4.0000e-003**	**0.1720**		**976.2246**	**976.2246**	**0.0495**		**977.4613**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.4833	40.8513	45.6348	0.0766		1.9736	1.9736		1.8597	1.8597	0.0000	7,253.7195	7,253.7195	1.6903		7,295.9774
Total	**4.4833**	**40.8513**	**45.6348**	**0.0766**		**1.9736**	**1.9736**		**1.8597**	**1.8597**	**0.0000**	**7,253.7195**	**7,253.7195**	**1.6903**		**7,295.9774**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0341	1.4884	0.2161	4.9500e-003	0.1220	1.4200e-003	0.1234	0.0351	1.3600e-003	0.0365		519.0185	519.0185	0.0397		520.0105
Worker	0.2386	0.1108	1.4909	4.5900e-003	0.5011	2.8700e-003	0.5040	0.1329	2.6400e-003	0.1356		457.2062	457.2062	9.7900e-003		457.4508
Total	**0.2727**	**1.5991**	**1.7070**	**9.5400e-003**	**0.6231**	**4.2900e-003**	**0.6274**	**0.1680**	**4.0000e-003**	**0.1720**		**976.2246**	**976.2246**	**0.0495**		**977.4613**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0655	20.3833	29.1684	0.0456		1.0204	1.0204		0.9388	0.9388		4,415.1683	4,415.1683	1.4280		4,450.8672
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.0655**	**20.3833**	**29.1684**	**0.0456**		**1.0204**	**1.0204**		**0.9388**	**0.9388**		**4,415.1683**	**4,415.1683**	**1.4280**		**4,450.8672**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0587	0.0272	0.3666	1.1300e-003	0.1232	7.1000e-004	0.1239	0.0327	6.5000e-004	0.0333		112.4277	112.4277	2.4100e-003		112.4879
Total	**0.0587**	**0.0272**	**0.3666**	**1.1300e-003**	**0.1232**	**7.1000e-004**	**0.1239**	**0.0327**	**6.5000e-004**	**0.0333**		**112.4277**	**112.4277**	**2.4100e-003**		**112.4879**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0655	20.3833	29.1684	0.0456		1.0204	1.0204		0.9388	0.9388	0.0000	4,415.1683	4,415.1683	1.4280		4,450.8672
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**2.0655**	**20.3833**	**29.1684**	**0.0456**		**1.0204**	**1.0204**		**0.9388**	**0.9388**	**0.0000**	**4,415.1683**	**4,415.1683**	**1.4280**		**4,450.8672**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0587	0.0272	0.3666	1.1300e-003	0.1232	7.1000e-004	0.1239	0.0327	6.5000e-004	0.0333		112.4277	112.4277	2.4100e-003		112.4879
Total	**0.0587**	**0.0272**	**0.3666**	**1.1300e-003**	**0.1232**	**7.1000e-004**	**0.1239**	**0.0327**	**6.5000e-004**	**0.0333**		**112.4277**	**112.4277**	**2.4100e-003**		**112.4879**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	70.6998					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**70.8914**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

3.7 Architectural Coating - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0469	0.0218	0.2933	9.0000e-004	0.0986	5.6000e-004	0.0991	0.0262	5.2000e-004	0.0267		89.9422	89.9422	1.9200e-003		89.9903
Total	**0.0469**	**0.0218**	**0.2933**	**9.0000e-004**	**0.0986**	**5.6000e-004**	**0.0991**	**0.0262**	**5.2000e-004**	**0.0267**		**89.9422**	**89.9422**	**1.9200e-003**		**89.9903**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	70.6998					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**70.8914**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

3.7 Architectural Coating - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0469	0.0218	0.2933	9.0000e-004	0.0986	5.6000e-004	0.0991	0.0262	5.2000e-004	0.0267		89.9422	89.9422	1.9200e-003		89.9903
Total	**0.0469**	**0.0218**	**0.2933**	**9.0000e-004**	**0.0986**	**5.6000e-004**	**0.0991**	**0.0262**	**5.2000e-004**	**0.0267**		**89.9422**	**89.9422**	**1.9200e-003**		**89.9903**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.6021	9.6915	33.9813	0.1046	9.4582	0.0845	9.5427	2.5259	0.0789	2.6048		10,579.2274	10,579.2274	0.6742		10,596.0814
Unmitigated	3.6442	9.9798	35.5296	0.1100	9.9841	0.0886	10.0727	2.6664	0.0827	2.7491		11,128.6661	11,128.6661	0.6984		11,146.1271

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,595.36	1,612.26	1444.95	4,611,177	4,368,321
Total	1,595.36	1,612.26	1,444.95	4,611,177	4,368,321

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	48.00	16.00	36.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.534300	0.203000	0.167300	0.054500	0.001300	0.000900	0.009000	0.020700	0.000000	0.004400	0.002500	0.000700	0.001800

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1227	1.0486	0.4462	6.6900e-003		0.0848	0.0848		0.0848	0.0848		1,338.6915	1,338.6915	0.0257	0.0245	1,346.6467
NaturalGas Unmitigated	0.1306	1.1156	0.4747	7.1200e-003		0.0902	0.0902		0.0902	0.0902		1,424.1887	1,424.1887	0.0273	0.0261	1,432.6520

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	12105.6	0.1306	1.1156	0.4747	7.1200e-003		0.0902	0.0902		0.0902	0.0902		1,424.1887	1,424.1887	0.0273	0.0261	1,432.6520
Total		**0.1306**	**1.1156**	**0.4747**	**7.1200e-003**		**0.0902**	**0.0902**		**0.0902**	**0.0902**		**1,424.1887**	**1,424.1887**	**0.0273**	**0.0261**	**1,432.6520**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	11.3789	0.1227	1.0486	0.4462	6.6900e-003		0.0848	0.0848		0.0848	0.0848		1,338.6915	1,338.6915	0.0257	0.0245	1,346.6467
Total		**0.1227**	**1.0486**	**0.4462**	**6.6900e-003**		**0.0848**	**0.0848**		**0.0848**	**0.0848**		**1,338.6915**	**1,338.6915**	**0.0257**	**0.0245**	**1,346.6467**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.7898	1.7029	14.6138	0.0106		0.2018	0.2018		0.2018	0.2018	0.0000	1,993.4583	1,993.4583	0.0620	0.0361	2,005.7607
Unmitigated	23.4970	4.0298	157.2585	0.4760		23.4717	23.4717		23.4717	23.4717	3,434.6419	1,993.4583	5,428.1002	16.1182	0.0361	5,841.8090

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6779					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.5099					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	15.8876	3.8689	143.3008	0.4752		23.3946	23.3946		23.3946	23.3946	3,434.6419	1,968.3529	5,402.9949	16.0940	0.0361	5,816.0981
Landscaping	0.4216	0.1610	13.9577	7.4000e-004		0.0771	0.0771		0.0771	0.0771		25.1054	25.1054	0.0242		25.7109
Total	**23.4970**	**4.0298**	**157.2585**	**0.4760**		**23.4717**	**23.4717**		**23.4717**	**23.4717**	**3,434.6419**	**1,993.4583**	**5,428.1002**	**16.1182**	**0.0361**	**5,841.8090**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6779					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.5099					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1804	1.5419	0.6561	9.8400e-003		0.1247	0.1247		0.1247	0.1247	0.0000	1,968.3529	1,968.3529	0.0377	0.0361	1,980.0499
Landscaping	0.4216	0.1610	13.9577	7.4000e-004		0.0771	0.0771		0.0771	0.0771		25.1054	25.1054	0.0242		25.7109
Total	**7.7898**	**1.7029**	**14.6138**	**0.0106**		**0.2018**	**0.2018**		**0.2018**	**0.2018**	**0.0000**	**1,993.4583**	**1,993.4583**	**0.0620**	**0.0361**	**2,005.7607**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Phase 3 Construction and Operations

(Summer Daily)

Parc West Phase 3 Const and Ops 2023

Fresno County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	169.00	Dwelling Unit	31.60	304,200.00	483

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.025	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Energy Intensity

Land Use - Phase 2 Acreage

Construction Phase - Ajdusted schedule to reflect 5 year buildout for full project

Off-road Equipment -

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Off-road Equipment - Removing 3 structures

Off-road Equipment -

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Off-road Equipment -

Demolition - Remove 2 houses and a barn

Architectural Coating - SJVAPCD Rule 4601 Architectural Coatings

Vehicle Trips - ITE 10th Edition Trip Rates 9.44, 9.54, 8.55

Woodstoves -

Area Coating - Rule 4601 Architectural Coatings compliance

Energy Use -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation - Rule 4601 Compliant Coatings

Energy Mitigation -

Water Mitigation - CalGreen Code and MWELO water conservation requirements

Waste Mitigation - CalRecycle 75% Recycling Mandate

Fleet Mix - SJVAPCD Fleet Mix 2023

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	150.00	65.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	65.00
tblAreaCoating	Area_EF_Residential_Exterior	150	65

Parc West Phase 3 Const and Ops 2023 - Fresno County, Summer

tblAreaCoating	Area_EF_Residential_Interior	150	65
tblConstructionPhase	NumDays	500.00	200.00
tblConstructionPhase	NumDays	35.00	20.00
tblFleetMix	HHD	0.13	0.02
tblFleetMix	LDA	0.50	0.53
tblFleetMix	LDT1	0.03	0.21
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LHD1	0.01	1.1000e-003
tblFleetMix	LHD2	4.2870e-003	9.0000e-004
tblFleetMix	MCY	4.9660e-003	2.5000e-003
tblFleetMix	MDV	0.11	0.06
tblFleetMix	MH	5.6200e-004	1.9000e-003
tblFleetMix	MHD	0.03	8.5000e-003
tblFleetMix	OBUS	2.3600e-003	0.00
tblFleetMix	SBUS	1.0700e-003	4.0000e-004
tblFleetMix	UBUS	1.4600e-003	4.3000e-003
tblLandUse	LotAcreage	54.87	31.60
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.025
tblProjectCharacteristics	CO2IntensityFactor	641.35	290

tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblTripsAndVMT	WorkerTripNumber	30.00	15.00
tblVehicleTrips	HO_TTP	35.70	36.00
tblVehicleTrips	HS_TTP	15.90	16.00
tblVehicleTrips	HW_TTP	48.40	48.00
tblVehicleTrips	ST_TR	9.91	9.54
tblVehicleTrips	SU_TR	8.62	8.55
tblVehicleTrips	WD_TR	9.52	9.44

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	4.7560	42.4504	47.3418	0.0861	18.2141	1.9779	19.4810	9.9699	1.8637	11.1354	0.0000	8,229.9441	8,229.9441	1.9474	0.0000	8,273.4387
2024	70.9244	39.7574	46.9840	0.0859	0.6231	1.7350	2.3580	0.1680	1.6342	1.8022	0.0000	8,209.3371	8,209.3371	1.7286	0.0000	8,252.5511
Maximum	**70.9244**	**42.4504**	**47.3418**	**0.0861**	**18.2141**	**1.9779**	**19.4810**	**9.9699**	**1.8637**	**11.1354**	**0.0000**	**8,229.9441**	**8,229.9441**	**1.9474**	**0.0000**	**8,273.4387**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	4.7560	42.4504	47.3418	0.0861	8.2777	1.9779	9.5446	4.5080	1.8637	5.6736	0.0000	8,229.9441	8,229.9441	1.9474	0.0000	8,273.4387
2024	70.9244	39.7574	46.9840	0.0859	0.6231	1.7350	2.3580	0.1680	1.6342	1.8022	0.0000	8,209.3370	8,209.3370	1.7286	0.0000	8,252.5511
Maximum	**70.9244**	**42.4504**	**47.3418**	**0.0861**	**8.2777**	**1.9779**	**9.5446**	**4.5080**	**1.8637**	**5.6736**	**0.0000**	**8,229.9441**	**8,229.9441**	**1.9474**	**0.0000**	**8,273.4387**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**52.75**	**0.00**	**45.50**	**53.88**	**0.00**	**42.22**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	23.4956	4.0296	157.2466	0.4760		23.4718	23.4718		23.4718	23.4718	3,434.6419	1,993.4583	5,428.1002	16.1181	0.0361	5,841.8070
Energy	0.1306	1.1156	0.4747	7.1200e-003		0.0902	0.0902		0.0902	0.0902		1,424.1887	1,424.1887	0.0273	0.0261	1,432.6520
Mobile	3.3501	8.2648	32.6557	0.1065	9.9758	0.0764	10.0522	2.6627	0.0711	2.7338		10,781.0657	10,781.0657	0.5944		10,795.9256
Total	**26.9762**	**13.4100**	**190.3770**	**0.5896**	**9.9758**	**23.6384**	**33.6142**	**2.6627**	**23.6331**	**26.2958**	**3,434.6419**	**14,198.7128**	**17,633.3547**	**16.7398**	**0.0622**	**18,070.3845**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.7884	1.7026	14.6019	0.0106		0.2019	0.2019		0.2019	0.2019	0.0000	1,993.4583	1,993.4583	0.0619	0.0361	2,005.7588
Energy	0.1227	1.0486	0.4462	6.6900e-003		0.0848	0.0848		0.0848	0.0848		1,338.6915	1,338.6915	0.0257	0.0245	1,346.6467
Mobile	3.3125	8.0402	31.2258	0.1012	9.4504	0.0729	9.5233	2.5225	0.0678	2.5903		10,249.9391	10,249.9391	0.5722		10,264.2431
Total	**11.2236**	**10.7915**	**46.2740**	**0.1185**	**9.4504**	**0.3595**	**9.8099**	**2.5225**	**0.3544**	**2.8769**	**0.0000**	**13,582.0889**	**13,582.0889**	**0.6597**	**0.0606**	**13,616.6486**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**58.39**	**19.53**	**75.69**	**79.90**	**5.27**	**98.48**	**70.82**	**5.27**	**98.50**	**89.06**	**100.00**	**4.34**	**22.98**	**96.06**	**2.52**	**24.65**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2023	1/27/2023	5	20	
2	Grading	Grading	1/28/2023	3/31/2023	5	45	
3	Building Construction	Building Construction	4/1/2023	1/5/2024	5	200	
4	Paving	Paving	1/6/2024	2/2/2024	5	20	
5	Architectural Coating	Architectural Coating	2/3/2024	3/22/2024	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 616,005; Residential Outdoor: 205,335; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Parc West Phase 3 Const and Ops 2023 - Fresno County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	3	7.00	231	0.29
Building Construction	Forklifts	8	8.00	89	0.20
Building Construction	Generator Sets	3	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	8	7.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Pavers	4	8.00	130	0.42
Paving	Paving Equipment	4	8.00	132	0.36
Paving	Rollers	4	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	25	61.00	18.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	12	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	12.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**18.0663**	**1.2660**	**19.3323**	**9.9307**	**1.1647**	**11.0954**		**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

3.2 Site Preparation - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0704	0.0327	0.4399	1.3500e-003	0.1479	8.5000e-004	0.1487	0.0392	7.8000e-004	0.0400		134.9133	134.9133	2.8900e-003		134.9855
Total	**0.0704**	**0.0327**	**0.4399**	**1.3500e-003**	**0.1479**	**8.5000e-004**	**0.1487**	**0.0392**	**7.8000e-004**	**0.0400**		**134.9133**	**134.9133**	**2.8900e-003**		**134.9855**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.3081	3,687.3081	1.1926		3,717.1219
Total	**2.6595**	**27.5242**	**18.2443**	**0.0381**	**8.1298**	**1.2660**	**9.3958**	**4.4688**	**1.1647**	**5.6336**	**0.0000**	**3,687.3081**	**3,687.3081**	**1.1926**		**3,717.1219**

3.2 Site Preparation - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0704	0.0327	0.4399	1.3500e-003	0.1479	8.5000e-004	0.1487	0.0392	7.8000e-004	0.0400		134.9133	134.9133	2.8900e-003		134.9855
Total	**0.0704**	**0.0327**	**0.4399**	**1.3500e-003**	**0.1479**	**8.5000e-004**	**0.1487**	**0.0392**	**7.8000e-004**	**0.0400**		**134.9133**	**134.9133**	**2.8900e-003**		**134.9855**

3.3 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105		6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**8.6733**	**1.4245**	**10.0978**	**3.5965**	**1.3105**	**4.9070**		**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

3.3 Grading - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0782	0.0363	0.4888	1.5000e-003	0.1643	9.4000e-004	0.1652	0.0436	8.7000e-004	0.0445		149.9037	149.9037	3.2100e-003		149.9839
Total	**0.0782**	**0.0363**	**0.4888**	**1.5000e-003**	**0.1643**	**9.4000e-004**	**0.1652**	**0.0436**	**8.7000e-004**	**0.0445**		**149.9037**	**149.9037**	**3.2100e-003**		**149.9839**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.9030	0.0000	3.9030	1.6184	0.0000	1.6184			0.0000			0.0000
Off-Road	3.3217	34.5156	28.0512	0.0621		1.4245	1.4245		1.3105	1.3105	0.0000	6,011.4777	6,011.4777	1.9442		6,060.0836
Total	**3.3217**	**34.5156**	**28.0512**	**0.0621**	**3.9030**	**1.4245**	**5.3275**	**1.6184**	**1.3105**	**2.9290**	**0.0000**	**6,011.4777**	**6,011.4777**	**1.9442**		**6,060.0836**

3.3 Grading - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0782	0.0363	0.4888	1.5000e-003	0.1643	9.4000e-004	0.1652	0.0436	8.7000e-004	0.0445		149.9037	149.9037	3.2100e-003		149.9839
Total	**0.0782**	**0.0363**	**0.4888**	**1.5000e-003**	**0.1643**	**9.4000e-004**	**0.1652**	**0.0436**	**8.7000e-004**	**0.0445**		**149.9037**	**149.9037**	**3.2100e-003**		**149.9839**

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.4833	40.8513	45.6348	0.0766		1.9736	1.9736		1.8597	1.8597		7,253.7195	7,253.7195	1.6903		7,295.9774
Total	**4.4833**	**40.8513**	**45.6348**	**0.0766**		**1.9736**	**1.9736**		**1.8597**	**1.8597**		**7,253.7195**	**7,253.7195**	**1.6903**		**7,295.9774**

3.4 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0341	1.4884	0.2161	4.9500e-003	0.1220	1.4200e-003	0.1234	0.0351	1.3600e-003	0.0365		519.0185	519.0185	0.0397		520.0105
Worker	0.2386	0.1108	1.4909	4.5900e-003	0.5011	2.8700e-003	0.5040	0.1329	2.6400e-003	0.1356		457.2062	457.2062	9.7900e-003		457.4508
Total	**0.2727**	**1.5991**	**1.7070**	**9.5400e-003**	**0.6231**	**4.2900e-003**	**0.6274**	**0.1680**	**4.0000e-003**	**0.1720**		**976.2246**	**976.2246**	**0.0495**		**977.4613**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.4833	40.8513	45.6348	0.0766		1.9736	1.9736		1.8597	1.8597	0.0000	7,253.7195	7,253.7195	1.6903		7,295.9774
Total	**4.4833**	**40.8513**	**45.6348**	**0.0766**		**1.9736**	**1.9736**		**1.8597**	**1.8597**	**0.0000**	**7,253.7195**	**7,253.7195**	**1.6903**		**7,295.9774**

3.4 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0341	1.4884	0.2161	4.9500e-003	0.1220	1.4200e-003	0.1234	0.0351	1.3600e-003	0.0365		519.0185	519.0185	0.0397		520.0105
Worker	0.2386	0.1108	1.4909	4.5900e-003	0.5011	2.8700e-003	0.5040	0.1329	2.6400e-003	0.1356		457.2062	457.2062	9.7900e-003		457.4508
Total	**0.2727**	**1.5991**	**1.7070**	**9.5400e-003**	**0.6231**	**4.2900e-003**	**0.6274**	**0.1680**	**4.0000e-003**	**0.1720**		**976.2246**	**976.2246**	**0.0495**		**977.4613**

3.4 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.1946	38.1806	45.4050	0.0766		1.7308	1.7308		1.6303	1.6303		7,255.0200	7,255.0200	1.6798		7,297.0144
Total	**4.1946**	**38.1806**	**45.4050**	**0.0766**		**1.7308**	**1.7308**		**1.6303**	**1.6303**		**7,255.0200**	**7,255.0200**	**1.6798**		**7,297.0144**

