

Air Quality & Greenhouse Gas Assessment

Colusa Towne Center Project

City of Colusa, California

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March 2020



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LIST OF ACRONYMS AND ABBREVIATIONS

µg/m ³	Micrograms per cubic meter
AB	Assembly Bill
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCAPCD	Colusa County Air Pollution Control District
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CH ₄	Methane
City	City of Colusa
CO	Carbon monoxide
CCAPCD	Colusa County Air Pollution Control District
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalents
County	Colusa County
DPM	Diesel particulate matter
GHG	Greenhouse gas
GWP	Global warming potential
IPCC	Intergovernmental Panel on Climate Change
LOS	Levels of service
NAAQS	National Ambient Air Quality Standards
NO ₂	Nitrogen dioxide
N ₂ O	Nitrous oxide
NO _x	Nitrous oxides

LIST OF ACRONYMS AND ABBREVIATIONS

NSVAB	Northern Sacramento Valley Air Basin
O ₃	Ozone
PM _{2.5}	Fine particulate matter
PM ₁₀	Coarse particulate matter
ppm	Parts per million
Project	Colusa Towne Center Project
ROGs	Reactive organic gases
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SIP	State Implementation Plan
SMAQMD	Sacramento Metropolitan Air Quality Management District
SO ₂	Sulfur dioxide
SR 20	State Route 20
SVAQEPP	Sacramento Valley Air Quality Engineering and Enforcement Professionals
TACs	Toxic air contaminants
USEPA	U.S. Environmental Protection Agency
VMT	Vehicle miles traveled

1.0 INTRODUCTION

This report documents the results of an assessment of both air quality and greenhouse gas (GHG) emissions completed for the Colusa Towne Center Project (Project), which includes the construction of a commercial development in the city of Colusa. Regional and local existing conditions are presented, along with pertinent emissions standards and regulations. The purpose of this assessment is to estimate Project-generated criteria air pollutants and GHG emissions attributable to the Project and to determine the level of impact the Project would have on the environment.

1.1 Project Description and Location

The Project site is located at the northern terminus of Wescott Road, spanning the west and east sides of State Route (SR) 20 / Bridge Street in Colusa (Figure 1). Primary access to the 5.22-acre site is from SR 20 / Bridge Street. While the site spans the west and east sides of SR 20 / Bridge Street, the bulk of the proposed development would occur on the east side of this facility. The west side would primarily accommodate a realignment of the Wescott Road intersection, which is an angled and awkward T intersection near the north boundary of the Project site.

The Project proposes several land use components including:

- A 3,000-square foot ARCO AM/PM convenience store on the east side of SR 20 / Bridge Street with an attached 600-square-foot storage room, canopy-covered fueling area with 16 gasoline and diesel fueling positions, two underground storage tanks, and an approximately 1,920-square-foot automated express style carwash of approximately 80 feet in length for four cars simultaneously processing. This facility would have seven vacuum spaces, paid air and water, a propane tank, provisions for a future electric vehicle charging (two spots), and trash enclosure. The facility will operate 24 hours a day, 365 days a year. The completed Project's estimated employment demand is 12 to 14 full-time and 8 to 10 part-time.
- A 1,633-square-foot fast food restaurant with drive-through located on the west side of SR 20 / Bridge Street. The initial tenant proposed a Taco Bell. Hours of operation will be 8:00 a.m. to 1:00 a.m., with 12 full-time and 15 part-time employees.
- A 2,745-square-foot fast food pad with drive-through. Hours of operation would be 6:00 a.m. to 10:00 p.m., with 20 full-time and 30 part-time employees.
- A 2,200-square-foot specialty coffee shop with drive-through. This facility would operate between the hours of 5:00 a.m. to 10:00 p.m., with 15 full-time and 20 part-time employees.
- A 1,748-square-foot retail building.
- An 18,000-square-foot mid-size box retailer such as a pharmacy or value-oriented grocer (see Figure 2).

In addition to these Project components, the portion of the Project site at the west of SR 20 / Bridge Street would accommodate a relocation of the Wescott Road / SR 20 intersection. The current intersection would be rechanneled for a one-way exit only from the southbound SR 20 direction. This is the proposed primary entrance for the Project.