3.4 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0332	1.4773	0.2055	4.9100e-003	0.1220	1.4100e-003	0.1234	0.0351	1.3500e-003	0.0365		514.9948	514.9948	0.0400		515.9954
Worker	0.2228	0.0996	1.3735	4.4100e-003	0.5011	2.8000e-003	0.5039	0.1329	2.5800e-003	0.1355		439.3223	439.3223	8.7600e-003		439.5413
Total	**0.2559**	**1.5768**	**1.5790**	**9.3200e-003**	**0.6231**	**4.2100e-003**	**0.6273**	**0.1680**	**3.9300e-003**	**0.1720**		**954.3171**	**954.3171**	**0.0488**		**955.5367**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.1946	38.1806	45.4050	0.0766		1.7308	1.7308		1.6303	1.6303	0.0000	7,255.0200	7,255.0200	1.6798		7,297.0144
Total	**4.1946**	**38.1806**	**45.4050**	**0.0766**		**1.7308**	**1.7308**		**1.6303**	**1.6303**	**0.0000**	**7,255.0200**	**7,255.0200**	**1.6798**		**7,297.0144**

3.4 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0332	1.4773	0.2055	4.9100e-003	0.1220	1.4100e-003	0.1234	0.0351	1.3500e-003	0.0365		514.9948	514.9948	0.0400		515.9954
Worker	0.2228	0.0996	1.3735	4.4100e-003	0.5011	2.8000e-003	0.5039	0.1329	2.5800e-003	0.1355		439.3223	439.3223	8.7600e-003		439.5413
Total	**0.2559**	**1.5768**	**1.5790**	**9.3200e-003**	**0.6231**	**4.2100e-003**	**0.6273**	**0.1680**	**3.9300e-003**	**0.1720**		**954.3171**	**954.3171**	**0.0488**		**955.5367**

3.5 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9763	19.0492	29.2515	0.0456		0.9370	0.9370		0.8621	0.8621		4,415.0944	4,415.0944	1.4279		4,450.7927
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.9763**	**19.0492**	**29.2515**	**0.0456**		**0.9370**	**0.9370**		**0.8621**	**0.8621**		**4,415.0944**	**4,415.0944**	**1.4279**		**4,450.7927**

3.5 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0548	0.0245	0.3378	1.0800e-003	0.1232	6.9000e-004	0.1239	0.0327	6.3000e-004	0.0333		108.0301	108.0301	2.1500e-003		108.0839
Total	**0.0548**	**0.0245**	**0.3378**	**1.0800e-003**	**0.1232**	**6.9000e-004**	**0.1239**	**0.0327**	**6.3000e-004**	**0.0333**		**108.0301**	**108.0301**	**2.1500e-003**		**108.0839**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9763	19.0492	29.2515	0.0456		0.9370	0.9370		0.8621	0.8621	0.0000	4,415.0944	4,415.0944	1.4279		4,450.7927
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.9763**	**19.0492**	**29.2515**	**0.0456**		**0.9370**	**0.9370**		**0.8621**	**0.8621**	**0.0000**	**4,415.0944**	**4,415.0944**	**1.4279**		**4,450.7927**

3.5 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0548	0.0245	0.3378	1.0800e-003	0.1232	6.9000e-004	0.1239	0.0327	6.3000e-004	0.0333		108.0301	108.0301	2.1500e-003		108.0839
Total	**0.0548**	**0.0245**	**0.3378**	**1.0800e-003**	**0.1232**	**6.9000e-004**	**0.1239**	**0.0327**	**6.3000e-004**	**0.0333**		**108.0301**	**108.0301**	**2.1500e-003**		**108.0839**

3.6 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	70.6998					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**70.8805**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.6 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0438	0.0196	0.2702	8.7000e-004	0.0986	5.5000e-004	0.0991	0.0262	5.1000e-004	0.0267		86.4241	86.4241	1.7200e-003		86.4671
Total	**0.0438**	**0.0196**	**0.2702**	**8.7000e-004**	**0.0986**	**5.5000e-004**	**0.0991**	**0.0262**	**5.1000e-004**	**0.0267**		**86.4241**	**86.4241**	**1.7200e-003**		**86.4671**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	70.6998					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**70.8805**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.6 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0438	0.0196	0.2702	8.7000e-004	0.0986	5.5000e-004	0.0991	0.0262	5.1000e-004	0.0267		86.4241	86.4241	1.7200e-003		86.4671
Total	**0.0438**	**0.0196**	**0.2702**	**8.7000e-004**	**0.0986**	**5.5000e-004**	**0.0991**	**0.0262**	**5.1000e-004**	**0.0267**		**86.4241**	**86.4241**	**1.7200e-003**		**86.4671**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.3125	8.0402	31.2258	0.1012	9.4504	0.0729	9.5233	2.5225	0.0678	2.5903		10,249.9391	10,249.9391	0.5722		10,264.2431
Unmitigated	3.3501	8.2648	32.6557	0.1065	9.9758	0.0764	10.0522	2.6627	0.0711	2.7338		10,781.0657	10,781.0657	0.5944		10,795.9256

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,595.36	1,612.26	1444.95	4,611,177	4,368,321
Total	1,595.36	1,612.26	1,444.95	4,611,177	4,368,321

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	48.00	16.00	36.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.530500	0.205800	0.167300	0.055000	0.001100	0.000900	0.008500	0.021800	0.000000	0.004300	0.002500	0.000400	0.001900

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1227	1.0486	0.4462	6.6900e-003		0.0848	0.0848		0.0848	0.0848		1,338.6915	1,338.6915	0.0257	0.0245	1,346.6467
NaturalGas Unmitigated	0.1306	1.1156	0.4747	7.1200e-003		0.0902	0.0902		0.0902	0.0902		1,424.1887	1,424.1887	0.0273	0.0261	1,432.6520

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	12105.6	0.1306	1.1156	0.4747	7.1200e-003		0.0902	0.0902		0.0902	0.0902		1,424.1887	1,424.1887	0.0273	0.0261	1,432.6520
Total		**0.1306**	**1.1156**	**0.4747**	**7.1200e-003**		**0.0902**	**0.0902**		**0.0902**	**0.0902**		**1,424.1887**	**1,424.1887**	**0.0273**	**0.0261**	**1,432.6520**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	11.3789	0.1227	1.0486	0.4462	6.6900e-003		0.0848	0.0848		0.0848	0.0848		1,338.6915	1,338.6915	0.0257	0.0245	1,346.6467
Total		**0.1227**	**1.0486**	**0.4462**	**6.6900e-003**		**0.0848**	**0.0848**		**0.0848**	**0.0848**		**1,338.6915**	**1,338.6915**	**0.0257**	**0.0245**	**1,346.6467**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.7884	1.7026	14.6019	0.0106		0.2019	0.2019		0.2019	0.2019	0.0000	1,993.4583	1,993.4583	0.0619	0.0361	2,005.7588
Unmitigated	23.4956	4.0296	157.2466	0.4760		23.4718	23.4718		23.4718	23.4718	3,434.6419	1,993.4583	5,428.1002	16.1181	0.0361	5,841.8070

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6779					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.5099					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	15.8876	3.8689	143.3008	0.4752		23.3946	23.3946		23.3946	23.3946	3,434.6419	1,968.3529	5,402.9949	16.0940	0.0361	5,816.0981
Landscaping	0.4201	0.1608	13.9458	7.4000e-004		0.0772	0.0772		0.0772	0.0772		25.1053	25.1053	0.0241		25.7089
Total	**23.4956**	**4.0296**	**157.2466**	**0.4760**		**23.4718**	**23.4718**		**23.4718**	**23.4718**	**3,434.6419**	**1,993.4583**	**5,428.1002**	**16.1181**	**0.0361**	**5,841.8070**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6779					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.5099					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1804	1.5419	0.6561	9.8400e-003		0.1247	0.1247		0.1247	0.1247	0.0000	1,968.3529	1,968.3529	0.0377	0.0361	1,980.0499
Landscaping	0.4201	0.1608	13.9458	7.4000e-004		0.0772	0.0772		0.0772	0.0772		25.1053	25.1053	0.0241		25.7089
Total	**7.7884**	**1.7026**	**14.6019**	**0.0106**		**0.2019**	**0.2019**		**0.2019**	**0.2019**	**0.0000**	**1,993.4583**	**1,993.4583**	**0.0619**	**0.0361**	**2,005.7588**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Phase 4 Construction and Operations

(Summer Daily)

Parc West Phase 4 Const and Ops 2024

Fresno County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	169.00	Dwelling Unit	31.60	304,200.00	483

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2024
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.025	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Energy Intensity

Land Use - Phase 4 Acreage

Construction Phase - Ajdusted schedule to reflect 5 year buildout for full project

Off-road Equipment -

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Off-road Equipment - Removing 3 structures

Off-road Equipment -

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Off-road Equipment -

Demolition - Remove 2 houses and a barn

Architectural Coating - SJVAPCD Rule 4601 Architectural Coatings

Vehicle Trips - ITE 10th Edition Trip Rates 9.44, 9.54, 8.55

Woodstoves -

Area Coating - Rule 4601 Architectural Coatings compliance

Energy Use -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation - Rule 4601 Compliant Coatings

Energy Mitigation -

Water Mitigation - CalGreen Code and MWELO water conservation requirements

Waste Mitigation - CalRecycle 75% Recycling Mandate

Fleet Mix - SJVAPCD Fleet Mix 2024

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	150.00	65.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	65.00
tblAreaCoating	Area_EF_Residential_Exterior	150	65

Parc West Phase 4 Const and Ops 2024 - Fresno County, Summer

tblAreaCoating	Area_EF_Residential_Interior	150	65
tblConstructionPhase	NumDays	500.00	200.00
tblConstructionPhase	NumDays	35.00	20.00
tblFleetMix	HHD	0.13	0.02
tblFleetMix	LDA	0.50	0.53
tblFleetMix	LDT1	0.03	0.21
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LHD1	0.01	9.0000e-004
tblFleetMix	LHD2	4.0970e-003	9.0000e-004
tblFleetMix	MCY	4.8840e-003	2.5000e-003
tblFleetMix	MDV	0.11	0.06
tblFleetMix	MH	5.3500e-004	2.0000e-003
tblFleetMix	MHD	0.03	8.0000e-003
tblFleetMix	OBUS	2.3410e-003	0.00
tblFleetMix	SBUS	1.0580e-003	2.0000e-004
tblFleetMix	UBUS	1.4060e-003	4.3000e-003
tblLandUse	LotAcreage	54.87	31.60
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	8.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.025
tblProjectCharacteristics	CO2IntensityFactor	641.35	290

tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblTripsAndVMT	WorkerTripNumber	30.00	15.00
tblVehicleTrips	HO_TTP	35.70	36.00
tblVehicleTrips	HS_TTP	15.90	16.00
tblVehicleTrips	HW_TTP	48.40	48.00
tblVehicleTrips	ST_TR	9.91	9.54
tblVehicleTrips	SU_TR	8.62	8.55
tblVehicleTrips	WD_TR	9.52	9.44

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2024	4.4505	39.7574	46.9840	0.0859	18.2141	1.7350	19.4443	9.9699	1.6342	11.1017	0.0000	8,209.3371	8,209.3371	1.9465	0.0000	8,252.5511
2025	70.9118	36.9780	46.6341	0.0857	0.6231	1.4957	2.1187	0.1680	1.4088	1.5768	0.0000	8,190.1731	8,190.1731	1.7176	0.0000	8,233.1123
Maximum	**70.9118**	**39.7574**	**46.9840**	**0.0859**	**18.2141**	**1.7350**	**19.4443**	**9.9699**	**1.6342**	**11.1017**	**0.0000**	**8,209.3371**	**8,209.3371**	**1.9465**	**0.0000**	**8,252.5511**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2024	4.4505	39.7574	46.9840	0.0859	8.2777	1.7350	9.5079	4.5080	1.6342	5.6398	0.0000	8,209.3370	8,209.3370	1.9465	0.0000	8,252.5511
2025	70.9118	36.9780	46.6341	0.0857	0.6231	1.4957	2.1187	0.1680	1.4088	1.5768	0.0000	8,190.1731	8,190.1731	1.7176	0.0000	8,233.1123
Maximum	**70.9118**	**39.7574**	**46.9840**	**0.0859**	**8.2777**	**1.7350**	**9.5079**	**4.5080**	**1.6342**	**5.6398**	**0.0000**	**8,209.3370**	**8,209.3370**	**1.9465**	**0.0000**	**8,252.5511**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**52.75**	**0.00**	**46.08**	**53.88**	**0.00**	**43.08**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	23.4945	4.0295	157.2377	0.4760		23.4718	23.4718		23.4718	23.4718	3,434.6419	1,993.4583	5,428.1002	16.1181	0.0361	5,841.8057
Energy	0.1306	1.1156	0.4747	7.1200e-003		0.0902	0.0902		0.0902	0.0902		1,424.1887	1,424.1887	0.0273	0.0261	1,432.6520
Mobile	3.1246	7.7537	30.2805	0.1026	9.9694	0.0738	10.0433	2.6600	0.0687	2.7287		10,392.6942	10,392.6942	0.5578		10,406.6381
Total	**26.7496**	**12.8988**	**187.9929**	**0.5857**	**9.9694**	**23.6359**	**33.6053**	**2.6600**	**23.6307**	**26.2907**	**3,434.6419**	**13,810.3413**	**17,244.9832**	**16.7031**	**0.0622**	**17,681.0958**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.7873	1.7025	14.5930	0.0106		0.2019	0.2019		0.2019	0.2019	0.0000	1,993.4583	1,993.4583	0.0618	0.0361	2,005.7574
Energy	0.1227	1.0486	0.4462	6.6900e-003		0.0848	0.0848		0.0848	0.0848		1,338.6915	1,338.6915	0.0257	0.0245	1,346.6467
Mobile	3.0900	7.5473	28.9503	0.0975	9.4444	0.0704	9.5148	2.5199	0.0655	2.5854		9,880.6666	9,880.6666	0.5372		9,894.0972
Total	**11.0001**	**10.2984**	**43.9895**	**0.1148**	**9.4444**	**0.3571**	**9.8015**	**2.5199**	**0.3522**	**2.8721**	**0.0000**	**13,212.8164**	**13,212.8164**	**0.6247**	**0.0606**	**13,246.5014**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**58.88**	**20.16**	**76.60**	**80.40**	**5.27**	**98.49**	**70.83**	**5.27**	**98.51**	**89.08**	**100.00**	**4.33**	**23.38**	**96.26**	**2.52**	**25.08**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2024	1/26/2024	5	20	
2	Grading	Grading	1/27/2024	3/29/2024	5	45	
3	Building Construction	Building Construction	3/30/2024	1/3/2025	5	200	
4	Paving	Paving	1/4/2025	1/31/2025	5	20	
5	Architectural Coating	Architectural Coating	2/1/2025	3/21/2025	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 616,005; Residential Outdoor: 205,335; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Parc West Phase 4 Const and Ops 2024 - Fresno County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	3	7.00	231	0.29
Building Construction	Forklifts	8	8.00	89	0.20
Building Construction	Generator Sets	3	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	8	7.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Pavers	4	8.00	130	0.42
Paving	Paving Equipment	4	8.00	132	0.36
Paving	Rollers	4	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	25	61.00	18.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	12	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	12.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.6609	27.1760	18.3356	0.0381		1.2294	1.2294		1.1310	1.1310		3,688.0100	3,688.0100	1.1928		3,717.8294
Total	**2.6609**	**27.1760**	**18.3356**	**0.0381**	**18.0663**	**1.2294**	**19.2956**	**9.9307**	**1.1310**	**11.0617**		**3,688.0100**	**3,688.0100**	**1.1928**		**3,717.8294**

3.2 Site Preparation - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0657	0.0294	0.4053	1.3000e-003	0.1479	8.3000e-004	0.1487	0.0392	7.6000e-004	0.0400		129.6361	129.6361	2.5800e-003		129.7007
Total	**0.0657**	**0.0294**	**0.4053**	**1.3000e-003**	**0.1479**	**8.3000e-004**	**0.1487**	**0.0392**	**7.6000e-004**	**0.0400**		**129.6361**	**129.6361**	**2.5800e-003**		**129.7007**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	2.6609	27.1760	18.3356	0.0381		1.2294	1.2294		1.1310	1.1310	0.0000	3,688.0100	3,688.0100	1.1928		3,717.8294
Total	**2.6609**	**27.1760**	**18.3356**	**0.0381**	**8.1298**	**1.2294**	**9.3592**	**4.4688**	**1.1310**	**5.5998**	**0.0000**	**3,688.0100**	**3,688.0100**	**1.1928**		**3,717.8294**

3.2 Site Preparation - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0657	0.0294	0.4053	1.3000e-003	0.1479	8.3000e-004	0.1487	0.0392	7.6000e-004	0.0400		129.6361	129.6361	2.5800e-003		129.7007
Total	**0.0657**	**0.0294**	**0.4053**	**1.3000e-003**	**0.1479**	**8.3000e-004**	**0.1487**	**0.0392**	**7.6000e-004**	**0.0400**		**129.6361**	**129.6361**	**2.5800e-003**		**129.7007**

3.3 Grading - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.2181	32.3770	27.7228	0.0621		1.3354	1.3354		1.2286	1.2286		6,009.7487	6,009.7487	1.9437		6,058.3405
Total	**3.2181**	**32.3770**	**27.7228**	**0.0621**	**8.6733**	**1.3354**	**10.0087**	**3.5965**	**1.2286**	**4.8251**		**6,009.7487**	**6,009.7487**	**1.9437**		**6,058.3405**

3.3 Grading - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0730	0.0326	0.4503	1.4400e-003	0.1643	9.2000e-004	0.1652	0.0436	8.5000e-004	0.0444		144.0401	144.0401	2.8700e-003		144.1119
Total	**0.0730**	**0.0326**	**0.4503**	**1.4400e-003**	**0.1643**	**9.2000e-004**	**0.1652**	**0.0436**	**8.5000e-004**	**0.0444**		**144.0401**	**144.0401**	**2.8700e-003**		**144.1119**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.9030	0.0000	3.9030	1.6184	0.0000	1.6184			0.0000			0.0000
Off-Road	3.2181	32.3770	27.7228	0.0621		1.3354	1.3354		1.2286	1.2286	0.0000	6,009.7487	6,009.7487	1.9437		6,058.3405
Total	**3.2181**	**32.3770**	**27.7228**	**0.0621**	**3.9030**	**1.3354**	**5.2384**	**1.6184**	**1.2286**	**2.8470**	**0.0000**	**6,009.7487**	**6,009.7487**	**1.9437**		**6,058.3405**

3.3 Grading - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0730	0.0326	0.4503	1.4400e-003	0.1643	9.2000e-004	0.1652	0.0436	8.5000e-004	0.0444		144.0401	144.0401	2.8700e-003		144.1119
Total	**0.0730**	**0.0326**	**0.4503**	**1.4400e-003**	**0.1643**	**9.2000e-004**	**0.1652**	**0.0436**	**8.5000e-004**	**0.0444**		**144.0401**	**144.0401**	**2.8700e-003**		**144.1119**

3.4 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.1946	38.1806	45.4050	0.0766		1.7308	1.7308		1.6303	1.6303		7,255.0200	7,255.0200	1.6798		7,297.0144
Total	**4.1946**	**38.1806**	**45.4050**	**0.0766**		**1.7308**	**1.7308**		**1.6303**	**1.6303**		**7,255.0200**	**7,255.0200**	**1.6798**		**7,297.0144**

3.4 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0332	1.4773	0.2055	4.9100e-003	0.1220	1.4100e-003	0.1234	0.0351	1.3500e-003	0.0365		514.9948	514.9948	0.0400		515.9954
Worker	0.2228	0.0996	1.3735	4.4100e-003	0.5011	2.8000e-003	0.5039	0.1329	2.5800e-003	0.1355		439.3223	439.3223	8.7600e-003		439.5413
Total	**0.2559**	**1.5768**	**1.5790**	**9.3200e-003**	**0.6231**	**4.2100e-003**	**0.6273**	**0.1680**	**3.9300e-003**	**0.1720**		**954.3171**	**954.3171**	**0.0488**		**955.5367**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.1946	38.1806	45.4050	0.0766		1.7308	1.7308		1.6303	1.6303	0.0000	7,255.0200	7,255.0200	1.6798		7,297.0144
Total	**4.1946**	**38.1806**	**45.4050**	**0.0766**		**1.7308**	**1.7308**		**1.6303**	**1.6303**	**0.0000**	**7,255.0200**	**7,255.0200**	**1.6798**		**7,297.0144**

3.4 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0332	1.4773	0.2055	4.9100e-003	0.1220	1.4100e-003	0.1234	0.0351	1.3500e-003	0.0365		514.9948	514.9948	0.0400		515.9954
Worker	0.2228	0.0996	1.3735	4.4100e-003	0.5011	2.8000e-003	0.5039	0.1329	2.5800e-003	0.1355		439.3223	439.3223	8.7600e-003		439.5413
Total	**0.2559**	**1.5768**	**1.5790**	**9.3200e-003**	**0.6231**	**4.2100e-003**	**0.6273**	**0.1680**	**3.9300e-003**	**0.1720**		**954.3171**	**954.3171**	**0.0488**		**955.5367**

3.4 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.8997	35.4223	45.1693	0.0766		1.4915	1.4915		1.4049	1.4049		7,257.0934	7,257.0934	1.6695		7,298.8306
Total	**3.8997**	**35.4223**	**45.1693**	**0.0766**		**1.4915**	**1.4915**		**1.4049**	**1.4049**		**7,257.0934**	**7,257.0934**	**1.6695**		**7,298.8306**

3.4 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0324	1.4657	0.1974	4.8800e-003	0.1220	1.3900e-003	0.1234	0.0351	1.3300e-003	0.0365		511.2647	511.2647	0.0402		512.2695
Worker	0.2092	0.0900	1.2674	4.2300e-003	0.5011	2.7500e-003	0.5039	0.1329	2.5300e-003	0.1354		421.8150	421.8150	7.8900e-003		422.0122
Total	**0.2415**	**1.5557**	**1.4648**	**9.1100e-003**	**0.6231**	**4.1400e-003**	**0.6272**	**0.1680**	**3.8600e-003**	**0.1719**		**933.0797**	**933.0797**	**0.0481**		**934.2817**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.8997	35.4223	45.1693	0.0766		1.4915	1.4915		1.4049	1.4049	0.0000	7,257.0934	7,257.0934	1.6695		7,298.8306
Total	**3.8997**	**35.4223**	**45.1693**	**0.0766**		**1.4915**	**1.4915**		**1.4049**	**1.4049**	**0.0000**	**7,257.0934**	**7,257.0934**	**1.6695**		**7,298.8306**

3.4 Building Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0324	1.4657	0.1974	4.8800e-003	0.1220	1.3900e-003	0.1234	0.0351	1.3300e-003	0.0365		511.2647	511.2647	0.0402		512.2695
Worker	0.2092	0.0900	1.2674	4.2300e-003	0.5011	2.7500e-003	0.5039	0.1329	2.5300e-003	0.1354		421.8150	421.8150	7.8900e-003		422.0122
Total	**0.2415**	**1.5557**	**1.4648**	**9.1100e-003**	**0.6231**	**4.1400e-003**	**0.6272**	**0.1680**	**3.8600e-003**	**0.1719**		**933.0797**	**933.0797**	**0.0481**		**934.2817**

3.5 Paving - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8303	17.1633	29.1559	0.0456		0.8371	0.8371		0.7701	0.7701		4,413.4903	4,413.4903	1.4274		4,449.1756
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.8303**	**17.1633**	**29.1559**	**0.0456**		**0.8371**	**0.8371**		**0.7701**	**0.7701**		**4,413.4903**	**4,413.4903**	**1.4274**		**4,449.1756**

3.5 Paving - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0514	0.0221	0.3117	1.0400e-003	0.1232	6.8000e-004	0.1239	0.0327	6.2000e-004	0.0333		103.7250	103.7250	1.9400e-003		103.7735
Total	**0.0514**	**0.0221**	**0.3117**	**1.0400e-003**	**0.1232**	**6.8000e-004**	**0.1239**	**0.0327**	**6.2000e-004**	**0.0333**		**103.7250**	**103.7250**	**1.9400e-003**		**103.7735**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8303	17.1633	29.1559	0.0456		0.8371	0.8371		0.7701	0.7701	0.0000	4,413.4903	4,413.4903	1.4274		4,449.1756
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.8303**	**17.1633**	**29.1559**	**0.0456**		**0.8371**	**0.8371**		**0.7701**	**0.7701**	**0.0000**	**4,413.4903**	**4,413.4903**	**1.4274**		**4,449.1756**

3.5 Paving - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0514	0.0221	0.3117	1.0400e-003	0.1232	6.8000e-004	0.1239	0.0327	6.2000e-004	0.0333		103.7250	103.7250	1.9400e-003		103.7735
Total	**0.0514**	**0.0221**	**0.3117**	**1.0400e-003**	**0.1232**	**6.8000e-004**	**0.1239**	**0.0327**	**6.2000e-004**	**0.0333**		**103.7250**	**103.7250**	**1.9400e-003**		**103.7735**

3.6 Architectural Coating - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	70.6998					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**70.8706**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

3.6 Architectural Coating - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0411	0.0177	0.2493	8.3000e-004	0.0986	5.4000e-004	0.0991	0.0262	5.0000e-004	0.0266		82.9800	82.9800	1.5500e-003		83.0188
Total	**0.0411**	**0.0177**	**0.2493**	**8.3000e-004**	**0.0986**	**5.4000e-004**	**0.0991**	**0.0262**	**5.0000e-004**	**0.0266**		**82.9800**	**82.9800**	**1.5500e-003**		**83.0188**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	70.6998					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**70.8706**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

3.6 Architectural Coating - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0411	0.0177	0.2493	8.3000e-004	0.0986	5.4000e-004	0.0991	0.0262	5.0000e-004	0.0266		82.9800	82.9800	1.5500e-003		83.0188
Total	**0.0411**	**0.0177**	**0.2493**	**8.3000e-004**	**0.0986**	**5.4000e-004**	**0.0991**	**0.0262**	**5.0000e-004**	**0.0266**		**82.9800**	**82.9800**	**1.5500e-003**		**83.0188**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.0900	7.5473	28.9503	0.0975	9.4444	0.0704	9.5148	2.5199	0.0655	2.5854		9,880.6666	9,880.6666	0.5372		9,894.0972
Unmitigated	3.1246	7.7537	30.2805	0.1026	9.9694	0.0738	10.0433	2.6600	0.0687	2.7287		10,392.6942	10,392.6942	0.5578		10,406.6381

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,595.36	1,612.26	1444.95	4,611,177	4,368,321
Total	1,595.36	1,612.26	1,444.95	4,611,177	4,368,321

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	48.00	16.00	36.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.527700	0.209000	0.167500	0.055600	0.000900	0.000900	0.008000	0.021400	0.000000	0.004300	0.002500	0.000200	0.002000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1227	1.0486	0.4462	6.6900e-003		0.0848	0.0848		0.0848	0.0848		1,338.6915	1,338.6915	0.0257	0.0245	1,346.6467
NaturalGas Unmitigated	0.1306	1.1156	0.4747	7.1200e-003		0.0902	0.0902		0.0902	0.0902		1,424.1887	1,424.1887	0.0273	0.0261	1,432.6520

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	12105.6	0.1306	1.1156	0.4747	7.1200e-003		0.0902	0.0902		0.0902	0.0902		1,424.1887	1,424.1887	0.0273	0.0261	1,432.6520
Total		**0.1306**	**1.1156**	**0.4747**	**7.1200e-003**		**0.0902**	**0.0902**		**0.0902**	**0.0902**		**1,424.1887**	**1,424.1887**	**0.0273**	**0.0261**	**1,432.6520**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	11.3789	0.1227	1.0486	0.4462	6.6900e-003		0.0848	0.0848		0.0848	0.0848		1,338.6915	1,338.6915	0.0257	0.0245	1,346.6467
Total		**0.1227**	**1.0486**	**0.4462**	**6.6900e-003**		**0.0848**	**0.0848**		**0.0848**	**0.0848**		**1,338.6915**	**1,338.6915**	**0.0257**	**0.0245**	**1,346.6467**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.7873	1.7025	14.5930	0.0106		0.2019	0.2019		0.2019	0.2019	0.0000	1,993.4583	1,993.4583	0.0618	0.0361	2,005.7574
Unmitigated	23.4945	4.0295	157.2377	0.4760		23.4718	23.4718		23.4718	23.4718	3,434.6419	1,993.4583	5,428.1002	16.1181	0.0361	5,841.8057

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6779					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.5099					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	15.8876	3.8689	143.3008	0.4752		23.3946	23.3946		23.3946	23.3946	3,434.6419	1,968.3529	5,402.9949	16.0940	0.0361	5,816.0981
Landscaping	0.4191	0.1606	13.9369	7.4000e-004		0.0773	0.0773		0.0773	0.0773		25.1053	25.1053	0.0241		25.7076
Total	**23.4945**	**4.0295**	**157.2377**	**0.4760**		**23.4718**	**23.4718**		**23.4718**	**23.4718**	**3,434.6419**	**1,993.4583**	**5,428.1002**	**16.1181**	**0.0361**	**5,841.8057**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6779					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.5099					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1804	1.5419	0.6561	9.8400e-003		0.1247	0.1247		0.1247	0.1247	0.0000	1,968.3529	1,968.3529	0.0377	0.0361	1,980.0499
Landscaping	0.4191	0.1606	13.9369	7.4000e-004		0.0773	0.0773		0.0773	0.0773		25.1053	25.1053	0.0241		25.7076
Total	**7.7873**	**1.7025**	**14.5930**	**0.0106**		**0.2019**	**0.2019**		**0.2019**	**0.2019**	**0.0000**	**1,993.4583**	**1,993.4583**	**0.0618**	**0.0361**	**2,005.7574**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Phase 5 Construction and Operations

(Summer Daily)

Parc West Phase 5 Const and Ops 2025

Fresno County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	170.00	Dwelling Unit	31.60	306,000.00	486

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.025	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Energy Intensity

Land Use - Phase 5 Acreage

Construction Phase - Ajdusted schedule to reflect 5 year buildout for full project

Off-road Equipment -

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Off-road Equipment - Removing 3 structures

Off-road Equipment -

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Off-road Equipment -

Demolition - Remove 2 houses and a barn

Architectural Coating - SJVAPCD Rule 4601 Architectural Coatings

Vehicle Trips - ITE 10th Edition Trip Rates 9.44, 9.54, 8.55

Woodstoves - SJVAPCD Rule 4901 Compliance

Area Coating - Rule 4601 Architectural Coatings compliance

Energy Use -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation - Rule 4601 Compliant Coatings

Energy Mitigation -

Water Mitigation - CalGreen Code and MWELO water conservation requirements

Waste Mitigation - CalRecycle 75% Recycling Mandate

Fleet Mix - SJVAPCD Fleet Mix 2025

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	150.00	65.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	65.00
tblAreaCoating	Area_EF_Residential_Exterior	150	65

tblAreaCoating	Area_EF_Residential_Interior	150	65
tblAreaMitigation	UseLowVOCPaintResidentialExteriorValue	65	150
tblAreaMitigation	UseLowVOCPaintResidentialInteriorValue	65	150
tblConstructionPhase	NumDays	500.00	200.00
tblConstructionPhase	NumDays	35.00	20.00
tblFleetMix	HHD	0.13	0.02
tblFleetMix	LDA	0.51	0.52
tblFleetMix	LDT1	0.03	0.21
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LHD1	0.01	8.0000e-004
tblFleetMix	LHD2	3.9290e-003	9.0000e-004
tblFleetMix	MCY	4.8100e-003	2.5000e-003
tblFleetMix	MDV	0.10	0.06
tblFleetMix	MH	5.1200e-004	2.2000e-003
tblFleetMix	MHD	0.03	7.6000e-003
tblFleetMix	OBUS	2.3280e-003	0.00
tblFleetMix	SBUS	1.0480e-003	1.0000e-004
tblFleetMix	UBUS	1.3540e-003	4.3000e-003
tblLandUse	LotAcreage	55.19	31.60
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.025
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblVehicleTrips	HO_TTP	35.70	36.00
tblVehicleTrips	HS_TTP	15.90	16.00
tblVehicleTrips	HW_TTP	48.40	48.00
tblVehicleTrips	ST_TR	9.91	9.54
tblVehicleTrips	SU_TR	8.62	8.55

tblVehicleTrips	WD_TR	9.52	9.44

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2025	2.9698	27.9724	26.7466	0.0635	18.2141	1.1318	19.3017	9.9699	1.0413	10.9705	0.0000	6,146.5814	6,146.5814	1.9458	0.0000	6,195.2261
2026	71.3278	14.0058	17.4628	0.0359	0.6231	0.5316	1.1547	0.1680	0.5001	0.6681	0.0000	3,472.9927	3,472.9927	0.7155	0.0000	3,489.1997
Maximum	**71.3278**	**27.9724**	**26.7466**	**0.0635**	**18.2141**	**1.1318**	**19.3017**	**9.9699**	**1.0413**	**10.9705**	**0.0000**	**6,146.5814**	**6,146.5814**	**1.9458**	**0.0000**	**6,195.2261**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2025	2.9698	27.9724	26.7466	0.0635	8.2777	1.1318	9.3653	4.5080	1.0413	5.5086	0.0000	6,146.5814	6,146.5814	1.9458	0.0000	6,195.2261
2026	71.3278	14.0058	17.4628	0.0359	0.6231	0.5316	1.1547	0.1680	0.5001	0.6681	0.0000	3,472.9927	3,472.9927	0.7155	0.0000	3,489.1997
Maximum	**71.3278**	**27.9724**	**26.7466**	**0.0635**	**8.2777**	**1.1318**	**9.3653**	**4.5080**	**1.0413**	**5.5086**	**0.0000**	**6,146.5814**	**6,146.5814**	**1.9458**	**0.0000**	**6,195.2261**

Parc West Phase 5 Const and Ops 2025 - Fresno County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**52.75**	**0.00**	**48.57**	**53.88**	**0.00**	**46.93**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	23.5398	4.0394	157.3166	0.4760		23.4731	23.4731		23.4731	23.4731	3,434.6419	2,005.2539	5,439.8958	16.1184	0.0363	5,853.6729
Energy	0.1313	1.1222	0.4775	7.1600e-003		0.0907	0.0907		0.0907	0.0907		1,432.6159	1,432.6159	0.0275	0.0263	1,441.1292
Mobile	2.9556	7.3900	28.3370	0.0996	10.0247	0.0719	10.0966	2.6742	0.0669	2.7411		10,091.6112	10,091.6112	0.5318		10,104.9062
Total	**26.6267**	**12.5516**	**186.1312**	**0.5828**	**10.0247**	**23.6357**	**33.6605**	**2.6742**	**23.6307**	**26.3049**	**3,434.6419**	**13,529.4809**	**16,964.1229**	**16.6777**	**0.0626**	**17,399.7083**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	8.7243	1.7124	14.6719	0.0106		0.2032	0.2032		0.2032	0.2032	0.0000	2,005.2539	2,005.2539	0.0621	0.0363	2,017.6246
Energy	0.1234	1.0549	0.4489	6.7300e-003		0.0853	0.0853		0.0853	0.0853		1,346.6128	1,346.6128	0.0258	0.0247	1,354.6150
Mobile	2.9232	7.1978	27.0891	0.0947	9.4968	0.0686	9.5654	2.5334	0.0638	2.5972		9,594.5895	9,594.5895	0.5125		9,607.4028
Total	**11.7710**	**9.9650**	**42.2099**	**0.1120**	**9.4968**	**0.3570**	**9.8538**	**2.5334**	**0.3522**	**2.8856**	**0.0000**	**12,946.4561**	**12,946.4561**	**0.6005**	**0.0610**	**12,979.6424**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**55.79**	**20.61**	**77.32**	**80.78**	**5.27**	**98.49**	**70.73**	**5.27**	**98.51**	**89.03**	**100.00**	**4.31**	**23.68**	**96.40**	**2.51**	**25.40**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2025	1/28/2025	5	20	
2	Grading	Grading	1/29/2025	4/1/2025	5	45	
3	Building Construction	Building Construction	4/2/2025	1/6/2026	5	200	
4	Paving	Paving	1/7/2026	2/3/2026	5	20	
5	Architectural Coating	Architectural Coating	2/4/2026	3/24/2026	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 619,650; Residential Outdoor: 206,550; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Parc West Phase 5 Const and Ops 2025 - Fresno County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	61.00	18.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	12.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	2.4727	25.2339	17.9118	0.0381		1.0868	1.0868		0.9999	0.9999		3,689.1037	3,689.1037	1.1931		3,718.9320
Total	**2.4727**	**25.2339**	**17.9118**	**0.0381**	**18.0663**	**1.0868**	**19.1531**	**9.9307**	**0.9999**	**10.9305**		**3,689.1037**	**3,689.1037**	**1.1931**		**3,718.9320**

3.2 Site Preparation - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0617	0.0266	0.3740	1.2500e-003	0.1479	8.1000e-004	0.1487	0.0392	7.5000e-004	0.0400		124.4700	124.4700	2.3300e-003		124.5282
Total	**0.0617**	**0.0266**	**0.3740**	**1.2500e-003**	**0.1479**	**8.1000e-004**	**0.1487**	**0.0392**	**7.5000e-004**	**0.0400**		**124.4700**	**124.4700**	**2.3300e-003**		**124.5282**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	2.4727	25.2339	17.9118	0.0381		1.0868	1.0868		0.9999	0.9999	0.0000	3,689.1037	3,689.1037	1.1931		3,718.9320
Total	**2.4727**	**25.2339**	**17.9118**	**0.0381**	**8.1298**	**1.0868**	**9.2166**	**4.4688**	**0.9999**	**5.4687**	**0.0000**	**3,689.1037**	**3,689.1037**	**1.1931**		**3,718.9320**

3.2 Site Preparation - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0617	0.0266	0.3740	1.2500e-003	0.1479	8.1000e-004	0.1487	0.0392	7.5000e-004	0.0400		124.4700	124.4700	2.3300e-003		124.5282
Total	**0.0617**	**0.0266**	**0.3740**	**1.2500e-003**	**0.1479**	**8.1000e-004**	**0.1487**	**0.0392**	**7.5000e-004**	**0.0400**		**124.4700**	**124.4700**	**2.3300e-003**		**124.5282**

3.3 Grading - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	2.9012	27.9429	26.3311	0.0621		1.1309	1.1309		1.0404	1.0404		6,008.2814	6,008.2814	1.9432		6,056.8614
Total	**2.9012**	**27.9429**	**26.3311**	**0.0621**	**8.6733**	**1.1309**	**9.8042**	**3.5965**	**1.0404**	**4.6369**		**6,008.2814**	**6,008.2814**	**1.9432**		**6,056.8614**

3.3 Grading - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0686	0.0295	0.4155	1.3900e-003	0.1643	9.0000e-004	0.1652	0.0436	8.3000e-004	0.0444		138.3000	138.3000	2.5900e-003		138.3647
Total	**0.0686**	**0.0295**	**0.4155**	**1.3900e-003**	**0.1643**	**9.0000e-004**	**0.1652**	**0.0436**	**8.3000e-004**	**0.0444**		**138.3000**	**138.3000**	**2.5900e-003**		**138.3647**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.9030	0.0000	3.9030	1.6184	0.0000	1.6184			0.0000			0.0000
Off-Road	2.9012	27.9429	26.3311	0.0621		1.1309	1.1309		1.0404	1.0404	0.0000	6,008.2814	6,008.2814	1.9432		6,056.8614
Total	**2.9012**	**27.9429**	**26.3311**	**0.0621**	**3.9030**	**1.1309**	**5.0339**	**1.6184**	**1.0404**	**2.6589**	**0.0000**	**6,008.2814**	**6,008.2814**	**1.9432**		**6,056.8614**

3.3 Grading - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0686	0.0295	0.4155	1.3900e-003	0.1643	9.0000e-004	0.1652	0.0436	8.3000e-004	0.0444		138.3000	138.3000	2.5900e-003		138.3647
Total	**0.0686**	**0.0295**	**0.4155**	**1.3900e-003**	**0.1643**	**9.0000e-004**	**0.1652**	**0.0436**	**8.3000e-004**	**0.0444**		**138.3000**	**138.3000**	**2.5900e-003**		**138.3647**

3.4 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

3.4 Building Construction - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0324	1.4657	0.1974	4.8800e-003	0.1220	1.3900e-003	0.1234	0.0351	1.3300e-003	0.0365		511.2647	511.2647	0.0402		512.2695
Worker	0.2092	0.0900	1.2674	4.2300e-003	0.5011	2.7500e-003	0.5039	0.1329	2.5300e-003	0.1354		421.8150	421.8150	7.8900e-003		422.0122
Total	**0.2415**	**1.5557**	**1.4648**	**9.1100e-003**	**0.6231**	**4.1400e-003**	**0.6272**	**0.1680**	**3.8600e-003**	**0.1719**		**933.0797**	**933.0797**	**0.0481**		**934.2817**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