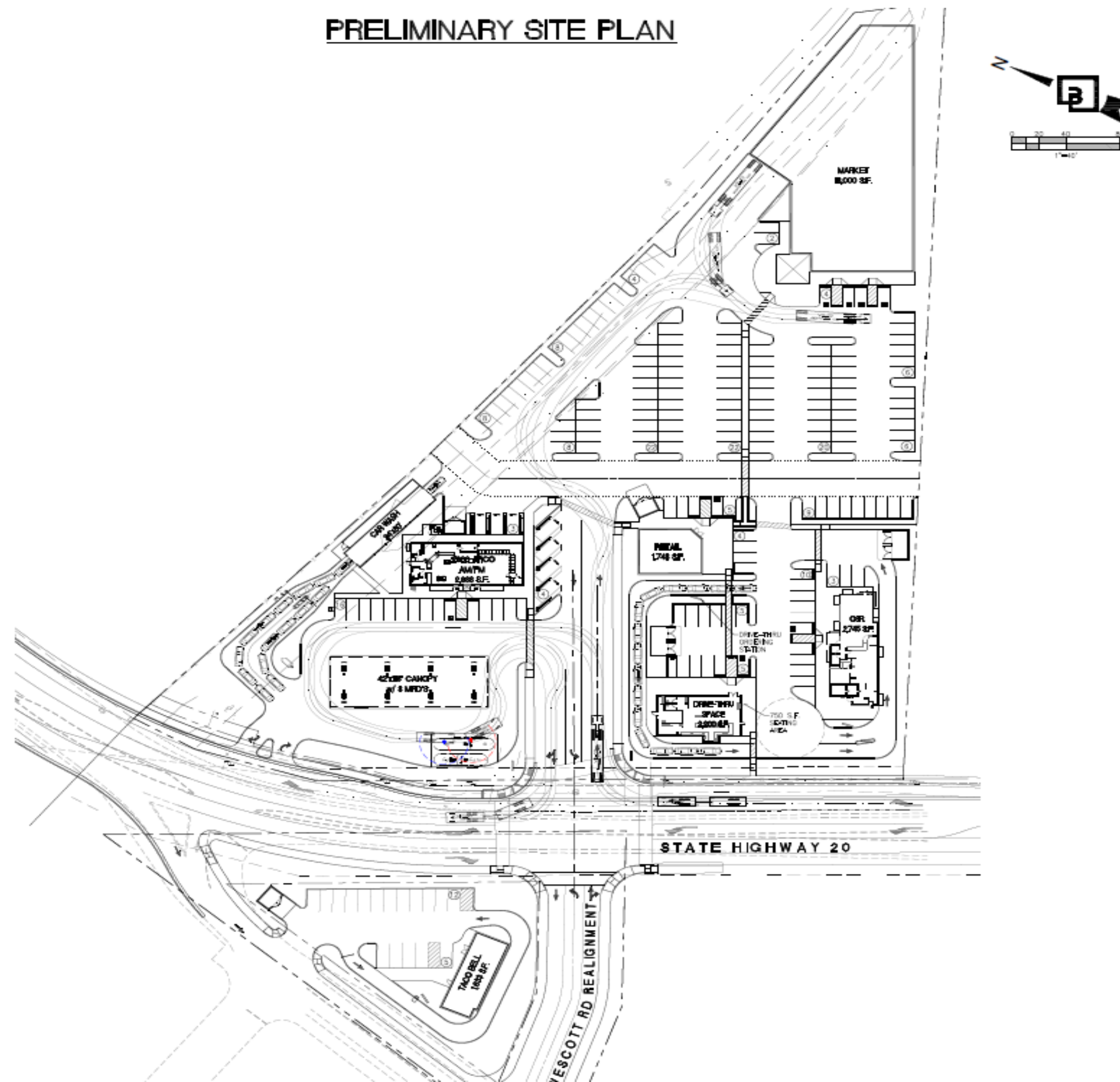


Map Date: 03/03/2020
 Photo (or Base) Source: KD Anderson & Associates 2020

Figure 1 Project Location

2020-031 Colusa Towne Center

PRELIMINARY SITE PLAN



Map Date: 03/03/2020

Photo (or Base) Source: Barghausen Consulting Engineers, Inc.

Figure 2 Project Site Plan

2020-031 Colusa Towne Center

The Project site is currently designated *High Density Residential* and *Mixed Use* by the City of Colusa (City) General Plan and therefore the Project proposes a General Plan Amendment to redesignate the site to the City's *General Professional* land use designation; as well as the *General Commercial* (C-G) zoning designation.

2.0 AIR QUALITY

2.1 Air Quality Setting

Air quality in a region is determined by its topography, meteorology, and existing air pollutant sources. These factors are discussed below, along with the current regulatory structure that applies to the Colusa County portion of the Northern Sacramento Valley Air Basin (NSVAB), which encompasses the Project site.

2.1.1 Northern Sacramento Valley Air Basin

The California Air Resources Board (CARB) divides the state into air basins that share similar meteorological and topographical features. Corning lies in the NSVAB, which includes Sutter, Yuba, Colusa, Butte, Glenn, Tehama, and Shasta counties. The NSVAB is bounded on the north and west by the Coastal Mountain Range and on the east by the southern end of the Cascade Mountain Range and the northern end of the Sierra Nevada. These mountain ranges reach heights in excess of 6,000 feet above mean sea level, with individual peaks rising much higher. The mountains form a substantial physical barrier to locally created pollution as well as to pollution transported northward on prevailing winds from the Sacramento metropolitan area (Sacramento Valley Air Quality Engineering and Enforcement Professionals [SVAQEEP] 2015).

The environmental conditions of Colusa County are conducive to potentially adverse air quality conditions. The basin area traps pollutants between two mountain ranges to the east and the west. This problem is exacerbated by a temperature inversion layer that traps air at lower levels below an overlying layer of warmer air. Prevailing winds in the area are generally from the south and southwest. Sea breezes flow over the San Francisco Bay Area and into the Sacramento Valley, transporting pollutants from the large urban areas.

2.1.2 Criteria Air Pollutants

Criteria air pollutants are defined as those pollutants for which federal and State governments have established air quality standards for outdoor or ambient concentrations to protect public health with a determined margin of safety. Ozone (O₃), coarse particulate matter (PM₁₀), and fine particulate matter (PM_{2.5}) are generally considered to be regional pollutants because they or their precursors affect air quality on a regional scale. Pollutants such as carbon monoxide (CO), nitrogen dioxide (NO₂), and sulfur dioxide (SO₂) are considered to be local pollutants because they tend to accumulate in the air locally. PM is also considered a local pollutant. Health effects commonly associated with criteria pollutants are summarized in Table 2-1.

Table 2-1. Criteria Air Pollutants- Summary of Common Sources and Effects		
Pollutant	Major Man-Made Sources	Human Health & Welfare Effects
CO	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, affecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
NO ₂	A reddish-brown gas formed during fuel combustion for motor vehicles, energy utilities and industrial sources.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Causes brown discoloration of the atmosphere.
O ₃	Formed by a chemical reaction between reactive organic gases (ROGs) and nitrous oxides (NO _x) in the presence of sunlight. Common sources of these precursor pollutants include motor vehicle exhaust, industrial emissions, solvents, paints and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield.
PM ₁₀ and PM _{2.5}	Power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles and others.	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze).
SO ₂	A colorless, nonflammable gas formed when fuel containing sulfur is burned. Examples are refineries, cement manufacturing, and locomotives.	Respiratory irritant. Aggravates lung and heart problems. Can damage crops and natural vegetation. Impairs visibility.

Source: California Air Pollution Control Officers Association (CAPCOA) 2013

2.1.3 Toxic Air Contaminants

In addition to the criteria pollutants discussed above, toxic air contaminants (TACs) are another group of pollutants of concern. TACs are considered either carcinogenic or noncarcinogenic based on the nature of the health effects associated with exposure to the pollutant. For regulatory purposes, carcinogenic TACs are assumed to have no safe threshold below which health impacts would not occur, and cancer risk is expressed as excess cancer cases per one million exposed individuals. Noncarcinogenic TACs differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

There are many different types of TACs, with varying degrees of toxicity. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Public exposure to TACs can result from emissions from normal operations, as well as from accidental releases of hazardous materials during upset conditions. The health effects of TACs include cancer, birth defects, neurological damage, and death.