3.4 Building Construction - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0324	1.4657	0.1974	4.8800e-003	0.1220	1.3900e-003	0.1234	0.0351	1.3300e-003	0.0365		511.2647	511.2647	0.0402		512.2695
Worker	0.2092	0.0900	1.2674	4.2300e-003	0.5011	2.7500e-003	0.5039	0.1329	2.5300e-003	0.1354		421.8150	421.8150	7.8900e-003		422.0122
Total	**0.2415**	**1.5557**	**1.4648**	**9.1100e-003**	**0.6231**	**4.1400e-003**	**0.6272**	**0.1680**	**3.8600e-003**	**0.1719**		**933.0797**	**933.0797**	**0.0481**		**934.2817**

3.4 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963		2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**		**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

3.4 Building Construction - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0317	1.4540	0.1909	4.8500e-003	0.1220	1.3800e-003	0.1234	0.0351	1.3200e-003	0.0364		507.9109	507.9109	0.0401		508.9132
Worker	0.1974	0.0821	1.1873	4.1000e-003	0.5011	2.7000e-003	0.5038	0.1329	2.4800e-003	0.1354		408.6074	408.6074	7.2400e-003		408.7885
Total	**0.2291**	**1.5361**	**1.3782**	**8.9500e-003**	**0.6231**	**4.0800e-003**	**0.6272**	**0.1680**	**3.8000e-003**	**0.1718**		**916.5183**	**916.5183**	**0.0473**		**917.7016**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3674	12.4697	16.0847	0.0270		0.5276	0.5276		0.4963	0.4963	0.0000	2,556.4744	2,556.4744	0.6010		2,571.4981
Total	**1.3674**	**12.4697**	**16.0847**	**0.0270**		**0.5276**	**0.5276**		**0.4963**	**0.4963**	**0.0000**	**2,556.4744**	**2,556.4744**	**0.6010**		**2,571.4981**

3.4 Building Construction - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0317	1.4540	0.1909	4.8500e-003	0.1220	1.3800e-003	0.1234	0.0351	1.3200e-003	0.0364		507.9109	507.9109	0.0401		508.9132
Worker	0.1974	0.0821	1.1873	4.1000e-003	0.5011	2.7000e-003	0.5038	0.1329	2.4800e-003	0.1354		408.6074	408.6074	7.2400e-003		408.7885
Total	**0.2291**	**1.5361**	**1.3782**	**8.9500e-003**	**0.6231**	**4.0800e-003**	**0.6272**	**0.1680**	**3.8000e-003**	**0.1718**		**916.5183**	**916.5183**	**0.0473**		**917.7016**

3.5 Paving - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850		2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9152**	**8.5816**	**14.5780**	**0.0228**		**0.4185**	**0.4185**		**0.3850**	**0.3850**		**2,206.7452**	**2,206.7452**	**0.7137**		**2,224.5878**

3.5 Paving - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0485	0.0202	0.2920	1.0100e-003	0.1232	6.6000e-004	0.1239	0.0327	6.1000e-004	0.0333		100.4772	100.4772	1.7800e-003		100.5218
Total	**0.0485**	**0.0202**	**0.2920**	**1.0100e-003**	**0.1232**	**6.6000e-004**	**0.1239**	**0.0327**	**6.1000e-004**	**0.0333**		**100.4772**	**100.4772**	**1.7800e-003**		**100.5218**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9152	8.5816	14.5780	0.0228		0.4185	0.4185		0.3850	0.3850	0.0000	2,206.7452	2,206.7452	0.7137		2,224.5878
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9152**	**8.5816**	**14.5780**	**0.0228**		**0.4185**	**0.4185**		**0.3850**	**0.3850**	**0.0000**	**2,206.7452**	**2,206.7452**	**0.7137**		**2,224.5878**

3.5 Paving - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0485	0.0202	0.2920	1.0100e-003	0.1232	6.6000e-004	0.1239	0.0327	6.1000e-004	0.0333		100.4772	100.4772	1.7800e-003		100.5218
Total	**0.0485**	**0.0202**	**0.2920**	**1.0100e-003**	**0.1232**	**6.6000e-004**	**0.1239**	**0.0327**	**6.1000e-004**	**0.0333**		**100.4772**	**100.4772**	**1.7800e-003**		**100.5218**

3.6 Architectural Coating - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	71.1181					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515		281.4481	281.4481	0.0154		281.8319
Total	**71.2890**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**		**281.4481**	**281.4481**	**0.0154**		**281.8319**

3.6 Architectural Coating - 2026

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0388	0.0162	0.2336	8.1000e-004	0.0986	5.3000e-004	0.0991	0.0262	4.9000e-004	0.0266		80.3818	80.3818	1.4200e-003		80.4174
Total	**0.0388**	**0.0162**	**0.2336**	**8.1000e-004**	**0.0986**	**5.3000e-004**	**0.0991**	**0.0262**	**4.9000e-004**	**0.0266**		**80.3818**	**80.3818**	**1.4200e-003**		**80.4174**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	71.1181					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1709	1.1455	1.8091	2.9700e-003		0.0515	0.0515		0.0515	0.0515	0.0000	281.4481	281.4481	0.0154		281.8319
Total	**71.2890**	**1.1455**	**1.8091**	**2.9700e-003**		**0.0515**	**0.0515**		**0.0515**	**0.0515**	**0.0000**	**281.4481**	**281.4481**	**0.0154**		**281.8319**

3.6 Architectural Coating - 2026

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0388	0.0162	0.2336	8.1000e-004	0.0986	5.3000e-004	0.0991	0.0262	4.9000e-004	0.0266		80.3818	80.3818	1.4200e-003		80.4174
Total	**0.0388**	**0.0162**	**0.2336**	**8.1000e-004**	**0.0986**	**5.3000e-004**	**0.0991**	**0.0262**	**4.9000e-004**	**0.0266**		**80.3818**	**80.3818**	**1.4200e-003**		**80.4174**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.9232	7.1978	27.0891	0.0947	9.4968	0.0686	9.5654	2.5334	0.0638	2.5972		9,594.5895	9,594.5895	0.5125		9,607.4028
Unmitigated	2.9556	7.3900	28.3370	0.0996	10.0247	0.0719	10.0966	2.6742	0.0669	2.7411		10,091.6112	10,091.6112	0.5318		10,104.9062

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,604.80	1,621.80	1453.50	4,638,462	4,394,170
Total	1,604.80	1,621.80	1,453.50	4,638,462	4,394,170

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	48.00	16.00	36.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.524400	0.212000	0.167700	0.056300	0.000800	0.000900	0.007600	0.021200	0.000000	0.004300	0.002500	0.000100	0.002200

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1234	1.0549	0.4489	6.7300e-003		0.0853	0.0853		0.0853	0.0853		1,346.6128	1,346.6128	0.0258	0.0247	1,354.6150
NaturalGas Unmitigated	0.1313	1.1222	0.4775	7.1600e-003		0.0907	0.0907		0.0907	0.0907		1,432.6159	1,432.6159	0.0275	0.0263	1,441.1292

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	12177.2	0.1313	1.1222	0.4775	7.1600e-003		0.0907	0.0907		0.0907	0.0907		1,432.6159	1,432.6159	0.0275	0.0263	1,441.1292
Total		**0.1313**	**1.1222**	**0.4775**	**7.1600e-003**		**0.0907**	**0.0907**		**0.0907**	**0.0907**		**1,432.6159**	**1,432.6159**	**0.0275**	**0.0263**	**1,441.1292**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	11.4462	0.1234	1.0549	0.4489	6.7300e-003		0.0853	0.0853		0.0853	0.0853		1,346.6128	1,346.6128	0.0258	0.0247	1,354.6150
Total		**0.1234**	**1.0549**	**0.4489**	**6.7300e-003**		**0.0853**	**0.0853**		**0.0853**	**0.0853**		**1,346.6128**	**1,346.6128**	**0.0258**	**0.0247**	**1,354.6150**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	8.7243	1.7124	14.6719	0.0106		0.2032	0.2032		0.2032	0.2032	0.0000	2,005.2539	2,005.2539	0.0621	0.0363	2,017.6246
Unmitigated	23.5398	4.0394	157.3166	0.4760		23.4731	23.4731		23.4731	23.4731	3,434.6419	2,005.2539	5,439.8958	16.1184	0.0363	5,853.6729

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.6820					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.5484					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	15.8887	3.8780	143.3047	0.4753		23.3953	23.3953		23.3953	23.3953	3,434.6419	1,980.0000	5,414.6419	16.0942	0.0363	5,827.8144
Landscaping	0.4207	0.1614	14.0119	7.4000e-004		0.0778	0.0778		0.0778	0.0778		25.2539	25.2539	0.0242		25.8585
Total	**23.5398**	**4.0394**	**157.3166**	**0.4760**		**23.4731**	**23.4731**		**23.4731**	**23.4731**	**3,434.6419**	**2,005.2539**	**5,439.8958**	**16.1184**	**0.0363**	**5,853.6729**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	1.5737					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.5484					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1815	1.5510	0.6600	9.9000e-003		0.1254	0.1254		0.1254	0.1254	0.0000	1,980.0000	1,980.0000	0.0380	0.0363	1,991.7662
Landscaping	0.4207	0.1614	14.0119	7.4000e-004		0.0778	0.0778		0.0778	0.0778		25.2539	25.2539	0.0242		25.8585
Total	**8.7243**	**1.7124**	**14.6719**	**0.0106**		**0.2032**	**0.2032**		**0.2032**	**0.2032**	**0.0000**	**2,005.2539**	**2,005.2539**	**0.0621**	**0.0363**	**2,017.6246**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Full Project Operations 2025

(Summer Daily)

Parc West Phase Ops All Phases

Fresno County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	844.00	Dwelling Unit	160.00	1,519,200.00	2414

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2025
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.025	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Energy Intensity

Land Use - Project at Buildout in 2025

Construction Phase - Ops only run

Off-road Equipment -

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Demolition - Remove 2 houses and a barn

Architectural Coating - SJVAPCD Rule 4601 Architectural Coatings

Vehicle Trips - ITE 10th Edition Trip Rates 9.44, 9.54, 8.55

Woodstoves - SJVAPCD Rule 4901 Compliance

Area Coating - Rule 4601 Architectural Coatings compliance

Energy Use -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation - Rule 4601 Compliant Coatings

Energy Mitigation -

Water Mitigation - CalGreen Code and MWELO water conservation requirements

Waste Mitigation - CalRecycle 75% Recycling Mandate

Fleet Mix - SJVAPCD Fleet Mix 2025

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	150.00	64.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	65.00
tblAreaCoating	Area_EF_Residential_Exterior	150	65
tblAreaCoating	Area_EF_Residential_Interior	150	65
tblFleetMix	HHD	0.13	0.02
tblFleetMix	LDA	0.51	0.52
tblFleetMix	LDT1	0.03	0.21
tblFleetMix	LDT2	0.17	0.17
tblFleetMix	LHD1	0.01	8.0000e-004
tblFleetMix	LHD2	3.9290e-003	9.0000e-004
tblFleetMix	MCY	4.8100e-003	2.5000e-003
tblFleetMix	MDV	0.10	0.06
tblFleetMix	MH	5.1200e-004	2.2000e-003
tblFleetMix	MHD	0.03	7.6000e-003
tblFleetMix	OBUS	2.3280e-003	0.00
tblFleetMix	SBUS	1.0480e-003	1.0000e-004
tblFleetMix	UBUS	1.3540e-003	4.3000e-003
tblLandUse	LotAcreage	274.03	160.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.025
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblVehicleTrips	ST_TR	9.91	9.54
tblVehicleTrips	SU_TR	8.62	8.55
tblVehicleTrips	WD_TR	9.52	9.44

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2039	56.1733	0.7971	2.4824	6.2700e-003	0.5011	0.0114	0.5125	0.1329	0.0113	0.1442	0.0000	610.8297	610.8297	0.0137	0.0000	611.1732
2040	56.1451	0.7595	2.3797	6.1200e-003	0.5011	8.5700e-003	0.5097	0.1329	8.4800e-003	0.1414	0.0000	596.4978	596.4978	0.0125	0.0000	596.8111
Maximum	**56.1733**	**0.7971**	**2.4824**	**6.2700e-003**	**0.5011**	**0.0114**	**0.5125**	**0.1329**	**0.0113**	**0.1442**	**0.0000**	**610.8297**	**610.8297**	**0.0137**	**0.0000**	**611.1732**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2039	56.1733	0.7971	2.4824	6.2700e-003	0.5011	0.0114	0.5125	0.1329	0.0113	0.1442	0.0000	610.8297	610.8297	0.0137	0.0000	611.1732
2040	56.1451	0.7595	2.3797	6.1200e-003	0.5011	8.5700e-003	0.5097	0.1329	8.4800e-003	0.1414	0.0000	596.4978	596.4978	0.0125	0.0000	596.8111
Maximum	**56.1733**	**0.7971**	**2.4824**	**6.2700e-003**	**0.5011**	**0.0114**	**0.5125**	**0.1329**	**0.0113**	**0.1442**	**0.0000**	**610.8297**	**610.8297**	**0.0137**	**0.0000**	**611.1732**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	118.4165	20.2838	795.0934	2.4093		118.8310	118.8310		118.8310	118.8310	17,390.5920	9,955.4958	27,346.0878	81.6060	0.1802	29,439.9419
Energy	0.6520	5.5715	2.3708	0.0356		0.4505	0.4505		0.4505	0.4505		7,112.5165	7,112.5165	0.1363	0.1304	7,154.7827
Mobile	14.6781	36.7158	140.8591	0.4950	49.8435	0.3575	50.2010	13.2964	0.3323	13.6287		50,171.2129	50,171.2129	2.6429		50,237.2862
Total	**133.7465**	**62.5711**	**938.3233**	**2.9399**	**49.8435**	**119.6389**	**169.4824**	**13.2964**	**119.6138**	**132.9102**	**17,390.5920**	**67,239.2252**	**84,629.8172**	**84.3852**	**0.3106**	**86,832.0108**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	38.8863	8.5016	72.8418	0.0528		1.0086	1.0086		1.0086	1.0086	0.0000	9,955.4958	9,955.4958	0.3085	0.1802	10,016.9129
Energy	0.6128	5.2370	2.2285	0.0334		0.4234	0.4234		0.4234	0.4234		6,685.5364	6,685.5364	0.1281	0.1226	6,725.2652
Mobile	14.5170	35.7603	134.6544	0.4706	47.2184	0.3410	47.5594	12.5961	0.3170	12.9131		47,699.9948	47,699.9948	2.5471		47,763.6729
Total	**54.0162**	**49.4989**	**209.7247**	**0.5569**	**47.2184**	**1.7730**	**48.9914**	**12.5961**	**1.7490**	**14.3451**	**0.0000**	**64,341.0270**	**64,341.0270**	**2.9837**	**0.3028**	**64,505.8510**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**59.61**	**20.89**	**77.65**	**81.06**	**5.27**	**98.52**	**71.09**	**5.27**	**98.54**	**89.21**	**100.00**	**4.31**	**23.97**	**96.46**	**2.52**	**25.71**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	5/18/2039	3/20/2040	5	220	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 3,076,380; Residential Outdoor: 1,025,460; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	61.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Architectural Coating - 2039

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	55.9559					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1179	0.7577	1.7943	2.9700e-003		9.9000e-003	9.9000e-003		9.9000e-003	9.9000e-003		281.4481	281.4481	0.0104		281.7081
Total	**56.0737**	**0.7577**	**1.7943**	**2.9700e-003**		**9.9000e-003**	**9.9000e-003**		**9.9000e-003**	**9.9000e-003**		**281.4481**	**281.4481**	**0.0104**		**281.7081**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0996	0.0394	0.6881	3.3000e-003	0.5011	1.4800e-003	0.5026	0.1329	1.3600e-003	0.1343		329.3816	329.3816	3.3400e-003		329.4652
Total	**0.0996**	**0.0394**	**0.6881**	**3.3000e-003**	**0.5011**	**1.4800e-003**	**0.5026**	**0.1329**	**1.3600e-003**	**0.1343**		**329.3816**	**329.3816**	**3.3400e-003**		**329.4652**

3.2 Architectural Coating - 2039

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	55.9559					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1179	0.7577	1.7943	2.9700e-003		9.9000e-003	9.9000e-003		9.9000e-003	9.9000e-003	0.0000	281.4481	281.4481	0.0104		281.7081
Total	**56.0737**	**0.7577**	**1.7943**	**2.9700e-003**		**9.9000e-003**	**9.9000e-003**		**9.9000e-003**	**9.9000e-003**	**0.0000**	**281.4481**	**281.4481**	**0.0104**		**281.7081**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0996	0.0394	0.6881	3.3000e-003	0.5011	1.4800e-003	0.5026	0.1329	1.3600e-003	0.1343		329.3816	329.3816	3.3400e-003		329.4652
Total	**0.0996**	**0.0394**	**0.6881**	**3.3000e-003**	**0.5011**	**1.4800e-003**	**0.5026**	**0.1329**	**1.3600e-003**	**0.1343**		**329.3816**	**329.3816**	**3.3400e-003**		**329.4652**

3.2 Architectural Coating - 2040

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	55.9559					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1149	0.7270	1.7923	2.9700e-003		7.4300e-003	7.4300e-003		7.4300e-003	7.4300e-003		281.4481	281.4481	9.9000e-003		281.6957
Total	**56.0708**	**0.7270**	**1.7923**	**2.9700e-003**		**7.4300e-003**	**7.4300e-003**		**7.4300e-003**	**7.4300e-003**		**281.4481**	**281.4481**	**9.9000e-003**		**281.6957**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0744	0.0325	0.5874	3.1500e-003	0.5011	1.1400e-003	0.5022	0.1329	1.0500e-003	0.1340		315.0497	315.0497	2.6300e-003		315.1154
Total	**0.0744**	**0.0325**	**0.5874**	**3.1500e-003**	**0.5011**	**1.1400e-003**	**0.5022**	**0.1329**	**1.0500e-003**	**0.1340**		**315.0497**	**315.0497**	**2.6300e-003**		**315.1154**

3.2 Architectural Coating - 2040

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	55.9559					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1149	0.7270	1.7923	2.9700e-003		7.4300e-003	7.4300e-003		7.4300e-003	7.4300e-003	0.0000	281.4481	281.4481	9.9000e-003		281.6957
Total	**56.0708**	**0.7270**	**1.7923**	**2.9700e-003**		**7.4300e-003**	**7.4300e-003**		**7.4300e-003**	**7.4300e-003**	**0.0000**	**281.4481**	**281.4481**	**9.9000e-003**		**281.6957**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0744	0.0325	0.5874	3.1500e-003	0.5011	1.1400e-003	0.5022	0.1329	1.0500e-003	0.1340		315.0497	315.0497	2.6300e-003		315.1154
Total	**0.0744**	**0.0325**	**0.5874**	**3.1500e-003**	**0.5011**	**1.1400e-003**	**0.5022**	**0.1329**	**1.0500e-003**	**0.1340**		**315.0497**	**315.0497**	**2.6300e-003**		**315.1154**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	14.5170	35.7603	134.6544	0.4706	47.2184	0.3410	47.5594	12.5961	0.3170	12.9131		47,699.9948	47,699.9948	2.5471		47,763.6729
Unmitigated	14.6781	36.7158	140.8591	0.4950	49.8435	0.3575	50.2010	13.2964	0.3323	13.6287		50,171.2129	50,171.2129	2.6429		50,237.2862

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	7,967.36	8,051.76	7216.20	23,062,676	21,848,042
Total	7,967.36	8,051.76	7,216.20	23,062,676	21,848,042

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	48.40	15.90	35.70	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.524400	0.212000	0.167700	0.056300	0.000800	0.000900	0.007600	0.021200	0.000000	0.004300	0.002500	0.000100	0.002200

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.6128	5.2370	2.2285	0.0334		0.4234	0.4234		0.4234	0.4234		6,685.5364	6,685.5364	0.1281	0.1226	6,725.2652
NaturalGas Unmitigated	0.6520	5.5715	2.3708	0.0356		0.4505	0.4505		0.4505	0.4505		7,112.5165	7,112.5165	0.1363	0.1304	7,154.7827