According to CARB's *California Almanac of Emissions and Air Quality* (2013), the majority of the estimated health risk from TACs can be attributed to relatively few compounds, the most important being PM from diesel-fueled engines (diesel PM). Diesel PM has been identified as a human carcinogen and contains hundreds of different gaseous and particulate components, many of which are toxic. Diesel particles are so small that they penetrate deep into the lungs. Studies show that diesel PM concentrations are much

higher near heavily traveled highways and intersections. Off-road construction equipment and heavy-duty trucks are considered major sources of diesel-related emissions.

Out of the toxic compounds emitted from gasoline stations, such as proposed by the Project, benzene, ethylbenzene, and naphthalene have cancer toxicity values. However, benzene is the TAC that drives the risk, accounting for 87 percent of cancer risk from gasoline vapors (Southern California Air Quality Management District [SCAQMD] 2015). Furthermore, benzene constitutes more than three to four times the weight of gasoline than ethylbenzene and naphthalene, respectively (SCAQMD 2015). Benzene is highly carcinogenic and occurs throughout California. Benzene also has non-cancer health effects. Brief inhalation exposure to high concentrations can cause central nervous system symptoms of nausea, tremors, drowsiness, dizziness, headache, intoxication, and unconsciousness.

Neurological symptoms of inhalation exposure to benzene include drowsiness, dizziness, headaches, and unconsciousness. Ingestion of large amounts of benzene may result in vomiting, dizziness, and convulsions. Exposure to liquid and vapor may irritate the skin, eyes, and upper respiratory tract. Redness and blisters may result from dermal exposure to benzene. Chronic inhalation of certain levels of benzene causes blood disorders because benzene specifically affects bone marrow, which produces blood cells. Aplastic anemia, excessive bleeding, and damage to the immune system (by changes in blood levels of antibodies and loss of white blood cells) may develop. Increased incidence of leukemia (cancer of the tissues that form white blood cells) has been observed in humans occupationally exposed to benzene.

2.1.4 Ambient Air Quality

Ambient air quality at the Project site can be inferred from ambient air quality measurements conducted at nearby air quality monitoring stations. CARB maintains more than 60 monitoring stations throughout California. O₃, PM₁₀, and PM_{2.5} are the pollutant species most potently affecting the Project region. The Colusa-Sunrise Boulevard (100 Sunrise Boulevard, Colusa, California) air quality monitoring station, located less than one mile south of the Project site in Colusa, is the closest station to the site. The Colusa-Sunrise Boulevard monitoring station monitors ambient concentrations of O₃ and concentrations of PM_{2.5} and PM₁₀. Ambient emission concentrations will vary due to localized variations in emission sources and climate and should be considered "generally" representative of ambient concentrations in the Project area.

Table 2-2 summarizes the published data concerning O₃, PM_{2.5}, and PM₁₀ since 2016 from the Colusa-Sunrise Boulevard monitoring station for each year that the monitoring data is provided.

Table 2-2. Summary of Ambient Air Quality Data			
Pollutant Standards	2016	2017	2018
O₃ (Red Bluff-Walnut Street Air Quality Monitoring Station)			
Max 1-hour concentration (ppm)	0.075	0.075	0.073
Max 8-hour concentration (ppm) (State/federal)	0.066 / 0.065	0.068 / 0.068	0.063 / 0.062
Number of days above one-hour standard (State/federal)	0 / 0	0 / 0	0 / 0
Number of days above eight-hour standard (State/federal)	0 / 0	0 / 0	0 / 0
PM₁₀ (Red Bluff-Walnut Street Air Quality Monitoring Station)			
Max 24-hour concentration (µg/m ³) (State/federal)	88.9 / 10.9	148.1 / 144.7	274.6 / 257.5
Number of days above 24-hour standard (State/federal)	* / *	* / *	* / *
PM_{2.5} (Red Bluff-Walnut Street Air Quality Monitoring Station)			
Max 24-hour concentration (µg/m ³) (State/federal)	27.9 / 14.8	44.8 / 44.8	113.2 / 113.2
Number of days above federal 24-hour standard	0	7.7	*

Source: CARB 2019a

µg/m³ = micrograms per cubic meter; ppm = parts per million

* = Insufficient data available

The U.S. Environmental Protection Agency (USEPA) and CARB designate air basins or portions of air basins and counties as being in “attainment” or “nonattainment” for each of the criteria pollutants. Areas that do not meet the standards are classified as nonattainment areas. The National Ambient Air Quality Standards (NAAQS) (other than O₃, PM₁₀, PM_{2.5}, and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. The NAAQS for O₃, PM₁₀, and PM_{2.5} are based on statistical calculations over one- to three-year periods, depending on the pollutant. The California Ambient Air Quality Standards (CAAQS) are not to be exceeded during a three-year period. The attainment status for the Colusa County portion of the NSVAB is included in Table 2-3.

The determination of whether an area meets the State and federal standards is based on air quality monitoring data. Some areas are unclassified, which means there is insufficient monitoring data for determining attainment or nonattainment. Unclassified areas are typically treated as being in attainment. Because the attainment/nonattainment designation is pollutant specific, an area may be classified as nonattainment for one pollutant and attainment for another. Similarly, because the State and federal standards differ, an area could be classified as attainment for the federal standards of a pollutant and as nonattainment for the State standards of the same pollutant. The region is designated as a nonattainment area for the State standard for PM₁₀ (CARB 2018).

Table 2-3. Attainment Status of Criteria Pollutants in the Colusa County Portion of NSVAB

Pollutant	State Designation	Federal Designation
O ₃	Attainment	Unclassified/Attainment
PM ₁₀	Nonattainment	Unclassified
PM _{2.5}	Attainment	Unclassified/Attainment
CO	Unclassified	Unclassified/Attainment
NO ₂	Attainment	Unclassified/Attainment
SO ₂	Attainment	Unclassified/Attainment

Source: CARB 2018

In 1994, the air districts in the NSVAB, which includes Colusa County, prepared an air quality attainment plan for O₃. Updated every three years since adoption, the current *2015 Air Quality Attainment Plan* includes forecast ROG and NO_x emissions (ozone precursors) for the entire NSVAB through the year 2020. The *2015 Air Quality Attainment Plan* provides local guidance for air basins to achieve attainment of the California ambient air quality O₃ standard.

2.2 Regulatory Framework

2.2.1 Federal

Clean Air Act

The Clean Air Act (CAA) of 1970 and the CAA Amendments of 1971 required the USEPA to establish the NAAQS, with states retaining the option to adopt more stringent standards or to include other specific pollutants. These standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those “sensitive receptors” most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

The USEPA has classified air basins (or portions thereof) as being in attainment, nonattainment, or unclassified for each criteria air pollutant, based on whether or not the NAAQS have been achieved. If an area is designated unclassified, it is because inadequate air quality data were available as a basis for a nonattainment or attainment designation. Table 2-3 lists the federal attainment status of the Colusa County portion of the NSVAB for criteria pollutants.

2.2.2 State

California CAA

The California CAA (CCAA) allows the State to adopt ambient air quality standards and other regulations provided they are at least as stringent as federal standards. CARB, a part of the California EPA, is responsible for the coordination and administration of both federal and State air pollution control

programs within California, including setting the CAAQS. CARB also conducts research, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (e.g., hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. CARB also has primary responsibility for the development of California's State Implementation Plan (SIP), for which it works closely with the federal government and the local air districts.

California SIP

The federal CAA (and its subsequent amendments) requires each state to prepare an air quality control plan referred to as the SIP. The SIP is a living document that is periodically modified to reflect the latest emissions inventories, plans, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The CAA amendments dictate that states containing areas violating the NAAQS revise their SIPs to include extra control measures to reduce air pollution. The SIP includes strategies and control measures to attain the NAAQS by deadlines established by the CAA. The USEPA has the responsibility to review all SIPs to determine if they conform to the requirements of the CAA.

State law makes CARB the lead agency for all purposes related to the SIP. Local air districts and other agencies prepare SIP elements and submit them to CARB for review and approval. CARB then forwards SIP revisions to the USEPA for approval and publication in the Federal Register.

The Colusa County Air Pollution Control District (CCAPCD) is the agency primarily responsible for ensuring that NAAQS and CAAQS are not exceeded and that air quality conditions are maintained in the Colusa County portion of the NSVAB. In an attempt to achieve NAAQS and CAAQS and maintain air quality, the air district, in coordination with the other air districts of the NSVAB, has completed several air quality attainment plans and reports, which together constitute the SIP for the NSVAB.

2.2.3 Local

CCAPCD

In Colusa County, the air quality regulating authority is the CCAPCD, which adopts and enforces controls on stationary sources of air pollutants through its permit and inspection programs. The district also regulates agricultural burning. Other responsibilities include monitoring air quality, preparing clean air plans, and responding to citizen complaints concerning air quality. The CCAPCD develops regulations to improve air quality and protect the health and welfare of Colusa County residents and their environment. For instance, CCAPCD Rule 2.27, *Benzene Emissions from Retail Service Stations*, is intended to limit volatile organic compound emissions from stationary storage containers, delivery vessels, and bulk plants and to provide the administrative requirements for determining compliance with this rule. Rule 2.27 prohibits the transfer or allowance of the transfer of gasoline into stationary tanks at a gasoline dispensing facility unless a CARB-certified Phase I vapor recovery system is used. This rule also limits emissions of gasoline vapors from the transfer of gasoline into motor vehicle fuel tanks. This applies to any gasoline storage and dispensing operation or mobile fueler from which gasoline is transferred into motor vehicle fuel tanks. Vapor recovery systems collect gasoline vapors that would otherwise escape into the air during bulk fuel

delivery (Phase I) or fuel storage and vehicle refueling (Phase II). Other responsibilities include monitoring air quality, preparing clean air plans, and responding to citizen complaints concerning air quality.

2.3 Air Quality Emissions Impact Assessment

2.3.1 Thresholds of Significance

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

- 1) conflict with or obstruct implementation of any applicable air quality plan;
- 2) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in nonattainment under an applicable NAAQS or CAAQS;
- 3) expose sensitive receptors to substantial pollution concentrations; or
- 4) result in other emissions such as those leading to odors adversely affecting a substantial number of people.

CCAPCD Thresholds

Implementations of the Proposed Project could result in air quality impacts during construction and operations. Neither the City or the CCAPCD have established air pollution thresholds under CEQA for the assessment of air quality impacts. Therefore, the Project emissions will be compared with the thresholds established in Sacramento County. As with Colusa County and the Proposed Project site, Sacramento County is located within the NSVAB and thus possesses similar air circulation patterns and temperature inversion layers. Therefore, air quality thresholds of significance developed in that county are appropriate. While air quality standards established in Sacramento County are not binding on Colusa County, they are instructive for comparison purposes. The air quality standards established in Sacramento County are promulgated by the Sacramento Metropolitan Air Quality Management District (SMAQMD) and are consistent with the CCAA. The thresholds of significance are summarized in Table 2-4.

Table 2-4. SMAQMD Thresholds of Significance (Pounds per Day [lbs/day])		
Emission	Construction (lbs/day)	Operations (lbs/day)
NO _x	85 lbs/day	65 lbs/day
ROG	N/A	65 lbs/day
PM ₁₀	80 lbs/day	80 lbs/day
PM _{2.5}	80 lbs/day	82 lbs/day

Source: SMAQMD 2019

2.3.2 Methodology

Air quality impacts were assessed in accordance with methodologies recommended by CARB. Where criteria air pollutant quantification was required, emissions were modeled using the California Emissions Estimator Model (CalEEMod), version 2016.3.2. CalEEMod is a statewide land use emissions computer model designed to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects. Project construction-generated air pollutant emissions were calculated using CalEEMod model defaults for Colusa County. Project operational emissions are calculated based on Project site plans and vehicle trip information provided in the Traffic Impact Analysis (KD Anderson and Associates 2020) prepared for the Project.