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	60456.4	0.6520	5.5715	2.3708	0.0356		0.4505	0.4505		0.4505	0.4505		7,112.5165	7,112.5165	0.1363	0.1304	7,154.7827
Total		**0.6520**	**5.5715**	**2.3708**	**0.0356**		**0.4505**	**0.4505**		**0.4505**	**0.4505**		**7,112.5165**	**7,112.5165**	**0.1363**	**0.1304**	**7,154.7827**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	56.8271	0.6128	5.2370	2.2285	0.0334		0.4234	0.4234		0.4234	0.4234		6,685.5364	6,685.5364	0.1281	0.1226	6,725.2652
Total		**0.6128**	**5.2370**	**2.2285**	**0.0334**		**0.4234**	**0.4234**		**0.4234**	**0.4234**		**6,685.5364**	**6,685.5364**	**0.1281**	**0.1226**	**6,725.2652**

6.0 Area Detail

6.1 Mitigation Measures Area

Parc West Phase Ops All Phases - Fresno County, Summer

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	38.8863	8.5016	72.8418	0.0528		1.0086	1.0086		1.0086	1.0086	0.0000	9,955.4958	9,955.4958	0.3085	0.1802	10,016.9129
Unmitigated	118.4165	20.2838	795.0934	2.4093		118.8310	118.8310		118.8310	118.8310	17,390.5920	9,955.4958	27,346.0878	81.6060	0.1802	29,439.9419

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.3857					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	32.5109					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	80.4312	19.4825	725.5283	2.4056		118.4450	118.4450		118.4450	118.4450	17,390.5920	9,830.1177	27,220.7097	81.4859	0.1802	29,311.5622
Landscaping	2.0887	0.8013	69.5651	3.6800e-003		0.3860	0.3860		0.3860	0.3860		125.3781	125.3781	0.1201		128.3798
Total	**118.4165**	**20.2838**	**795.0934**	**2.4093**		**118.8310**	**118.8310**		**118.8310**	**118.8310**	**17,390.5920**	**9,955.4958**	**27,346.0878**	**81.6060**	**0.1802**	**29,439.9419**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.3857					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	32.5109					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.9011	7.7003	3.2767	0.0492		0.6226	0.6226		0.6226	0.6226	0.0000	9,830.1177	9,830.1177	0.1884	0.1802	9,888.5331
Landscaping	2.0887	0.8013	69.5651	3.6800e-003		0.3860	0.3860		0.3860	0.3860		125.3781	125.3781	0.1201		128.3798
Total	**38.8863**	**8.5016**	**72.8418**	**0.0528**		**1.0086**	**1.0086**		**1.0086**	**1.0086**	**0.0000**	**9,955.4958**	**9,955.4958**	**0.3085**	**0.1802**	**10,016.9129**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

GHG Business as Usual

Parc West Phase Ops All Phases GHG BAU

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	844.00	Dwelling Unit	160.00	1,519,200.00	2414

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2005
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Energy Intensity

Land Use - Project at Buildout in 2025

Construction Phase - Ops only run

Off-road Equipment -

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Demolition - Remove 2 houses and a barn

Architectural Coating - SJVAPCD Rule 4601 Architectural Coatings

Vehicle Trips - ITE 10th Edition Trip Rates 9.44, 9.54, 8.55

Woodstoves - SJVAPCD Rule 4901 Compliance

Area Coating - Rule 4601 Architectural Coatings compliance

Energy Use -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation - Rule 4601 Compliant Coatings

Energy Mitigation -

Water Mitigation - CalGreen Code and MWELO water conservation requirements

Waste Mitigation - CalRecycle 75% Recycling Mandate

Fleet Mix - SJVAPCD Fleet Mix 2025

Parc West Phase Ops All Phases GHG BAU - Fresno County, Annual

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	150.00	64.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	65.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	150
tblAreaCoating	Area_EF_Nonresidential_Interior	250	150
tblAreaCoating	Area_EF_Residential_Exterior	250	65
tblAreaCoating	Area_EF_Residential_Interior	250	65
tblFleetMix	HHD	0.11	0.02
tblFleetMix	LDA	0.42	0.52
tblFleetMix	LDT1	0.06	0.21
tblFleetMix	LDT2	0.15	0.17
tblFleetMix	LHD1	0.04	8.0000e-004
tblFleetMix	LHD2	6.9730e-003	9.0000e-004
tblFleetMix	MCY	5.2690e-003	2.5000e-003
tblFleetMix	MDV	0.18	0.06
tblFleetMix	MH	1.5690e-003	2.2000e-003
tblFleetMix	MHD	0.03	7.6000e-003
tblFleetMix	OBUS	2.0990e-003	0.00
tblFleetMix	SBUS	1.2120e-003	1.0000e-004
tblFleetMix	UBUS	1.7870e-003	4.3000e-003
tblLandUse	LotAcreage	274.03	160.00
tblVehicleTrips	HO_TTP	35.70	36.00
tblVehicleTrips	HS_TTP	15.90	16.00
tblVehicleTrips	HW_TTP	48.40	48.00
tblVehicleTrips	ST_TR	9.91	9.54
tblVehicleTrips	SU_TR	8.62	8.55
tblVehicleTrips	WD_TR	9.52	9.44

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2039	4.5773	0.0652	0.1932	4.9000e-004	0.0398	9.3000e-004	0.0407	0.0106	9.2000e-004	0.0115	0.0000	43.0039	43.0039	9.9000e-004	0.0000	43.0286
2040	1.6000	0.0217	0.0650	1.7000e-004	0.0139	2.4000e-004	0.0141	3.6900e-003	2.4000e-004	3.9400e-003	0.0000	14.6989	14.6989	3.2000e-004	0.0000	14.7068
Maximum	**4.5773**	**0.0652**	**0.1932**	**4.9000e-004**	**0.0398**	**9.3000e-004**	**0.0407**	**0.0106**	**9.2000e-004**	**0.0115**	**0.0000**	**43.0039**	**43.0039**	**9.9000e-004**	**0.0000**	**43.0286**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2039	4.5773	0.0652	0.1932	4.9000e-004	0.0398	9.3000e-004	0.0407	0.0106	9.2000e-004	0.0115	0.0000	43.0038	43.0038	9.9000e-004	0.0000	43.0286
2040	1.6000	0.0217	0.0650	1.7000e-004	0.0139	2.4000e-004	0.0141	3.6900e-003	2.4000e-004	3.9400e-003	0.0000	14.6989	14.6989	3.2000e-004	0.0000	14.7068
Maximum	**4.5773**	**0.0652**	**0.1932**	**4.9000e-004**	**0.0398**	**9.3000e-004**	**0.0407**	**0.0106**	**9.2000e-004**	**0.0115**	**0.0000**	**43.0038**	**43.0038**	**9.9000e-004**	**0.0000**	**43.0286**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
58	**4-1-2039**	**6-30-2039**	0.8952	0.8952
59	**7-1-2039**	**9-30-2039**	1.8719	1.8719
60	**10-1-2039**	**12-31-2039**	1.8720	1.8720
61	**1-1-2040**	**3-31-2040**	1.6260	1.6260
		Highest	1.8720	1.8720

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	10.1632	0.8976	37.0147	0.0990		4.8869	4.8869		4.8869	4.8869	646.8357	375.8637	1,022.6994	3.0472	6.7000e-003	1,100.8776
Energy	0.1190	1.0168	0.4327	6.4900e-003		0.0822	0.0822		0.0822	0.0822	0.0000	3,328.5750	3,328.5750	0.1198	0.0417	3,344.0010
Mobile	12.4835	36.8930	156.4565	0.2527	8.6301	0.7592	9.3892	2.3086	0.7207	3.0293	0.0000	10,328.5467	10,328.5467	1.7454	0.0000	10,372.1814
Waste						0.0000	0.0000		0.0000	0.0000	176.4073	0.0000	176.4073	10.4254	0.0000	437.0415
Water						0.0000	0.0000		0.0000	0.0000	17.4458	121.8592	139.3050	1.7974	0.0435	197.1869
Total	**22.7657**	**38.8074**	**193.9038**	**0.3582**	**8.6301**	**5.7283**	**14.3584**	**2.3086**	**5.6898**	**7.9984**	**840.6887**	**14,154.8446**	**14,995.5334**	**17.1352**	**0.0919**	**15,451.2885**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	6.9025	0.4145	7.4024	2.3500e-003		0.0562	0.0562		0.0562	0.0562	0.0000	375.8637	375.8637	0.0234	6.7000e-003	378.4463
Energy	0.1118	0.9558	0.4067	6.1000e-003		0.0773	0.0773		0.0773	0.0773	0.0000	3,240.7666	3,240.7666	0.1177	0.0403	3,255.7054
Mobile	12.2063	35.3905	150.0008	0.2413	8.1756	0.7253	8.9009	2.1870	0.6886	2.8756	0.0000	9,814.6514	9,814.6514	1.6927	0.0000	9,856.9685
Waste						0.0000	0.0000		0.0000	0.0000	132.3055	0.0000	132.3055	7.8190	0.0000	327.7812
Water						0.0000	0.0000		0.0000	0.0000	13.9566	97.4873	111.4440	1.4379	0.0348	157.7495
Total	**19.2206**	**36.7608**	**157.8099**	**0.2498**	**8.1756**	**0.8588**	**9.0344**	**2.1870**	**0.8221**	**3.0091**	**146.2621**	**13,528.7690**	**13,675.0311**	**11.0907**	**0.0817**	**13,976.6508**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**15.57**	**5.27**	**18.61**	**30.27**	**5.27**	**85.01**	**37.08**	**5.27**	**85.55**	**62.38**	**82.60**	**4.42**	**8.81**	**35.28**	**11.04**	**9.54**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	5/18/2039	3/20/2040	5	220	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 3,076,380; Residential Outdoor: 1,025,460; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	61.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Architectural Coating - 2039

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.5604					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.6100e-003	0.0618	0.1462	2.4000e-004		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	20.8090	20.8090	7.7000e-004	0.0000	20.8282
Total	**4.5700**	**0.0618**	**0.1462**	**2.4000e-004**		**8.1000e-004**	**8.1000e-004**		**8.1000e-004**	**8.1000e-004**	**0.0000**	**20.8090**	**20.8090**	**7.7000e-004**	**0.0000**	**20.8282**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2800e-003	3.4200e-003	0.0470	2.4000e-004	0.0398	1.2000e-004	0.0399	0.0106	1.1000e-004	0.0107	0.0000	22.1949	22.1949	2.2000e-004	0.0000	22.2004
Total	**7.2800e-003**	**3.4200e-003**	**0.0470**	**2.4000e-004**	**0.0398**	**1.2000e-004**	**0.0399**	**0.0106**	**1.1000e-004**	**0.0107**	**0.0000**	**22.1949**	**22.1949**	**2.2000e-004**	**0.0000**	**22.2004**

3.2 Architectural Coating - 2039

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.5604					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.6100e-003	0.0618	0.1462	2.4000e-004		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	20.8090	20.8090	7.7000e-004	0.0000	20.8282
Total	**4.5700**	**0.0618**	**0.1462**	**2.4000e-004**		**8.1000e-004**	**8.1000e-004**		**8.1000e-004**	**8.1000e-004**	**0.0000**	**20.8090**	**20.8090**	**7.7000e-004**	**0.0000**	**20.8282**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2800e-003	3.4200e-003	0.0470	2.4000e-004	0.0398	1.2000e-004	0.0399	0.0106	1.1000e-004	0.0107	0.0000	22.1949	22.1949	2.2000e-004	0.0000	22.2004
Total	**7.2800e-003**	**3.4200e-003**	**0.0470**	**2.4000e-004**	**0.0398**	**1.2000e-004**	**0.0399**	**0.0106**	**1.1000e-004**	**0.0107**	**0.0000**	**22.1949**	**22.1949**	**2.2000e-004**	**0.0000**	**22.2004**

3.2 Architectural Coating - 2040

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5947					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2700e-003	0.0207	0.0511	8.0000e-005		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	7.2768	7.2768	2.6000e-004	0.0000	7.2832
Total	**1.5980**	**0.0207**	**0.0511**	**8.0000e-005**		**2.1000e-004**	**2.1000e-004**		**2.1000e-004**	**2.1000e-004**	**0.0000**	**7.2768**	**7.2768**	**2.6000e-004**	**0.0000**	**7.2832**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9300e-003	9.8000e-004	0.0139	8.0000e-005	0.0139	3.0000e-005	0.0139	3.6900e-003	3.0000e-005	3.7200e-003	0.0000	7.4221	7.4221	6.0000e-005	0.0000	7.4236
Total	**1.9300e-003**	**9.8000e-004**	**0.0139**	**8.0000e-005**	**0.0139**	**3.0000e-005**	**0.0139**	**3.6900e-003**	**3.0000e-005**	**3.7200e-003**	**0.0000**	**7.4221**	**7.4221**	**6.0000e-005**	**0.0000**	**7.4236**

3.2 Architectural Coating - 2040

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5947					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2700e-003	0.0207	0.0511	8.0000e-005		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	7.2768	7.2768	2.6000e-004	0.0000	7.2832
Total	**1.5980**	**0.0207**	**0.0511**	**8.0000e-005**		**2.1000e-004**	**2.1000e-004**		**2.1000e-004**	**2.1000e-004**	**0.0000**	**7.2768**	**7.2768**	**2.6000e-004**	**0.0000**	**7.2832**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9300e-003	9.8000e-004	0.0139	8.0000e-005	0.0139	3.0000e-005	0.0139	3.6900e-003	3.0000e-005	3.7200e-003	0.0000	7.4221	7.4221	6.0000e-005	0.0000	7.4236
Total	**1.9300e-003**	**9.8000e-004**	**0.0139**	**8.0000e-005**	**0.0139**	**3.0000e-005**	**0.0139**	**3.6900e-003**	**3.0000e-005**	**3.7200e-003**	**0.0000**	**7.4221**	**7.4221**	**6.0000e-005**	**0.0000**	**7.4236**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	12.2063	35.3905	150.0008	0.2413	8.1756	0.7253	8.9009	2.1870	0.6886	2.8756	0.0000	9,814.6514	9,814.6514	1.6927	0.0000	9,856.9685
Unmitigated	12.4835	36.8930	156.4565	0.2527	8.6301	0.7592	9.3892	2.3086	0.7207	3.0293	0.0000	10,328.5467	10,328.5467	1.7454	0.0000	10,372.1814

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	7,967.36	8,051.76	7216.20	23,028,599	21,815,759
Total	7,967.36	8,051.76	7,216.20	23,028,599	21,815,759

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	48.00	16.00	36.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.524400	0.212000	0.167700	0.056300	0.000800	0.000900	0.007600	0.021200	0.000000	0.004300	0.002500	0.000100	0.002200

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,133.9011	2,133.9011	0.0965	0.0200	2,142.2623
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,151.0182	2,151.0182	0.0973	0.0201	2,159.4465
NaturalGas Mitigated	0.1118	0.9558	0.4067	6.1000e-003		0.0773	0.0773		0.0773	0.0773	0.0000	1,106.8655	1,106.8655	0.0212	0.0203	1,113.4431
NaturalGas Unmitigated	0.1190	1.0168	0.4327	6.4900e-003		0.0822	0.0822		0.0822	0.0822	0.0000	1,177.5569	1,177.5569	0.0226	0.0216	1,184.5545

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	2.20666e+007	0.1190	1.0168	0.4327	6.4900e-003		0.0822	0.0822		0.0822	0.0822	0.0000	1,177.5569	1,177.5569	0.0226	0.0216	1,184.5545
Total		**0.1190**	**1.0168**	**0.4327**	**6.4900e-003**		**0.0822**	**0.0822**		**0.0822**	**0.0822**	**0.0000**	**1,177.5569**	**1,177.5569**	**0.0226**	**0.0216**	**1,184.5545**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	2.07419e+007	0.1118	0.9558	0.4067	6.1000e-003		0.0773	0.0773		0.0773	0.0773	0.0000	1,106.8655	1,106.8655	0.0212	0.0203	1,113.4431
Total		**0.1118**	**0.9558**	**0.4067**	**6.1000e-003**		**0.0773**	**0.0773**		**0.0773**	**0.0773**	**0.0000**	**1,106.8655**	**1,106.8655**	**0.0212**	**0.0203**	**1,113.4431**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	7.39406e+006	2,151.0182	0.0973	0.0201	2,159.4465
Total		**2,151.0182**	**0.0973**	**0.0201**	**2,159.4465**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	7.33523e+006	2,133.9011	0.0965	0.0200	2,142.2623
Total		**2,133.9011**	**0.0965**	**0.0200**	**2,142.2623**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	6.9025	0.4145	7.4024	2.3500e-003		0.0562	0.0562		0.0562	0.0562	0.0000	375.8637	375.8637	0.0234	6.7000e-003	378.4463
Unmitigated	10.1632	0.8976	37.0147	0.0990		4.8869	4.8869		4.8869	4.8869	646.8357	375.8637	1,022.6994	3.0472	6.7000e-003	1,100.8776

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.6179					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	5.9332					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.2977	0.7988	29.7467	0.0986		4.8563	4.8563		4.8563	4.8563	646.8357	365.6270	1,012.4627	3.0308	6.7000e-003	1,090.2311
Landscaping	0.3144	0.0988	7.2680	3.3000e-004		0.0307	0.0307		0.0307	0.0307	0.0000	10.2367	10.2367	0.0164	0.0000	10.6465
Total	**10.1633**	**0.8976**	**37.0147**	**0.0990**		**4.8869**	**4.8869**		**4.8869**	**4.8869**	**646.8357**	**375.8637**	**1,022.6994**	**3.0472**	**6.7000e-003**	**1,100.8776**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.6179					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	5.9332					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0369	0.3157	0.1343	2.0200e-003		0.0255	0.0255		0.0255	0.0255	0.0000	365.6270	365.6270	7.0100e-003	6.7000e-003	367.7998
Landscaping	0.3144	0.0988	7.2680	3.3000e-004		0.0307	0.0307		0.0307	0.0307	0.0000	10.2367	10.2367	0.0164	0.0000	10.6465
Total	**6.9025**	**0.4145**	**7.4024**	**2.3500e-003**		**0.0562**	**0.0562**		**0.0562**	**0.0562**	**0.0000**	**375.8637**	**375.8637**	**0.0234**	**6.7000e-003**	**378.4463**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	111.4440	1.4379	0.0348	157.7495
Unmitigated	139.3050	1.7974	0.0435	197.1869

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	54.99 / 34.6676	139.3050	1.7974	0.0435	197.1869
Total		**139.3050**	**1.7974**	**0.0435**	**197.1869**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	43.992 / 27.7341	111.4440	1.4379	0.0348	157.7495
Total		**111.4440**	**1.4379**	**0.0348**	**157.7495**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	132.3055	7.8190	0.0000	327.7812
Unmitigated	176.4073	10.4254	0.0000	437.0415

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	869.04	176.4073	10.4254	0.0000	437.0415
Total		**176.4073**	**10.4254**	**0.0000**	**437.0415**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	651.78	132.3055	7.8190	0.0000	327.7812
Total		**132.3055**	**7.8190**	**0.0000**	**327.7812**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

GHG 2030 Mitigated

Parc West Phase Ops All Phases

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	844.00	Dwelling Unit	160.00	1,519,200.00	2414

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.025	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E Energy Intensity

Land Use - Project at Buildout in 2025

Construction Phase - Ops only run

Off-road Equipment -

Off-road Equipment - Equipment no. adjusted to reflect shorter schedule while retaining default hours of use.