2.3.3 Impact Analysis

Project Criteria Air Pollutant Emissions

Implementation of the Proposed Project could result in air quality impacts during construction and operations. As previously discussed, the CCAPCD has not established air pollution emission thresholds under CEQA for the assessment of air quality impacts. As such, the Proposed Project will be compared to the significance threshold established by the SMAQMD presented in Table 2-4.

Construction Significance Analysis

Construction-generated emissions are temporary and short term but have the potential to represent a significant air quality impact. Three basic sources of short-term emissions will be generated through construction of the Proposed Project: operation of the construction vehicles (i.e., excavators, trenchers, dump trucks), the creation of fugitive dust during clearing and grading, and the use of asphalt or other oil-based substances during paving activities. Construction associated with the Proposed Project would generate short-term emissions of criteria air pollutants, including ROG, CO, NO_x, PM₁₀, and PM_{2.5}. The largest amount of ROG, CO, and NO_x emissions would occur during the earthwork phase. PM₁₀ and PM_{2.5} emissions would occur from fugitive dust (due to earthwork and excavation) and from construction equipment exhaust. Exhaust emissions from construction activities include emissions associated with the transport of machinery and supplies to and from the Project Site, emissions produced onsite as the equipment is used, and emissions from trucks transporting materials to and from the site. Construction-generated emissions are short term and of temporary duration, lasting only as long as construction activities occur, but have the potential to represent a significant air quality impact.

Construction-generated emissions associated with the Proposed Project were calculated using CalEEMod. Predicted maximum daily construction-generated emissions of criteria air pollutants for the Proposed Project are summarized in Table 2-5.

Table 2-5. Construction-Related Emissions			
Construction Activity	Maximum Pollutants (lbs/day)		
	NO _x	PM ₁₀	PM _{2.5}
Project Site Construction (year one)	42.47	20.41	11.99
Project Site Construction (year two)	21.69	2.00	1.19
<i>Potentially Significant Impact Threshold</i>	<i>85 lbs/day</i>	<i>80 lbs/day</i>	<i>82 lbs/day</i>
Exceed Threshold?	No	No	No

Source: CalEEMod version 2016.3.2. Refer to Attachment A for Model Data Outputs.

As shown in Table 2-5, all criteria pollutant emissions would remain below their respective thresholds during Project construction. Therefore, criteria pollutant emissions generated during Project construction would not result in a violation of air quality standards.

Operational Significance Analysis

Implementation of the Project would result in long-term operational emissions of criteria air pollutants such as PM₁₀, PM_{2.5}, and CO, as well as O₃ precursors such as ROG and NO_x. Project-generated increases in emissions would be predominantly associated with motor vehicle use. Long-term operational emissions attributable to the Project are identified in Table 2-6.

Table 2-6. Operations-Related Emissions				
Emission Source	Maximum Pollutants (lbs/day)			
	ROG	NO _x	PM ₁₀	PM _{2.5}
Summer Emissions				
Area	8.70	0.00	0.00	0.00
Energy	0.05	0.54	0.04	0.04
Mobile	8.75	49.64	18.41	5.09
Total	17.50	50.19	18.45	5.13
Winter Emissions				
Area	8.70	0.00	0.00	0.00
Energy	0.05	0.54	0.04	0.04
Mobile	6.62	51.30	18.41	5.10
Total	15.37	51.84	18.45	5.14
<i>Potentially Significant Impact Threshold</i>	<i>65 lbs/day</i>	<i>65 lbs/day</i>	<i>80 lbs/day</i>	<i>82 lbs/day</i>
Exceed Threshold?	No	No	No	No

Source: CalEEMod version 2016.3.2. Refer to Attachment A for Model Data Outputs.

Notes: Mobile source emissions are based on estimated traffic trip generation rates identified by KD Anderson and Associates (2020). Area source emissions include ROG released from consumer products as well as gasoline vapor during dispensing activities. Gasoline vapor emissions are calculated based on an emission factor of 1.27 pounds of ROG per 1,000 gallons of gasoline dispensed (CAPCOA 1997) and the prediction of 2,200,000 gallons of gasoline dispensed by the proposed gasoline dispensing station annually $[(2,200,000/1,000) \times 1.27 = 2,794 \text{ pounds annually}; 2,794/365 = 7.65 \text{ pounds daily}]$.

As shown in Table 2-7, daily emissions associated with Project operations would not exceed any significance threshold during operations.

Conflict with an Applicable Air Quality Attainment Plan

The CAA requires an air quality attainment plan to be prepared for areas designated as nonattainment with regard to federal ambient air quality standards. Air quality attainment plans outline emissions limits and control measures to achieve and maintain these standards by the earliest practical date. As previously stated, the Colusa County portion of the NSVAB, which encompasses the Project site, is classified attainment for all federal standards. As such, Colusa County is not subject to an air quality plan.

Exposure of Sensitive Receptors to TACs

Sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis. The nearest sensitive receptors include residences located directly adjacent to the Project's western boundary.

Construction-Generated Air Contaminants

Construction-related activities would result in temporary, short-term, Project-generated emissions of diesel particulate matter (DPM) from the exhaust of off-road, heavy-duty diesel equipment for site preparation (e.g., clearing, grading), soil hauling truck traffic, paving, and other miscellaneous activities. For construction activity, DPM is the primary TAC of concern. Particulate exhaust emissions from diesel-fueled engines (i.e., DPM) were identified as a TAC by the CARB in 1998. The potential cancer risk from the inhalation of DPM, as discussed below, outweighs the potential for all other health impacts (i.e., non-cancer chronic risk, short-term acute risk) and health impacts from other TACs. Accordingly, DPM is the focus of this discussion.

Based on the emission modeling conducted, the maximum construction-related emissions of exhaust $PM_{2.5}$, considered a surrogate for DPM, would be 2.19 lbs/day during construction activity ($PM_{2.5}$ is considered a surrogate for DPM because more than 90 percent of DPM is less than one microgram in diameter and therefore is a subset of PM under 2.5 microns in diameter [i.e., $PM_{2.5}$]. Most $PM_{2.5}$ derives from combustion, such as use of gasoline and diesel fuels by motor vehicles.) Furthermore, even during the most intense month of construction, emissions of DPM would be generated from different locations on the Project site, rather than a single location, because different types of construction activities (e.g., site preparation, trenching, grading) would not occur at the same place at the same time.

The dose to which receptors are exposed is the primary factor used to determine health risk (i.e., potential exposure to TAC emission levels that exceed applicable standards). Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for any exposed receptor. Thus, the risks estimated for an exposed individual are higher if a fixed exposure occurs over a longer period of time. According to the Office of Environmental Health Hazard Assessment, health risk assessments, which determine the exposure of sensitive receptors to TAC

emissions, should be based on a 70-, 30-, or nine-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the Proposed Project. Consequently, an important consideration is the fact that construction of the Proposed Project is anticipated to span substantially less than nine consecutive years, the minimum duration of exposure from which to calculate health risk. Further, on a day-to-day basis construction activity generally spans eight hours as opposed to throughout the entire day.

Therefore, considering the relatively low mass of DPM emissions that would be generated during even the most intense season of construction, the fact that construction would not last as long as the minimum duration of exposure from which to calculate health risk, and the relatively short duration that construction activities would occur at a single location on the five-acre property, construction-related TAC emissions would not expose sensitive receptors to substantial amounts of air toxics.

Operational Air Contaminants

The Project site is proposing a gasoline dispensing station containing a total of 16 fueling positions, which would be a source of gasoline vapors, including TACs such as benzene, methyl tertiary-butyl ether, toluene, and xylenes. Benzene is the primary TAC associated with gas stations. Gasoline vapors are released during the filling of the stationary underground storage tanks and during the transfer from those underground tanks to individual vehicles.

The CCAPCD has stringent requirements for the control of gasoline vapor emissions from gasoline-dispensing facilities. CCAPCD Rule 2.27, *Benzene Emissions from Retail Service Stations*, is intended to limit TAC emissions from stationary storage containers, delivery vessels, and bulk plants and to provide the administrative requirements for determining compliance with this rule. Specifically, Rule 2.27 prohibits the transfer or allowance of the transfer of gasoline into stationary tanks at a gasoline dispensing facility unless a CARB-certified Phase I vapor recovery system is used. This rule also limits emissions of gasoline vapors from the transfer of gasoline into motor vehicle fuel tanks. This applies to any gasoline storage and dispensing operation or mobile fueler from which gasoline is transferred into motor vehicle fuel tanks. Vapor recovery systems collect gasoline vapors that would otherwise escape into the air during bulk fuel delivery (Phase I) or fuel storage and vehicle refueling (Phase II). Phase I vapor recovery system components include the couplers that connect tanker trucks to the underground tanks, spill containment drain valves, overfill prevention devices, and vent pressure/vacuum valves. Phase II vapor recovery system components include gasoline dispensers, nozzles, piping, breakaway, hoses, face plates, vapor processors, and system monitors.

Stationary sources having the potential to emit TACs, including gas stations, are required to obtain permits from the CCAPCD. Permits may be granted to these operations provided they are operated in accordance with applicable CCAPCD rules and regulations. CCAPCD's gasoline station permitting process provides for the review of gasoline TAC emissions in order to evaluate potential public exposure and health risk, to mitigate potentially significant health risks resulting from these exposures, and to provide net health risk benefits by improving the level of control when existing sources are modified or replaced. CCAPCD's permitting procedures require substantial control of emissions, and permits are not issued unless TAC risk screening or TAC risk assessment can show that risks are not significant. In addition,

California has statewide limits on the benzene content in gasoline, which greatly reduces the toxic potential of gasoline emissions.

The location of a development project is a major factor in determining whether it will result in localized air quality impacts. The potential for adverse air quality impacts increases as the distance between the source of emissions and sensitive receptors decreases. In 2005, CARB published an informational guide entitled *Air Quality and Land Use Handbook: A Community Health Perspective*. The purpose of this guide is to provide information to aid local jurisdictions in addressing issues and concerns related to the placement of major sources of air pollution near sensitive land uses. The handbook includes recommended separation distances for various land uses. CARB's *Air Quality and Land Use Handbook* offers guidance on developing gasoline dispensing facilities in proximity to sensitive land uses. The handbook recommends that "typical" gas stations be sited no closer than 50 feet from a sensitive land use. The nearest sensitive receptors to the Project include the exterior living areas (yards) of residences located west of the Project site across SR 20. SR 20 itself spans 55 feet in width and therefore these exterior living areas are greater than 50 feet from the proposed location of the gasoline dispensers.

For the reasons described, the Project would not expose any receptors to substantial concentrations of air toxics.

CO Hot Spots

It has long been recognized that CO exceedances are caused by vehicular emissions, primarily when idling at intersections. Concentrations of CO are a direct function of the number of vehicles, length of delay, and traffic flow conditions. Under certain meteorological conditions, CO concentrations close to congested intersections that experience high levels of traffic and elevated background concentrations may reach unhealthy levels, affecting nearby sensitive receptors. Given the high traffic volume potential, areas of high CO concentrations, or "hot spots," are typically associated with intersections that are projected to operate at unacceptable levels of service (LOS) during the peak commute hours. However, transport of this criteria pollutant is extremely limited, and CO disperses rapidly with distance from the source under normal meteorological conditions. Furthermore, vehicle emissions standards have become increasingly more stringent in the last 20 years. Currently, the CO standard in California is a maximum of 3.4 grams per mile for passenger cars (requirements for certain vehicles are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology on industrial facilities, CO concentrations across the state have steadily declined.

Accordingly, with the steadily decreasing CO emissions from vehicles, even very busy intersections do not result in exceedances of the CO standard. The analysis prepared for CO attainment in the SCAQMD 1992 *Federal Attainment Plan for Carbon Monoxide* in Los Angeles County can be used to demonstrate the potential for CO exceedances. The SCAQMD CO hot spot analysis was conducted for four busy intersections in Los Angeles County during the peak morning and afternoon time periods. The busiest intersection evaluated was at Wilshire Boulevard and Veteran Avenue, which has a traffic volume of approximately 100,000 vehicles per day. The Los Angeles County Metropolitan Transportation Authority evaluated the level of service in the vicinity of the Wilshire Boulevard/Veteran Avenue intersection and found it to be LOS E at peak morning traffic and LOS F at peak afternoon traffic (LOS E and F are the two

least efficient traffic LOS ratings). Even with the inefficient LOS and volume of traffic, the CO analysis concluded that there was no violation of CO standards (SCAQMD 1992).