Demolition - Remove 2 houses and a barn

Architectural Coating - SJVAPCD Rule 4601 Architectural Coatings

Vehicle Trips - ITE 10th Edition Trip Rates 9.44, 9.54, 8.55

Woodstoves - SJVAPCD Rule 4901 Compliance

Area Coating - Rule 4601 Architectural Coatings compliance

Energy Use -

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation - Rule 4601 Compliant Coatings

Energy Mitigation -

Water Mitigation - CalGreen Code and MWELO water conservation requirements

Waste Mitigation - CalRecycle 75% Recycling Mandate

Fleet Mix - SJVAPCD Fleet Mix 2025

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Residential_Exterior	150.00	64.00
tblArchitecturalCoating	EF_Residential_Interior	150.00	65.00
tblAreaCoating	Area_EF_Residential_Exterior	150	65
tblAreaCoating	Area_EF_Residential_Interior	150	65
tblFleetMix	HHD	0.13	0.02
tblFleetMix	LDA	0.52	0.52
tblFleetMix	LDT1	0.03	0.21

tblFleetMix	LDT2	0.18	0.17
tblFleetMix	LHD1	9.7000e-003	8.0000e-004
tblFleetMix	LHD2	3.4040e-003	9.0000e-004
tblFleetMix	MCY	4.5630e-003	2.5000e-003
tblFleetMix	MDV	0.09	0.06
tblFleetMix	MH	4.3600e-004	2.2000e-003
tblFleetMix	MHD	0.03	7.6000e-003
tblFleetMix	OBUS	2.3060e-003	0.00
tblFleetMix	SBUS	9.9800e-004	1.0000e-004
tblFleetMix	UBUS	1.1850e-003	4.3000e-003
tblLandUse	LotAcreage	274.03	160.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.025
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblVehicleTrips	HO_TTP	35.70	36.00
tblVehicleTrips	HS_TTP	15.90	16.00
tblVehicleTrips	HW_TTP	48.40	48.00
tblVehicleTrips	ST_TR	9.91	9.54
tblVehicleTrips	SU_TR	8.62	8.55
tblVehicleTrips	WD_TR	9.52	9.44

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2039	4.5773	0.0652	0.1932	4.9000e-004	0.0398	9.3000e-004	0.0407	0.0106	9.2000e-004	0.0115	0.0000	43.0039	43.0039	9.9000e-004	0.0000	43.0286
2040	1.6000	0.0217	0.0650	1.7000e-004	0.0139	2.4000e-004	0.0141	3.6900e-003	2.4000e-004	3.9400e-003	0.0000	14.6989	14.6989	3.2000e-004	0.0000	14.7068
Maximum	**4.5773**	**0.0652**	**0.1932**	**4.9000e-004**	**0.0398**	**9.3000e-004**	**0.0407**	**0.0106**	**9.2000e-004**	**0.0115**	**0.0000**	**43.0039**	**43.0039**	**9.9000e-004**	**0.0000**	**43.0286**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2039	4.5773	0.0652	0.1932	4.9000e-004	0.0398	9.3000e-004	0.0407	0.0106	9.2000e-004	0.0115	0.0000	43.0038	43.0038	9.9000e-004	0.0000	43.0286
2040	1.6000	0.0217	0.0650	1.7000e-004	0.0139	2.4000e-004	0.0141	3.6900e-003	2.4000e-004	3.9400e-003	0.0000	14.6989	14.6989	3.2000e-004	0.0000	14.7068
Maximum	**4.5773**	**0.0652**	**0.1932**	**4.9000e-004**	**0.0398**	**9.3000e-004**	**0.0407**	**0.0106**	**9.2000e-004**	**0.0115**	**0.0000**	**43.0038**	**43.0038**	**9.9000e-004**	**0.0000**	**43.0286**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
58	**4-1-2039**	**6-30-2039**	0.8952	0.8952
59	**7-1-2039**	**9-30-2039**	1.8719	1.8719
60	**10-1-2039**	**12-31-2039**	1.8720	1.8720
61	**1-1-2040**	**3-31-2040**	1.6260	1.6260
		Highest	1.8720	1.8720

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	10.0358	0.8708	35.9969	0.0990		4.8910	4.8910		4.8910	4.8910	646.8357	375.8637	1,022.6994	3.0406	6.7000e-003	1,100.7116
Energy	0.1190	1.0168	0.4327	6.4900e-003		0.0822	0.0822		0.0822	0.0822	0.0000	2,150.1854	2,150.1854	0.1064	0.0384	2,164.2765
Mobile	1.4394	5.5968	16.2093	0.0714	8.6194	0.0470	8.6665	2.3040	0.0437	2.3477	0.0000	6,593.6262	6,593.6262	0.3413	0.0000	6,602.1586
Waste						0.0000	0.0000		0.0000	0.0000	176.4073	0.0000	176.4073	10.4254	0.0000	437.0415
Water						0.0000	0.0000		0.0000	0.0000	17.4458	55.1012	72.5470	1.7966	0.0433	130.3533
Total	**11.5941**	**7.4844**	**52.6389**	**0.1768**	**8.6194**	**5.0203**	**13.6397**	**2.3040**	**5.0169**	**7.3209**	**840.6887**	**9,174.7765**	**10,015.4652**	**15.7103**	**0.0883**	**10,434.5415**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	6.7750	0.3878	6.3846	2.3500e-003		0.0603	0.0603		0.0603	0.0603	0.0000	375.8637	375.8637	0.0168	6.7000e-003	378.2803
Energy	0.1118	0.9558	0.4067	6.1000e-003		0.0773	0.0773		0.0773	0.0773	0.0000	2,071.7541	2,071.7541	0.1044	0.0369	2,085.3687
Mobile	1.4190	5.4659	15.5313	0.0679	8.1655	0.0449	8.2104	2.1827	0.0417	2.2244	0.0000	6,270.6402	6,270.6402	0.3303	0.0000	6,278.8971
Waste						0.0000	0.0000		0.0000	0.0000	132.3055	0.0000	132.3055	7.8190	0.0000	327.7812
Water						0.0000	0.0000		0.0000	0.0000	13.9566	44.0810	58.0376	1.4373	0.0346	104.2827
Total	**8.3059**	**6.8094**	**22.3226**	**0.0763**	**8.1655**	**0.1825**	**8.3479**	**2.1827**	**0.1792**	**2.3619**	**146.2621**	**8,762.3391**	**8,908.6012**	**9.7077**	**0.0782**	**9,174.6100**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**28.36**	**9.02**	**57.59**	**56.83**	**5.27**	**96.37**	**38.80**	**5.27**	**96.43**	**67.74**	**82.60**	**4.50**	**11.05**	**38.21**	**11.41**	**12.07**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	5/18/2039	3/20/2040	5	220	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 3,076,380; Residential Outdoor: 1,025,460; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Architectural Coating	1	61.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Architectural Coating - 2039

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.5604					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.6100e-003	0.0618	0.1462	2.4000e-004		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	20.8090	20.8090	7.7000e-004	0.0000	20.8282
Total	**4.5700**	**0.0618**	**0.1462**	**2.4000e-004**		**8.1000e-004**	**8.1000e-004**		**8.1000e-004**	**8.1000e-004**	**0.0000**	**20.8090**	**20.8090**	**7.7000e-004**	**0.0000**	**20.8282**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2800e-003	3.4200e-003	0.0470	2.4000e-004	0.0398	1.2000e-004	0.0399	0.0106	1.1000e-004	0.0107	0.0000	22.1949	22.1949	2.2000e-004	0.0000	22.2004
Total	**7.2800e-003**	**3.4200e-003**	**0.0470**	**2.4000e-004**	**0.0398**	**1.2000e-004**	**0.0399**	**0.0106**	**1.1000e-004**	**0.0107**	**0.0000**	**22.1949**	**22.1949**	**2.2000e-004**	**0.0000**	**22.2004**

3.2 Architectural Coating - 2039

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.5604					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.6100e-003	0.0618	0.1462	2.4000e-004		8.1000e-004	8.1000e-004		8.1000e-004	8.1000e-004	0.0000	20.8090	20.8090	7.7000e-004	0.0000	20.8282
Total	**4.5700**	**0.0618**	**0.1462**	**2.4000e-004**		**8.1000e-004**	**8.1000e-004**		**8.1000e-004**	**8.1000e-004**	**0.0000**	**20.8090**	**20.8090**	**7.7000e-004**	**0.0000**	**20.8282**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2800e-003	3.4200e-003	0.0470	2.4000e-004	0.0398	1.2000e-004	0.0399	0.0106	1.1000e-004	0.0107	0.0000	22.1949	22.1949	2.2000e-004	0.0000	22.2004
Total	**7.2800e-003**	**3.4200e-003**	**0.0470**	**2.4000e-004**	**0.0398**	**1.2000e-004**	**0.0399**	**0.0106**	**1.1000e-004**	**0.0107**	**0.0000**	**22.1949**	**22.1949**	**2.2000e-004**	**0.0000**	**22.2004**

3.2 Architectural Coating - 2040

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5947					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2700e-003	0.0207	0.0511	8.0000e-005		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	7.2768	7.2768	2.6000e-004	0.0000	7.2832
Total	**1.5980**	**0.0207**	**0.0511**	**8.0000e-005**		**2.1000e-004**	**2.1000e-004**		**2.1000e-004**	**2.1000e-004**	**0.0000**	**7.2768**	**7.2768**	**2.6000e-004**	**0.0000**	**7.2832**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9300e-003	9.8000e-004	0.0139	8.0000e-005	0.0139	3.0000e-005	0.0139	3.6900e-003	3.0000e-005	3.7200e-003	0.0000	7.4221	7.4221	6.0000e-005	0.0000	7.4236
Total	**1.9300e-003**	**9.8000e-004**	**0.0139**	**8.0000e-005**	**0.0139**	**3.0000e-005**	**0.0139**	**3.6900e-003**	**3.0000e-005**	**3.7200e-003**	**0.0000**	**7.4221**	**7.4221**	**6.0000e-005**	**0.0000**	**7.4236**

3.2 Architectural Coating - 2040

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5947					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2700e-003	0.0207	0.0511	8.0000e-005		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	7.2768	7.2768	2.6000e-004	0.0000	7.2832
Total	**1.5980**	**0.0207**	**0.0511**	**8.0000e-005**		**2.1000e-004**	**2.1000e-004**		**2.1000e-004**	**2.1000e-004**	**0.0000**	**7.2768**	**7.2768**	**2.6000e-004**	**0.0000**	**7.2832**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9300e-003	9.8000e-004	0.0139	8.0000e-005	0.0139	3.0000e-005	0.0139	3.6900e-003	3.0000e-005	3.7200e-003	0.0000	7.4221	7.4221	6.0000e-005	0.0000	7.4236
Total	**1.9300e-003**	**9.8000e-004**	**0.0139**	**8.0000e-005**	**0.0139**	**3.0000e-005**	**0.0139**	**3.6900e-003**	**3.0000e-005**	**3.7200e-003**	**0.0000**	**7.4221**	**7.4221**	**6.0000e-005**	**0.0000**	**7.4236**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.4190	5.4659	15.5313	0.0679	8.1655	0.0449	8.2104	2.1827	0.0417	2.2244	0.0000	6,270.6402	6,270.6402	0.3303	0.0000	6,278.8971
Unmitigated	1.4394	5.5968	16.2093	0.0714	8.6194	0.0470	8.6665	2.3040	0.0437	2.3477	0.0000	6,593.6262	6,593.6262	0.3413	0.0000	6,602.1586

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	7,967.36	8,051.76	7216.20	23,028,599	21,815,759
Total	7,967.36	8,051.76	7,216.20	23,028,599	21,815,759

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	10.80	7.30	7.50	48.00	16.00	36.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.524400	0.212000	0.167700	0.056300	0.000800	0.000900	0.007600	0.021200	0.000000	0.004300	0.002500	0.000100	0.002200

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	964.8886	964.8886	0.0832	0.0166	971.9256
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	972.6285	972.6285	0.0839	0.0168	979.7220
NaturalGas Mitigated	0.1118	0.9558	0.4067	6.1000e-003		0.0773	0.0773		0.0773	0.0773	0.0000	1,106.8655	1,106.8655	0.0212	0.0203	1,113.4431
NaturalGas Unmitigated	0.1190	1.0168	0.4327	6.4900e-003		0.0822	0.0822		0.0822	0.0822	0.0000	1,177.5569	1,177.5569	0.0226	0.0216	1,184.5545

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	2.20666e+007	0.1190	1.0168	0.4327	6.4900e-003		0.0822	0.0822		0.0822	0.0822	0.0000	1,177.5569	1,177.5569	0.0226	0.0216	1,184.5545
Total		**0.1190**	**1.0168**	**0.4327**	**6.4900e-003**		**0.0822**	**0.0822**		**0.0822**	**0.0822**	**0.0000**	**1,177.5569**	**1,177.5569**	**0.0226**	**0.0216**	**1,184.5545**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	2.07419e+007	0.1118	0.9558	0.4067	6.1000e-003		0.0773	0.0773		0.0773	0.0773	0.0000	1,106.8655	1,106.8655	0.0212	0.0203	1,113.4431
Total		**0.1118**	**0.9558**	**0.4067**	**6.1000e-003**		**0.0773**	**0.0773**		**0.0773**	**0.0773**	**0.0000**	**1,106.8655**	**1,106.8655**	**0.0212**	**0.0203**	**1,113.4431**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	7.39406e +006	972.6285	0.0839	0.0168	979.7220
Total		**972.6285**	**0.0839**	**0.0168**	**979.7220**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	7.33523e +006	964.8886	0.0832	0.0166	971.9256
Total		**964.8886**	**0.0832**	**0.0166**	**971.9256**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	6.7750	0.3878	6.3846	2.3500e-003		0.0603	0.0603		0.0603	0.0603	0.0000	375.8637	375.8637	0.0168	6.7000e-003	378.2803
Unmitigated	10.0358	0.8708	35.9969	0.0990		4.8910	4.8910		4.8910	4.8910	646.8357	375.8637	1,022.6994	3.0406	6.7000e-003	1,100.7116

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.6179					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	5.9332					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.2977	0.7988	29.7467	0.0986		4.8563	4.8563		4.8563	4.8563	646.8357	365.6270	1,012.4627	3.0308	6.7000e-003	1,090.2311
Landscaping	0.1870	0.0721	6.2502	3.3000e-004		0.0348	0.0348		0.0348	0.0348	0.0000	10.2367	10.2367	9.7500e-003	0.0000	10.4805
Total	**10.0358**	**0.8708**	**35.9969**	**0.0990**		**4.8910**	**4.8910**		**4.8910**	**4.8910**	**646.8357**	**375.8637**	**1,022.6994**	**3.0406**	**6.7000e-003**	**1,100.7116**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.6179					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	5.9332					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0369	0.3157	0.1343	2.0200e-003		0.0255	0.0255		0.0255	0.0255	0.0000	365.6270	365.6270	7.0100e-003	6.7000e-003	367.7998
Landscaping	0.1870	0.0721	6.2502	3.3000e-004		0.0348	0.0348		0.0348	0.0348	0.0000	10.2367	10.2367	9.7500e-003	0.0000	10.4805
Total	**6.7750**	**0.3878**	**6.3846**	**2.3500e-003**		**0.0603**	**0.0603**		**0.0603**	**0.0603**	**0.0000**	**375.8637**	**375.8637**	**0.0168**	**6.7000e-003**	**378.2803**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	58.0376	1.4373	0.0346	104.2827
Unmitigated	72.5470	1.7966	0.0433	130.3533

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	54.99 / 34.6676	72.5470	1.7966	0.0433	130.3533
Total		**72.5470**	**1.7966**	**0.0433**	**130.3533**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	43.992 / 27.7341	58.0376	1.4373	0.0346	104.2827
Total		**58.0376**	**1.4373**	**0.0346**	**104.2827**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	132.3055	7.8190	0.0000	327.7812
Unmitigated	176.4073	10.4254	0.0000	437.0415

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	869.04	176.4073	10.4254	0.0000	437.0415
Total		**176.4073**	**10.4254**	**0.0000**	**437.0415**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	651.78	132.3055	7.8190	0.0000	327.7812
Total		**132.3055**	**7.8190**	**0.0000**	**327.7812**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Appendix B: San Joaquin Valley Air Pollution Control District Amicus Brief on Friant Ranch Supreme Court Decision

INTENTIONALLY LEFT BLANK

SUPREME COURT COPY

CASE NO. S219783

IN THE SUPREME COURT OF CALIFORNIA

SIERRA CLUB, REVIVE THE SAN JOAQUIN, and
LEAGUE OF WOMEN VOTERS OF FRESNO,
Plaintiffs and Appellants

v.

COUNTY OF FRESNO,
Defendant and Respondent

FRIANT RANCH, L.P.,
Real Party in Interest and Respondent

SUPREME COURT
FILED

APR 13 2015

Frank A. McGuire Clerk

Deputy

After a Decision by the Court of Appeal, filed May 27, 2014
Fifth Appellate District Case No. F066798

Appeal from the Superior Court of California, County of Fresno
Case No. 11CECG00726

APPLICATION FOR LEAVE TO FILE AMICUS CURIAE BRIEF OF SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT IN SUPPORT OF DEFENDANT AND RESPONDENT, COUNTY OF FRESNO AND REAL PARTY IN INTEREST AND RESPONDENT, FRIANT RANCH, L.P.

CATHERINE T. REDMOND (State Bar No. 226957)
261 High Street
Duxbury, Massachusetts 02332
Tel. (339) 236-5720
Catherinetredmond22@gmail.com

SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT
Annette Ballatore-Williamson, District Counsel (State Bar. No. 192176)
1990 E. Gettysburg Avenue
Fresno, California 93726
Tel. (559) 230-6033
Annette.Ballatore-Williamson@valleyair.org

Counsel for San Joaquin Valley Unified Air Pollution Control District

CASE NO. S219783

IN THE SUPREME COURT OF CALIFORNIA

SIERRA CLUB, REVIVE THE SAN JOAQUIN, and
LEAGUE OF WOMEN VOTERS OF FRESNO,
Plaintiffs and Appellants

v.

COUNTY OF FRESNO,
Defendant and Respondent

FRIANT RANCH, L.P.,
Real Party in Interest and Respondent

After a Decision by the Court of Appeal, filed May 27, 2014
Fifth Appellate District Case No. F066798

Appeal from the Superior Court of California, County of Fresno
Case No. 11CECG00726

APPLICATION FOR LEAVE TO FILE AMICUS CURIAE BRIEF OF SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT IN SUPPORT OF DEFENDANT AND RESPONDENT, COUNTY OF FRESNO AND REAL PARTY IN INTEREST AND RESPONDENT, FRIANT RANCH, L.P.

CATHERINE T. REDMOND (State Bar No. 226957)
261 High Street
Duxbury, Massachusetts 02332
Tel. (339) 236-5720
Catherinetredmond22@gmail.com

SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT
Annette Ballatore-Williamson, District Counsel (State Bar. No. 192176)
1990 E. Gettysburg Avenue
Fresno, California 93726
Tel. (559) 230-6033
Annette.Ballatore-Williamson@valleyair.org

Counsel for San Joaquin Valley Unified Air Pollution Control District

APPLICATION

Pursuant to California Rules of Court 8.520(f)(1), proposed Amicus Curiae San Joaquin Valley Unified Air Pollution Control District hereby requests permission from the Chief Justice to file an amicus brief in support of Defendant and Respondent, County of Fresno, and Defendant and Real Parties in Interest Friant Ranch, L.P. Pursuant to Rule 8.520(f)(5) of the California Rules of Court, the proposed amicus curiae brief is combined with this Application. The brief addresses the following issue certified by this Court for review:

> Is an EIR adequate when it identifies the health impacts of air pollution and quantifies a project's expected emissions, or does CEQA further require the EIR to *correlate* a project's air quality emissions to specific health impacts?

As of the date of this filing, the deadline for the final reply brief on the merits was March 5, 2015. Accordingly, under Rule 8.520(f)(2), this application and brief are timely.

1. Background and Interest of San Joaquin Valley Unified Air Pollution Control District

The San Joaquin Valley Unified Air Pollution Control District ("Air District") regulates air quality in the eight counties comprising the San Joaquin Valley ("Central Valley"): Kern, Tulare, Madera, Fresno, Merced, San Joaquin, Stanislaus, and Kings, and is primarily responsible for attaining air quality standards within its jurisdiction. After billions of dollars of investment by Central Valley businesses, pioneering air quality regulations, and consistent efforts by residents, the Central Valley air basin has made historic improvements in air quality.

The Central Valley's geographical, topographical and meteorological features create exceptionally challenging air quality

conditions. For example, it receives air pollution transported from the San Francisco Bay Area and northern Central Valley communities, and the southern portion of the Central Valley includes three mountain ranges (Sierra, Tehachapi, and Coastal) that, under some meteorological conditions, effectively trap air pollution. Central Valley air pollution is only a fraction of what the Bay Area and Los Angeles produce, but these natural conditions result in air quality conditions that are only marginally better than Los Angeles, even though about ten times more pollution is emitted in the Los Angeles region. Bay Area air quality is much better than the Central Valley's, even though the Bay Area produces about six times more pollution. The Central Valley also receives air pollution transported from the Bay Area and northern counties in the Central Valley, including Sacramento, and transboundary anthropogenic ozone from as far away as China.