Because the Project would not increase traffic volumes at any intersection to more than 100,000 vehicles per day, there is no likelihood of the Project traffic exceeding CO values.

Odors

Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another. It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word "strong" to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

Construction Odors

During construction, the Proposed Project presents the potential for generation of objectionable odors in the form of diesel exhaust in the immediate vicinity of the site. However, these emissions are short term in nature and will rapidly dissipate and be diluted by the atmosphere downwind of the emission sources. Additionally, odors would be localized and generally confined to the construction area. Therefore, construction odors would result in a less than significant impact related to odor emissions.

Operational Odors

Land uses commonly considered to be potential sources of obnoxious odorous emissions include agriculture (farming and livestock), wastewater treatment plants, food processing plants, chemical plants, composting facilities, refineries, landfills, dairies, and fiberglass molding. The Proposed Project does not include any of these uses.

However, as previously described, the ability to detect odors varies considerably among the population and is inherently subjective in nature. For instance, the Project proposes high-turnover, fast-food restaurants, which are a potential source of odors that may affect certain people. Cooking odors (molecules) generated by the combustion of animal and vegetable matter result in a complex mixture of reactive odorous gases. A small percentage of these odors may be absorbed by the grease particles, but the vast majority exists separately in the airstream.

The two common methods of abating odor from cooking are (1) the use of an odor oxidant (potassium permanganate) that oxidizes the molecules to solids and then retains them; and (2) a spray odor neutralizer system. Either of the above-mentioned types of odor control can remove 85 to 90 percent of the molecules, depending on the type of cooking. However, determining the efficiency of odor control is subjective, as testing is usually conducted by people rather than machines.

The restaurant uses would be required to comply with all State regulations associated with cooking equipment and controls, such as grease filtration and removal systems, exhaust hood systems, and blowers to move air into the hood systems, through air cleaning equipment, and then outdoors. The proposed restaurant uses would be equipped with kitchen exhaust systems and pollution/odor control systems. Pollution/odor control systems typically include smoke control, odor control, and exhaust fan sections. Such equipment would ensure that pollutants associated with smoke and exhaust from cooking surfaces would be captured and filtered, allowing only filtered air to be released into the atmosphere.

Additionally, the Project site could be considered a source of unpleasant odors by some given its proposed gasoline dispensing stations; however, as previously stated, the CCAPCD has stringent requirements for the control of gasoline vapor emissions from gasoline dispensing facilities as articulated in CCAPCD Rule 2.27. Adherence to this rule would result in a less than significant impact related to operational odor emissions.

3.0 GREENHOUSE GAS EMISSIONS

3.1 Greenhouse Gas Setting

Certain gases in the earth's atmosphere, classified as GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space. A portion of the radiation is absorbed by the earth's surface and a smaller portion of this radiation is reflected back toward space. This absorbed radiation is then emitted from the earth as low-frequency infrared radiation. The frequencies at which bodies emit radiation are proportional to temperature. Because the earth has a much lower temperature than the sun, it emits lower-frequency radiation. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on earth. Without the greenhouse effect, the earth would not be able to support life as we know it.

Prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). Fluorinated gases also make up a small fraction of the GHGs that contribute to climate change. Fluorinated gases include chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons,

sulfur hexafluoride, and nitrogen trifluoride; however, it is noted that these gases are not associated with typical land use development. Human-caused emissions of these GHGs in excess of natural ambient concentrations are believed to be responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the earth's climate, known as global climate change or global warming. It is "extremely likely" that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in GHG concentrations and other anthropogenic factors together (Intergovernmental Panel on Climate Change [IPCC] 2014).

Table 3-1 describes the primary GHGs attributed to global climate change, including their physical properties, primary sources, and contributions to the greenhouse effect.

Table 3-1. Greenhouse Gases	
Greenhouse Gas	Description
CO ₂	CO ₂ is a colorless, odorless gas. CO ₂ is emitted in a number of ways, both naturally and through human activities. The largest source of CO ₂ emissions globally is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, industrial facilities, and other sources. A number of specialized industrial production processes and product uses such as mineral production, metal production, and the use of petroleum-based products can also lead to CO ₂ emissions. The atmospheric lifetime of CO ₂ is variable because it is so readily exchanged in the atmosphere. ¹
CH ₄	CH ₄ is a colorless, odorless gas and is the major component of natural gas, about 87 percent by volume. It is also formed and released to the atmosphere by biological processes occurring in anaerobic environments. CH ₄ is emitted from a variety of both human-related and natural sources. Human-related sources include fossil fuel production, animal husbandry (intestinal fermentation in livestock and manure management), rice cultivation, biomass burning, and waste management. These activities release significant quantities of CH ₄ to the atmosphere. Natural sources of CH ₄ include wetlands, gas hydrates, permafrost, termites, oceans, freshwater bodies, non-wetland soils, and other sources such as wildfires. The atmospheric lifetime of CH ₄ is about 12 years. ²
N ₂ O	N ₂ O is a clear, colorless gas with a slightly sweet odor. Nitrous oxide is produced by both natural and human-related sources. Primary human-related sources of N ₂ O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuels, adipic acid production, and nitric acid production. N ₂ O is also produced naturally from a wide variety of biological sources in soil and water, particularly microbial action in wet tropical forests. The atmospheric lifetime of N ₂ O is approximately 120 years. ³

Sources: ¹ USEPA 2016a, ² USEPA 2016b, ³ USEPA 2016c

Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. CH₄ traps over 25 times more heat per molecule than CO₂, and N₂O absorbs 298 times more heat per molecule than CO₂ (IPCC 2014). Often, estimates of GHG emissions are presented in CO₂ equivalents (CO₂e), which weight each gas by its global warming potential. Expressing GHG emissions in CO₂e takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO₂ were being emitted.

Climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and TACs, which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about one day), GHGs have long atmospheric lifetimes (one to several thousand years). GHGs persist in the atmosphere for long enough time periods to be dispersed around the globe. Although the exact lifetime of any particular GHG molecule is dependent on multiple variables and cannot be pinpointed, it is understood that more CO₂ is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, or other forms. Of the total annual human-caused CO₂

emissions, approximately 55 percent is sequestered through ocean and land uptakes every year, averaged over the last 50 years, whereas the remaining 45 percent of human-caused CO₂ emissions remains stored in the atmosphere (IPCC 2013).