Notwithstanding these challenges, the Central Valley has reduced emissions at the same or better rate than other areas in California and has achieved unparalleled milestones in protecting public health and the environment:

- In the last decade, the Central Valley became the first air basin classified by the federal government under the Clean Air Act as a "serious nonattainment" area to come into attainment of health-based National Ambient Air Quality Standard ("NAAQS") for coarse particulate matter (PM10), an achievement made even more notable given the Valley's extensive agricultural sector. Unhealthy levels of particulate matter can cause and exacerbate a range of chronic and acute illnesses.
- In 2013, the Central Valley became the first air basin in the country to improve from a federal designation of "extreme" nonattainment to

actually attain (and quality for an attainment designation) of the 1-hour ozone NAAQS; ozone creates "smog" and, like PM10, causes adverse health impacts.

- The Central Valley also is in full attainment of federal standards for lead, nitrogen dioxide, sulfur dioxide, and carbon monoxide.
- The Central Valley continues to make progress toward compliance with its last two attainment standards, with the number of exceedences for the 8-hour ozone NAAQS reduced by 74% (for the 1997 standard) and 38% (for the 2008 standard) since 1991, and for the small particulate matter (PM2.5) NAAQS reduced by 85% (for the 1997 standard) and 61% (for the 2006 standard).

Sustained improvement in Central Valley air quality requires a rigorous and comprehensive regulatory framework that includes prohibitions (e.g., on wood-burning fireplaces in new residences), mandates (e.g., requiring the installation of best available pollution reduction technologies on new and modified equipment and industrial operations), innovations (e.g., fees assessed against residential development to fund pollution reduction actions to "offset" vehicular emissions associated with new residences), incentive programs (e.g., funding replacements of older, more polluting heavy duty trucks and school buses)[1], ongoing planning for continued air quality improvements, and enforcement of Air District permits and regulations.

The Air District is also an expert air quality agency for the eight counties and cities in the San Joaquin Valley. In that capacity, the Air District has developed air quality emission guidelines for use by the Central

---

[1] San Joaquin's incentive program has been so successful that through 2012, it has awarded over $ 432 million in incentive funds and has achieved 93,349 tons of lifetime emissions reductions. *See* SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, 2012 PM2.5 PLAN, 6-6 (2012) *available at* http://www.valleyair.org/Workshops/postings/2012/12-20-12PM25/FinalVersion/06%20Chapter%206%20Incentives.pdf.

Valley counties and cities that implement the California Environment Quality Act (CEQA).[2] In its guidance, the Air District has distinguished between toxic air contaminants and criteria air pollutants.[3] Recognizing this distinction, the Air District's CEQA Guidance has adopted distinct thresholds of significance for *criteria* pollutants (i.e., ozone, PM2.5 and their respective precursor pollutants) based upon scientific and factual data which demonstrates the level that can be accommodated on a cumulative basis in the San Joaquin Valley without affecting the attainment of the applicable NAAQS.[4] For *toxic air* pollutants, the District has adopted different thresholds of significance which scientific and factual data demonstrates has the potential to expose sensitive receptors (i.e., children, the elderly) to levels which may result in localized health impacts.[5]

The Air District's CEQA Guidance was followed by the County of Fresno in its environment review of the Friant Ranch project, for which the Air District also served as a commenting agency. The Court of Appeal's holding, however, requiring correlation between the project's criteria

---

[2] *See, e.g.*, SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, PLANNING DIVISION, GUIDE FOR ASSESSING AND MITIGATING AIR QUALITY IMPACTS (2015), *available at* http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf ("CEQA Guidance").

[3] Toxic air contaminants, also known as hazardous air pollutants, are those pollutants that are known or suspected to cause cancer or other serious health effects, such as birth defects. There are currently 189 toxic air contaminants regulated by the United States Environmental Protection Agency ("EPA") and the states pursuant to the Clean Air Act. 42 U.S.C. § 7412. Common TACs include benzene, perchloroethylene and asbestos. *Id.* at 7412(b).

In contrast, there are only six (6) criteria air pollutants: ozone, particulate matter, carbon monoxide, nitrogen oxides, sulfur dioxide and lead. Although criteria air pollutants can also be harmful to human health, they are distinguishable from toxic air contaminants and are regulated separately. For instance, while criteria pollutants are regulated by numerous sections throughout Title I of the Clean Air Act, the regulation of toxic air contaminants occurs solely under section 112 of the Act. Compare 42 U.S.C. §§ 7407 – 7411 & 7501 – 7515 with 42 U.S.C. § 7411.

[4] See, e.g., CEQA Guidance at http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf, pp. 64-66, 80.

[5] See, e.g., CEQA Guidance at http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf, pp. 66, 99-101.

pollutants and local health impacts, departs from the Air District's Guidance and approved methodology for assessing criteria pollutants. A close reading of the administrative record that gave rise to this issue demonstrates that the Court's holding is based on a misunderstanding of the distinction between toxic air contaminants (for which a local health risk assessment is feasible and routinely performed) and criteria air pollutants (for which a local health risk assessment is not feasible and would result in speculative results).[6] The Air District has a direct interest in ensuring the lawfulness and consistent application of its CEQA Guidance, and will explain how the Court of Appeal departed from the Air District's long-standing CEQA Guidance in addressing criteria pollutants and toxic air contaminants in this amicus brief.

2. How the Proposed Amicus Curiae Brief Will Assist the Court

As counsel for the proposed amicus curiae, we have reviewed the briefs filed in this action. In addition to serving as a "commentary agency" for CEQA purposes over the Friant Ranch project, the Air District has a strong interest in assuring that CEQA is used for its intended purpose, and believes that this Court would benefit from additional briefing explaining the distinction between criteria pollutants and toxic air contaminants and the different methodologies employed by local air pollution control agencies such as the Air District to analyze these two categories of air pollutants under CEQA. The Air District will also explain how the Court of Appeal's opinion is based upon a fundamental misunderstanding of these two different approaches by requiring the County of Fresno to correlate the project's *criteria* pollution emissions with *local* health impacts. In doing

---

[6] CEQA does not require speculation. *See, e.g.*, *Laurel Heights Improvement Ass'n v. Regents of Univ. of Cal.*, 6 Cal. 4th 1112, 1137 (1993) (upholding EIR that failed to evaluate cumulative toxic air emission increases given absence of any acceptable means for doing so).

so, the Air District will provide helpful analysis to support its position that at least insofar as criteria pollutants are concerned, CEQA does not require an EIR to correlate a project's air quality emissions to specific health impacts, because such an analysis is not reasonably feasible.

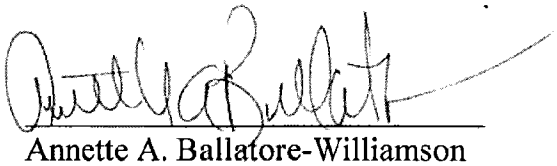
Rule 8.520 Disclosure

Pursuant to Cal. R. 8.520(f)(4), neither the Plaintiffs nor the Defendant or Real Party In Interest or their respective counsel authored this brief in whole or in part. Neither the Plaintiffs nor the Defendant or Real Party in Interest or their respective counsel made any monetary contribution towards or in support of the preparation of this brief.

CONCLUSION

On behalf of the San Joaquin Valley Unified Air Pollution Control District, we respectfully request that this Court accept the filing of the attached brief.

Dated: April 2, 2015



Annette A. Ballatore-Williamson
District Counsel
Attorney for Proposed Amicus Curiae

SAN JOAQUIN VALLEY UNIFIED
AIR POLLUTION CONTROL
DISTRICT

CASE NO. S219783

IN THE SUPREME COURT OF CALIFORNIA

SIERRA CLUB, REVIVE THE SAN JOAQUIN, and
LEAGUE OF WOMEN VOTERS OF FRESNO,
Plaintiffs and Appellants

v.

COUNTY OF FRESNO,
Defendant and Respondent

FRIANT RANCH, L.P.,
Real Party in Interest and Respondent

After a Decision by the Court of Appeal, filed May 27, 2014
Fifth Appellate District Case No. F066798

Appeal from the Superior Court of California, County of Fresno
Case No. 11CECG00726

AMICUS CURIAE BRIEF OF SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT IN SUPPORT OF DEFENDANT AND RESPONDENT, COUNTY OF FRESNO AND REAL PARTY IN INTEREST AND RESPONDENT, FRIANT RANCH, L.P.

CATHERINE T. REDMOND (State Bar No. 226957)
261 High Street
Duxbury, Massachusetts 02332
Tel. (339) 236-5720
Catherinetredmond22@gmail.com

SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT
Annette A. Ballatore-Williamson, District Counsel (State Bar. No. 192176)
1990 E. Gettysburg Avenue
Fresno, California 93726
Tel. (559) 230-6033
Annette.Ballatore-Williamson@valleyair.org
Counsel for San Joaquin Valley Unified Air Pollution Control District

TABLE OF CONTENTS

APPLICATION.....1

1. Background and Interest of San Joaquin Valley Unified Air Pollution Control District.....1

2. How the Proposed Amicus Curiae Brief Will Assist the Court 5

CONCLUSION.....6

I. INTRODUCTION 1

II. THE COURT OF APPEAL ERRED IN FINDING THE FRIANT RANCH EIR INADEQUATE FOR FAILING TO ANALYZE THE SPECIFIC HUMAN HEALTH IMPACTS ASSOCIATED CRITERIA AIR POLLUTANTS.....3

A, Currently Available Modeling Tools are not Equipped to Provide a Meaningful Analysis of the Correlation between an Individual Development Project's Air Emissions and Specific Human Health Impacts.....4

B. The Court of Appeal Improperly Extrapolated a Request for a Health Risk Assessment for Toxic Air Contaminants into a Requirement that the EIR contain an Analysis of Localized Health Impacts Associated with Criteria Air Pollutants 11

III. CONCLUSION.....15

CERTIFICATE OF WORD COUNT.....17

TABLE OF AUTHORITIES

CASES

Bakersfield Citizens for Local Control v. City of Bakersfield (2004) 124 Cal.App.4th 1184, 1199, 22 Cal.Rptr.3d 203 15

Citizens for Responsible Equitable Environmental Development v. City of San Diego, (2011) 196 Cal.App.4th 515, 527 129 Cal.Rptr.3d 512, 521 14

Kings County Farm Bureau v. City of Hanford (1990) 221 Cal.App.3d 692, 717 n. 8. 10

Sierra Club v. City of Orange (2008) 163 Cal.App.4th 523, 535, 78 Cal.Rptr.3d 1, 13 14

Sierra Club v. City of Orange,163 Cal.App.4th at 536 15

Sierra Club v. County of Fresno (2014) 172 Cal.Rptr.3d 271, 306 12

Sierra Club, *supra*, 172 Cal.Rptr.3d at 303; AR 4554 8

FEDERAL STATUTES

United States Environmental Protection Agency ("EPA") Clean Air Act. 42 U.S.C. § 7412 1,2,5,6

42 U.S.C. § 7412 1

U.S.C. §§ 7407 – 7411 1

U.S.C. §§ 7501 – 7515 1

42 U.S.C. § 7411 1

42 U.S.C. § 7412(b) 1,2

42 U.S.C. § 7409(b)(1) 2, 6

CALIFORNIA STATUTES

California Environmental Quality Act ("CEQA") ..... *passim*

OTHER AUTHORITIES

United States Environmental Protection Agency,
Ground-level Ozone: Basic Information,
available at: http://www.epa.gov/airquality/ozonepollution/basic.html
(visited March 10, 015).....4

San Joaquin Valley Air Pollution Control District 2007 Ozone Plan,
Executive Summary p. ES-6, available at:
http://www.valleyair.org/Air_Quality_Plans/docs/AQ_Ozone_2007_
Adopted/03%20Executive%20Summary.pdf (visited March 10, 2015).....5

United States Environmental Protection Agency, *Particulate Matter:
Basic Information*, available at:
http://www.epa.gov/airquality/particlepollution/basic.html
(visited March 10, 2015).....5

United States Environmental Protection Agency, *Table of
National Ambient Air Quality Standards*, available at:
http://www.epa.gov/air/criteria.html#3 (visited March 10, 2015) 6

*San Joaquin Valley Unified Air Pollution Control District 2013
Plan for the Revoked 1-Hour Ozone Standard*, Ch. 2 p. 2-16,
available at: http://www.valleyair.org/Air_Quality_Plans/OzoneOneHourPlan
2013/02Chapter2ScienceTrendsModeling.pdf (visited March 10, 2015.....6

Ch. 2 p. 2-19 (visited March 12, 2015); *San Joaquin Valley Unified
Air Pollution Control District 2008 PM2.5 Plan*,
Appendix F, pp. F-2 – F-5, available at:
http://www.valleyair.org/Air_Quality_Plans/docs/AQ_Final_Adopted
_PM2.5/20%20Appendix%20F.pdf (visited March 19, 2015).....6

San Joaquin Valley Unified Air Pollution Control District Rule 2201 §§ 2.0;
3.3.9; 4.14.1, available at:
http://www.valleyair.org/rules/currntrules/Rule22010411.pdf
(visited March 19, 2015).....7

*San Joaquin Valley Unified Air Pollution Control District Guide to
Assessing and Mitigating Air Quality Impacts*, (March 19, 2015) p. 22,
available at:
http://www.valleyair.org/transportation/CEQA%20Rules/GAMAQI%20Jan
%202002%20Rev.pdf (visited March 30, 2015).....7

San Joaquin Valley Unified Air Pollution Control District Environmental Review Guidelines (Aug. 2000) p. 4-11, available at: http://www.valleyair.org/transportation/CEQA%20Rules/ERG%20 Adopted%20_August%202000_.pdf (visited March 12, 2015).....8

San Joaquin Valley Unified Air Pollution Control District 2007 Ozone Plan, Appendix B pp. B-6, B-9, available at: http://www.valleyair.org/Air_Quality_ Plans/docs/AQ_Ozone_2007_Adopted/19%20Appendix%20B%20April% 202007.pdf (visited March 12, 2015).....9

I. INTRODUCTION.

The San Joaquin Valley Unified Air Pollution Control District ("Air District") respectfully submits that the Court of Appeal erred when it held that the air quality analysis contained in the Environmental Impact Report ("EIR") for the Friant Ranch development project was inadequate under the California Environmental Quality Act ("CEQA") because it did not include an analysis of the correlation between the project's criteria air pollutants and the potential adverse human health impacts. A close reading of the portion of the administrative record that gave rise to this issue demonstrates that the Court's holding is based on a misunderstanding of the distinction between toxic air contaminants and criteria air pollutants.

Toxic air contaminants, also known as hazardous air pollutants, are those pollutants that are known or suspected to cause cancer or other serious health effects, such as birth defects. There are currently 189 toxic air contaminants (hereinafter referred to as "TACs") regulated by the United States Environmental Protection Agency ("EPA") and the states pursuant to the Clean Air Act. 42 U.S.C. § 7412. Common TACs include benzene, perchloroethylene and asbestos. *Id.* at 7412(b).

In contrast, there are only six (6) criteria air pollutants: ozone, particulate matter, carbon monoxide, nitrogen oxides, sulfur dioxide and lead. Although criteria air pollutants can also be harmful to human health,

they are distinguishable from TACs and are regulated separately. For instance, while criteria pollutants are regulated by numerous sections throughout Title I of the Clean Air Act, the regulation of TACs occurs solely under section 112 of the Act. *Compare* 42 U.S.C. §§ 7407 – 7411 & 7501 – 7515 *with* 42 U.S.C. § 7411.

The most relevant difference between criteria pollutants and TACs for purposes of this case is the manner in which human health impacts are accounted for. While it is common practice to analyze the correlation between an individual facility's TAC emissions and the expected localized human health impacts, such is not the case for criteria pollutants. Instead, the human health impacts associated with criteria air pollutants are analyzed and taken into consideration when EPA sets the national ambient air quality standard ("NAAQS") for each criteria pollutant. 42 U.S.C. § 7409(b)(1). The health impact of a particular criteria pollutant is analyzed on a regional and not a facility level based on how close the area is to complying with (attaining) the NAAQS. Accordingly, while the type of individual facility / health impact analysis that the Court of Appeal has required is a customary practice for TACs, it is not feasible to conduct a similar analysis for criteria air pollutants because currently available computer modeling tools are not equipped for this task.

It is clear from a reading of both the administrative record and the Court of Appeal's decision that the Court did not have the expertise to fully

appreciate the difference between TACs and criteria air pollutants. As a result, the Court has ordered the County of Fresno to conduct an analysis that is not practicable and not likely yield valid information. The Air District respectfully requests that this portion of the Court of Appeal's decision be reversed.

II. THE COURT OF APPEAL ERRED IN FINDING THE FRIANT RANCH EIR INADEQUATE FOR FAILING TO ANALYZE THE SPECIFIC HUMAN HEALTH IMPACTS ASSOCIATED CRITERIA AIR POLLUTANTS.

Although the Air District does not take lightly the amount of air emissions at issue in this case, it submits that the Court of Appeal got it wrong when it required Fresno County to revise the Friant Ranch EIR to include an analysis correlating the criteria air pollutant emissions associated with the project with specific, localized health-impacts. The type of analysis the Court of Appeal has required will not yield reliable information because currently available modeling tools are not well suited for this task. Further, in reviewing this issue de novo, the Court of Appeal failed to appreciate that it lacked the scientific expertise to appreciate the significant differences between a health risk assessment commonly performed for toxic air contaminants and a similar type of analysis it felt should have been conducted for criteria air pollutants.

///

///

A. Currently Available Modeling Tools are not Equipped to Provide a Meaningful Analysis of the Correlation between an Individual Development Project's Air Emissions and Specific Human Health Impacts.

In order to appreciate the problematic nature of the Court of Appeals' decision requiring a health risk type analysis for criteria air pollutants, it is important to understand how the relevant criteria pollutants (ozone and particulate matter) are formed, dispersed and regulated.

Ground level ozone (smog) is not directly emitted into the air, but is formed when precursor pollutants such as oxides of nitrogen (NOx) and volatile organic compounds (VOCs) are emitted into the atmosphere and undergo complex chemical reactions in the process of sunlight.[1] Once formed, ozone can be transported long distances by wind.[2] Because of the complexity of ozone formation, a specific tonnage amount of NOx or VOCs emitted in a particular area does not equate to a particular concentration of ozone in that area. In fact, even rural areas that have relatively low tonnages of emissions of NOx or VOCs can have high levels of ozone concentration simply due to wind transport.[3] Conversely, the San Francisco Bay Area has six times more NOx and VOC emissions per square mile than the San Joaquin Valley, but experiences lower

---

[1] *See* United States Environmental Protection Agency, *Ground-level Ozone: Basic Information*, available at: http://www.epa.gov/airquality/ozonepollution/basic.html (visited March 10, 2015).
[2] *Id.*
[3] *Id.*

concentrations of ozone (and better air quality) simply because sea breezes disperse the emissions.[4]

Particulate matter ("PM") can be divided into two categories: directly emitted PM and secondary PM.[5] While directly emitted PM can have a localized impact, the tonnage emitted does not always equate to the local PM concentration because it can be transported long distances by wind.[6] Secondary PM, like ozone, is formed via complex chemical reactions in the atmosphere between precursor chemicals such as sulfur dioxides (SOx) and NOx.[7] Because of the complexity of secondary PM formation, the tonnage of PM-forming precursor emissions in an area does not necessarily result in an equivalent concentration of secondary PM in that area.

The disconnect between the *tonnage* of precursor pollutants (NOx, SOx and VOCs) and the *concentration* of ozone or PM formed is important because it is not necessarily the tonnage of precursor pollutants that causes human health effects, but the concentration of resulting ozone or PM. Indeed, the national ambient air quality standards ("NAAQS"), which are statutorily required to be set by the United States Environmental Protection

---

[4] *San Joaquin Valley Air Pollution Control District 2007 Ozone Plan*, Executive Summary p. ES-6, available at: http://www.valleyair.org/Air_Quality_Plans/docs/AQ_Ozone_2007_Adopted/03%20Executive%20Summary.pdf (visited March 10, 2015).
[5] United States Environmental Protection Agency, *Particulate Matter: Basic Information*, available at: http://www.epa.gov/airquality/particlepollution/basic.html (visited March 10, 2015).
[6] *Id.*
[7] *Id.*

Agency ("EPA") at levels that are "requisite to protect the public health," 42 U.S.C. § 7409(b)(1), are established as concentrations of ozone or particulate matter and not as tonnages of their precursor pollutants.[8]

Attainment of a particular NAAQS occurs when the concentration of the relevant pollutant remains below a set threshold on a consistent basis throughout a particular region. For example, the San Joaquin Valley attained the 1-hour ozone NAAQS when ozone concentrations remained at or below 0.124 parts per million Valley-wide on 3 or fewer days over a 3-year period.[9] Because the NAAQS are focused on achieving a particular concentration of pollution region-wide, the Air District's tools and plans for attaining the NAAQS are regional in nature.

For instance, the computer models used to simulate and predict an attainment date for the ozone or particulate matter NAAQS in the San Joaquin Valley are based on regional inputs, such as regional inventories of precursor pollutants (NOx, SOx and VOCs) and the atmospheric chemistry and meteorology of the Valley.[10] At a very basic level, the models simulate future ozone or PM levels based on predicted changes in precursor

---

[8] See, e.g., United States Environmental Protection Agency, *Table of National Ambient Air Quality Standards*, available at: http://www.epa.gov/air/criteria.html#3 (visited March 10, 2015).

[9] *San Joaquin Valley Unified Air Pollution Control District 2013 Plan for the Revoked 1-Hour Ozone Standard*, Ch. 2 p. 2-16, available at: http://www.valleyair.org/Air_Quality_Plans/OzoneOneHourPlan2013/02Chapter2ScienceTrendsModeling.pdf (visited March 10, 2015).

[10] *Id.* at Ch. 2 p. 2-19 (visited March 12, 2015); *San Joaquin Valley Unified Air Pollution Control District 2008 PM2.5 Plan*, Appendix F, pp. F-2 – F-5, available at: http://www.valleyair.org/Air_Quality_Plans/docs/AQ_Final_Adopted_PM2.5/20%20Appendix%20F.pdf
(visited March 19, 2015).

emissions Valley wide.[11] Because the NAAQS are set levels necessary to protect human health, the closer a region is to attaining a particular NAAQS, the lower the human health impact is from that pollutant.

The goal of these modeling exercises is not to determine whether the emissions generated by a particular factory or development project will affect the date that the Valley attains the NAAQS. Rather, the Air District's modeling and planning strategy is regional in nature and based on the extent to which *all* of the emission-generating sources in the Valley (current and future) must be controlled in order to reach attainment.[12]

Accordingly, the Air District has based its thresholds of significance for CEQA purposes on the levels that scientific and factual data demonstrate that the Valley can accommodate without affecting the attainment date for the NAAQS.[13] The Air District has tied its CEQA significance thresholds to the level at which stationary pollution sources permitted by the Air District must "offset" their emissions.[14] This "offset"

---

[11] *Id.*

[12] Although the Air District does have a dispersion modeling tool used during its air permitting process that is used to predict whether a particular project's directly emitted PM will either cause an exceedance of the PM NAAQS or contribute to an existing exceedance, this model bases the prediction on a worst case scenario of emissions and meteorology and has no provision for predicting any associated human health impacts. Further, this analysis is only performed for stationary sources (factories, oil refineries, etc.) that are required to obtain a New Source Review permit from the Air District and not for development projects such as Friant Ranch over which the Air District has no preconstruction permitting authority. *See* San Joaquin Valley Unified Air Pollution Control District Rule 2201 §§ 2.0; 3.3.9; 4.14.1, available at: http://www.valleyair.org/rules/currntrules/Rule22010411.pdf (visited March 19, 2015).

[13] *San Joaquin Valley Unified Air Pollution Control District Guide to Assessing and Mitigating Air Quality Impacts*, (March 19, 2015) p. 22, available at: http://www.valleyair.org/transportation/CEQA%20Rules/GAMAQI%20Jan%202002%20Rev.pdf (visited March 30, 2015).

[14] *Id.* at pp. 22, 25.

level allows for growth while keeping the cumulative effects of all new sources at a level that will not impede attainment of the NAAQS.[15] In the Valley, these thresholds are 15 tons per year of PM, and 10 tons of NOx or VOC per year. *Sierra Club*, *supra*, 172 Cal.Rptr.3d at 303; AR 4554. Thus, the CEQA air quality analysis for criteria pollutants is not really a localized, project-level impact analysis but one of regional, "cumulative impacts."

Accordingly, the significance thresholds applied in the Friant Ranch EIR (15 tons per year of PM and 10 tons of NOx or VOCs) are not intended to be indicative of any localized human health impact that the project may have. While the health effects of air pollution are of primary concern to the Air District (indeed, the NAAQS are established to protect human health), the Air District is simply not equipped to analyze whether and to what extent the criteria pollutant emissions of an individual CEQA project directly impact human health in a particular area. This is true even for projects with relatively high levels of emissions of criteria pollutant precursor emissions.

For instance, according to the EIR, the Friant Ranch project is estimated to emit 109.52 tons per year of ROG (VOC), 102.19 tons per year of NOx, and 117.38 tons per year of PM. Although these levels well

---

[15] [15] *San Joaquin Valley Unified Air Pollution Control District Environmental Review Guidelines* (Aug. 2000) p. 4-11, available at: http://www.valleyair.org/transportation/CEQA%20Rules/ERG%20Adopted%20_August%202000_.pdf (visited March 12, 2015).

exceed the Air District's CEQA significance thresholds, this does not mean that one can easily determine the concentration of ozone or PM that will be created at or near the Friant Ranch site on a particular day or month of the year, or what specific health impacts will occur. Meteorology, the presence of sunlight, and other complex chemical factors all combine to determine the ultimate concentration and location of ozone or PM. This is especially true for a project like Friant Ranch where most of the criteria pollutant emissions derive not from a single "point source," but from area wide sources (consumer products, paint, etc.) or mobile sources (cars and trucks) driving to, from and around the site.

In addition, it would be extremely difficult to model the impact on NAAQS attainment that the emissions from the Friant Ranch project may have. As discussed above, the currently available modeling tools are equipped to model the impact of *all* emission sources in the Valley on attainment. According to the most recent EPA-approved emission inventory, the NOx inventory for the Valley is for the year 2014 is 458.2 tons per day, or 167,243 tons per year and the VOC (or ROG) inventory is 361.7 tons per day, or 132,020.5 tons per year.[16] Running the photochemical grid model used for predicting ozone attainment with the

---

[16] *San Joaquin Valley Unified Air Pollution Control District 2007 Ozone Plan*, Appendix B pp. B-6, B-9,
available at:
http://www.valleyair.org/Air_Quality_Plans/docs/AQ_Ozone_2007_Adopted/19%20Appendix%20B%20April%202007.pdf (visited March 12, 2015).

emissions solely from the Friant Ranch project (which equate to less than one-tenth of one percent of the total NOx and VOC in the Valley) is not likely to yield valid information given the relative scale involved.

Finally, even once a model is developed to accurately ascertain local increases in concentrations of photochemical pollutants like ozone and some particulates, it remains impossible, using today's models, to correlate that increase in concentration to a specific health impact. The reason is the same: such models are designed to determine regional, population-wide health impacts, and simply are not accurate when applied at the local level.

For these reasons, it is not the norm for CEQA practitioners, including the Air District, to conduct an analysis of the localized health impacts associated with a project's criteria air pollutant emissions as part of the EIR process. When the accepted scientific method precludes a certain type of analysis, "the court cannot impose a legal standard to the contrary." *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 717 n. 8. However, that is exactly what the Court of Appeal has done in this case. Its decision upends the way CEQA air quality analysis of criteria pollutants occurs and should be reversed.

///

///

///

B. The Court of Appeal Improperly Extrapolated a Request for a Health Risk Assessment for Toxic Air Contaminants into a Requirement that the EIR contain an Analysis of Localized Health Impacts Associated with Criteria Air Pollutants.

The Court of Appeal's error in requiring the new health impact analysis for criteria air pollutants clearly stems from a misunderstanding of terms of art commonly used in the air pollution field. More specifically, the Court of Appeal (and Appellants Sierra Club et al.) appear to have confused the health risk analysis ("HRA") performed to determine the health impacts associated with a project's toxic air contaminants ("TACs"), with an analysis correlating a project's criteria air pollutants (ozone, PM and the like) with specific localized health impacts.

The first type of analysis, the HRA, is commonly performed during the Air District's stationary source permitting process for projects that emit TACs and is, thus, incorporated into the CEQA review process. An HRA is a comprehensive analysis to evaluate and predict the dispersion of TACs emitted by a project and the potential for exposure of human populations. It also assesses and quantifies both the individual and population-wide health risks associated with those levels of exposure. There is no similar analysis conducted for criteria air pollutants. Thus, the second type of analysis (required by the Court of Appeal), is not currently part of the Air District's process because, as outlined above, the health risks associated

with exposure to criteria pollutants are evaluated on a regional level based on the region's attainment of the NAAQS.

The root of this confusion between the types of analyses conducted for TACs versus criteria air pollutants appears to stem from a comment that was presented to Fresno County by the City of Fresno during the administrative process.

In its comments on the draft EIR, the City of Fresno (the only party to raise this issue) stated:

> [t]he EIR must disclose the human health related effects of the Project's air pollution impacts. (CEQA Guidelines section 15126.2(a).) The EIR fails completely in this area. The EIR should be revised to disclose and determine the significance of TAC impacts, and of human health risks due to exposure to Project-related air emissions.

(AR 4602.)

In determining that the issue regarding the correlation between the Friant Ranch project's criteria air pollutants and adverse health impacts was adequately exhausted at the administrative level, the Court of Appeal improperly read the first two sentences of the City of Fresno's comment in isolation rather than in the context of the entire comment. *See Sierra Club v. County of Fresno* (2014) 172 Cal.Rptr.3d 271, 306. Although the comment first speaks generally in terms of "human health related effects" and "air pollution," it requests only that the EIR be revised to disclose "the significance of TACs" and the "human health risks due to exposure."

The language of this request in the third sentence of the comment is significant because, to an air pollution practitioner, the language would only have indicated only that a HRA for TACs was requested, and not a separate analysis of the health impacts associated with the project's criteria air pollutants. Fresno County clearly read the comment as a request to perform an HRA for TACs and limited its response accordingly. (AR 4602.)[17] The Air District submits that it would have read the City's comment in the same manner as the County because the City's use of the terms "human health risks" and "TACs" signal that an HRA for TACs is being requested. Indeed, the Air District was also concerned that an HRA be conducted, but understood that it was not possible to conduct such an analysis until the project entered the phase where detailed site specific information, such as the types of emission sources and the proximity of the sources to sensitive receptors became available. (AR 4553.)[18] The City of Fresno was apparently satisfied with the County's discussion of human health risks, as it did not raise the issue again when it commented on the final EIR. (AR 8944 – 8960.)

---

[17] Appellants do not challenge the manner in which the County addressed TACs in the EIR. (Appellants' Answer Brief p. 28 fn. 7.)

[18] Appellants rely on the testimony of Air District employee, Dan Barber, as support for their position that the County should have conducted an analysis correlating the project's criteria air pollutant emissions with localized health impacts. (Appellants Answer Brief pp. 10-11; 28.) However, Mr. Barber's testimony simply reinforces the Air District's concern that a risk assessment (HRA) be conducted once the actual details of the project become available. (AR 8863.) As to criteria air pollutants, Mr. Barber's comments are aimed at the Air District's concern about the amount of emissions and the fact that the emissions will make it "more difficult for Fresno County and the Valley to reach attainment which means that the health of Valley residents maybe [sic] adversely impacted." Mr. Barber says nothing about conducting a separate analysis of the localized health impacts the project's emissions may have.

The Court of Appeal's holding, which incorrectly extrapolates a request for an HRA for TACs into a new analysis of the localized health impacts of the project's criteria air pollutants, highlights two additional errors in the Court's decision.

First, the Court of Appeal's holding illustrates why the Court should have applied the deferential substantial evidence standard of review to the issue of whether the EIR's air quality analysis was sufficient. The regulation of air pollution is a technical and complex field and the Court of Appeal lacked the expertise to fully appreciate the difference between TACs and criteria air pollutants and tools available for analyzing each type of pollutant.

Second, it illustrates that the Court likely got it wrong when it held that the issue regarding the criteria pollutant / localized health impact analysis was properly exhausted during the administrative process. In order to preserve an issue for the court, '[t]he "exact issue" must have been presented to the administrative agency....' [Citation.] *Citizens for Responsible Equitable Environmental Development v. City of San Diego*, (2011) 196 Cal.App.4th 515, 527 129 Cal.Rptr.3d 512, 521; *Sierra Club v. City of Orange* (2008) 163 Cal.App.4th 523, 535, 78 Cal.Rptr.3d 1, 13. "'[T]he objections must be sufficiently specific so that the agency has the

opportunity to evaluate and respond to them.' [Citation.]" *Sierra Club v. City of Orange*,163 Cal.App.4th at 536.[19]

As discussed above, the City's comment, while specific enough to request a commonly performed HRA for TACs, provided the County with no notice that it should perform a new type of analysis correlating criteria pollutant tonnages to specific human health effects. Although the parties have not directly addressed the issue of failure to exhaust administrative remedies in their briefs, the Air District submits that the Court should consider how it affects the issues briefed by the parties since "[e]xhaustion of administrative remedies is a jurisdictional prerequisite to maintenance of a CEQA action." *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1199, 22 Cal.Rptr.3d 203.

III. CONCLUSION

For all of the foregoing reasons, the Air District respectfully requests that the portion of the Court of Appeal's decision requiring an analysis correlating the localized human health impacts associated with an individual project's criteria air pollutant emissions be reversed.

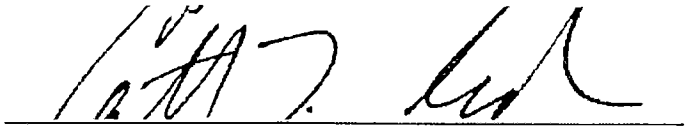
---

[19] *Sierra Club v. City of Orange*, is illustrative here. In that case, the plaintiffs challenged an EIR approved for a large planned community on the basis that the EIR improperly broke up the various environmental impacts by separate project components or "piecemealed" the analysis in violation of CEQA. In evaluating the defense that the plaintiffs had failed to adequately raise the issue at the administrative level, the Court held that comments such as *"the use of a single document for both a project-level and a program-level EIR [is] 'confusing',"* and *"[t]he lead agency should identify any potential adverse air quality impacts that could occur from all phases of the project and all air pollutant sources related to the project,"* were too vague to fairly raise the argument of piecemealing before the agency. *Sierra Club v. City of Orange*, 163 Cal.App.4th at 537.

correlating the localized human health impacts associated with an individual project's criteria air pollutant emissions be reversed.

Respectfully submitted,

Dated: April 2, 2015



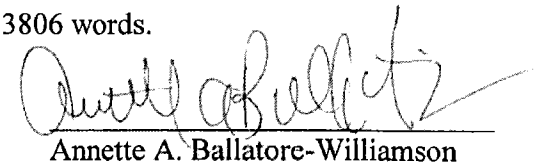
Catherine T. Redmond
Attorney for Proposed Amicus Curiae

SAN JOAQUIN VALLEY
UNIFIED
AIR POLLUTION CONTROL
DISTRICT

CERTIFICATE OF WORD COUNT

Pursuant to Rule 8.204 of the California Rules of Court, I hereby certify that this document, based on the Word County feature of the Microsoft Word software program used to compose and print this document, contains, exclusive of caption, tables, certificate of word count, signature block and certificate of service, 3806 words.

Dated: April 2, 2015



Annette A. Ballatore-Williamson
District Counsel (SBN 192176)

Sierra Club et al, v. County of Fresno, et al
Supreme Court of California Case No.: S219783
Fifth District Court of Appeal Case No.: F066798
Fresno County Superior Court Case No.: 11CECG00726

PROOF OF SERVICE

I am over the age of 18 years and not a p[arty to the above-captioned action; that my business address is San Joaquin Valley Unified Air Pollution Control District located at 1990 E. Gettysburg Avenue, Fresno, California 93726.

On April 2, 2015, I served the document described below:

APPLICATION FOR LEAVE TO FILE AMICUS CURIAE BRIEF OF SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT IN SUPPORT OF DEFENDANT AND RESPONDENT, COUNTY OF FRESNO

On all parties to this action at the following addresses and in the following manner:

PLEASE SEE ATTACHED SERVICE LIST

(XX) **(BY MAIL)** I caused a true copy of each document(s) to be laced in a sealed envelope with first-class postage affixed and placed the envelope for collection. Mail is collected daily at my office and placed in a United State Postal Service collection box for pick-up and delivery that same day.

( ) **(BY ELECTRONIC MAIL)** I caused a true and correct scanned image (.PDF file) copy to be transmitted via electronic mail transfer system in place at the San Joaquin Valley Unified Air Pollution Control District ("District"), originating from the undersigned at 1990 E. Gettysburg Avenue, Fresno, CA, to the address(es) indicated below.

( ) **(BY OVERNIGHT MAIL)** I caused a true and correct copy to be delivered via Federal Express to the following person(s) or their representative at the address(es) listed below.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that I executed this document on April 2, 2015, at Fresno, California.

Esthela Soto

SERVICE LIST

Sierra Club et al, v. County of Fresno, et al
Supreme Court of California Case No.: S219783
Fifth District Court of Appeal Case No.: F066798
Fresno County Superior Court Case No.: 11CECG00726

Sara Hedgpeth-Harris, Esq. LAW OFFICE OF SARA HEDGPETH-HARRIS 2125 Kern Street, Suite 301 Fresno, California 93721 Telephone: (559) 233-0907 Facsimile: (559) 272-6046 Email: sara.hedgpethharris@shh-law.com	Attorney for Plaintiffs and Appellants, Sierra Club, et al
Daniel C. Cederborg, Esq. Bruce B. Johnson, Jr., Esq. OFFICE OF THE FRESNO COUNTY COUNSEL 2220 Tulare Street, Suite 500 Fresno, California 93721 Telephone: (559) 600-3479 Facsimile: (559) 600-3480 Email: bjohnson@co.fresno.ca.us	Attorneys for Defendant and Respondent, County of Fresno
Bryan N. Wagner, Esq. WAGNER & WAGNER 7110 N. Fresno Street, Suite 340 Fresno, California 93720 Telephone: (559) 224-0871 Facsimile: (559) 224-0885 Email: bryan@wagnerandwagner.com	Attorneys for Real Party in Interest/Respondent Friant Ranch, L.P.
Clerk of the Court Superior Court of California County of Fresno 1130 'O' Street Fresno, California 93721 Telephone: (559) 457-1900	
Clerk of the Court Fifth District Court of Appeal 2424 Ventura Street Fresno, California 93721 Telephone: (559) 445-5491	

R. Tyson Sohagim, Esq. THE SOHAGI LAW GROUP 11999 San Vicente Blvd., Suite 150 Los Angeles, California 90049 Telephone: (310) 475-5700 Facsimile: (310) 475-5707 Email: tsohagi@sohagi.com	Attorney for Amici Curiae; League of California Cities, and the California State Association of Counties
Marcia L. Scully, Esq. General Counsel METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA Post Office Box 54153 Los Angeles, California 90054 Telephone: (213) 217-6115	Attorney for Amicus Curiae, The Metropolitan Water District of Southern CA
Amy Minteer, Esq. CHATEN-BROWN & CARSTENS LLP 2200 Pacific Coast Highway, Suite 318 Hermosa Beach, California 90254 Telephone: (310) 798-2400 Facsimile: (310) 798-2402 Email: ACM@CBCEarthlaw.com	Attorney for Amici Curiae, Association of Irritated Residents, Medical Advocates for Healthy Air, and Coalition for Clean Air
Shanda M. Beltran, Esq. General Counsel BUILDING INDUSTRY LEGAL DEFENSE FOUNDATION 17744 Sky Park Cr., Suite 170 Irvine, California 92614 Telephone: (949) 553-9500 Facsimile: (949) 769-8943 Email: sbeltran@biasc.org	Attorney for Amicus Curiae, Building Industry Legal Defense Foundation
Gene Talmadge, President CALIFORNIA ASSOCIATION OF ENVIRONMENTAL PROFESSIONALS 40747 Baranda Court Palm Desert, California 92260 Telephone: (760) 340-4499 Facsimile: (760) 674-2479	Attorney for Amicus Curiae, California Association of Environmental Professionals
Jennifer L. Hernandez, Esq. HOLLAND & KNIGHT LLP 50 California Street, Suite 2800 San Francisco, California 94111	On behalf of Amicus Curiae, CEQA Research Council

Telephone: (415) 743-6927 Facsimile: (415) 743-6910 Email: Jennifer.hernandez@hklaw.com	