The quantity of GHGs that it takes to ultimately result in climate change is not precisely known; suffice it to say the quantity is enormous, and no single project alone would measurably contribute to a noticeable incremental change in the global average temperature or to global, local, or microclimates. From the standpoint of CEQA, GHG impacts to global climate change are inherently cumulative.

3.1.1 Sources of Greenhouse Gas Emissions

In 2019, CARB released the 2019 edition of the California GHG inventory covering calendar year 2017 emissions. In 2017, California emitted 424.1 million gross metric tons of CO₂e including from imported electricity. Combustion of fossil fuel in the transportation sector was the single largest source of California's GHG emissions in 2017, accounting for approximately 41 percent of total GHG emissions in the state. This sector was followed by the industrial sector (24 percent) and the electric power sector including both in-state and out-of-state sources (15 percent) (CARB 2019b).

Emissions of CO₂ are by-products of fossil fuel combustion. CH₄, a highly potent GHG, primarily results from off-gassing (the release of chemicals from nonmetallic substances under ambient or greater pressure conditions) and is largely associated with agricultural practices and landfills. N₂O is also largely attributable to agricultural practices and soil management. Carbon dioxide sinks, or reservoirs, include vegetation and the ocean, which absorb CO₂ through sequestration and dissolution (CO₂ dissolving into the water), respectively, two of the most common processes for removing carbon dioxide from the atmosphere.

3.2 Regulatory Framework

3.2.1 State

Assembly Bill (AB) 32 Climate Change Scoping Plan and Updates

In 2006, the California legislature passed AB 32 (Health and Safety Code § 38500 et seq., or AB 32), also known as the Global Warming Solutions Act. AB 32 requires CARB to design and implement feasible and cost-effective emission limits, regulations, and other measures, such that statewide GHG emissions are reduced to 1990 levels by 2020 (representing a 25 percent reduction in emissions). AB 32 anticipates that the GHG reduction goals will be met, in part, through local government actions. CARB has identified a GHG reduction target of 15 percent from current levels for local governments and notes that successful implementation relies on local governments' land use planning and urban growth decisions.

Pursuant to AB 32, CARB adopted a Scoping Plan in December 2008, which was re-approved by CARB on August 24, 2011, that outlines measures to meet the 2020 GHG reduction goals. To meet these goals, California must reduce its GHG emissions by 30 percent below projected 2020 business-as-usual emissions levels or about 15 percent from today's levels. The Scoping Plan recommends measures for further study and possible State implementation, such as new fuel regulations. It estimates that a

reduction of 174 million metric tons of CO₂e (about 191 million U.S. tons) from the transportation, energy, agriculture, and forestry sectors and other sources could be achieved should the State implement all of the measures in the Scoping Plan.

The Scoping Plan is required by AB 32 to be updated at least every five years. The first update to the AB 32 Scoping Plan was approved on May 22, 2014 by CARB. The 2017 Scoping Plan Update was adopted on December 14, 2017. The Scoping Plan Update addresses the 2030 target established by Senate Bill (SB) 32 as discussed below and establishes a proposed framework of action for California to meet a 40 percent reduction in GHG emissions by 2030 compared to 1990 levels. The key programs that the Scoping Plan Update builds on include: increasing the use of renewable energy in the state, the Cap-and-Trade Regulation, the Low Carbon Fuel Standard, and reduction of methane emissions from agricultural and other wastes.

SB 32 and AB 197 of 2016

In August 2016, Governor Brown signed SB 32 and AB 197, which serve to extend California's GHG reduction programs beyond 2020. SB 32 amended the Health and Safety Code to include Section 38566, which contains language to authorize CARB to achieve a statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030. SB 32 codified the targets established by Executive Order (EO) B-30-15 for 2030, which set the next interim step in the State's continuing efforts to pursue the long-term target expressed in EOs S-3-05 and B-30-15 of 80 percent below 1990 emissions levels by 2050.

SB X1-2 of 2011, SB 350 of 2015, and SB 100 of 2018 (Renewables Portfolio Standard)

SB X1-2 of 2011 requires all California utilities to generate 33 percent of their electricity from renewables by 2020. SB X1-2 sets a three-stage compliance period requiring all California utilities, including independently-owned utilities, energy service providers, and community choice aggregators, to generate 20 percent of their electricity from renewables by December 31, 2013; 25 percent by December 31, 2016; and 33 percent by December 31, 2020. SB X1-2 also requires the renewable electricity standard to be met increasingly with renewable energy that is supplied to the California grid from sources within, or directly proximate to, California.

In October 2015, SB 350 was signed by Governor Brown, which requires retail sellers and publicly owned utilities to procure 50 percent of their electricity from renewable resources by 2030. In 2018, SB 100 was signed by Governor Brown, codifying a goal of 60 percent renewable procurement by 2030 and 100 percent by 2045 RPS.

California Building Energy Efficiency Standards

In general, the California Building Energy Efficiency Standards require the design of building shells and building components to conserve energy. The California Energy Commission adopted changes to the 2013 Building Energy Efficiency Standards in 24 California Code of Regulations (CCR) Part 6 (also known as the California Energy Code) and associated administrative regulations in Part 1. The 2016 Building Energy Efficiency Standards are 28 percent more efficient than previous standards for residential construction and five percent more efficient for nonresidential construction. The standards require better

windows, insulation, lighting, ventilation systems, and other features that reduce energy consumption in homes and businesses. Energy-efficient buildings reduce fossil fuel consumption and decrease GHG emissions.

California Green Building Standards

The California Green Building Standards Code (24 CCR Part 11), or CALGreen, is a statewide mandatory construction code that was developed and adopted by the California Building Standards Commission and the Department of Housing and Community Development. The CALGreen standards require new residential and commercial buildings to comply with mandatory measures in planning and design, energy efficiency, water efficiency/conservation, material conservation and resource efficiency, and environmental quality. CALGreen also provides voluntary tiers and measures that local governments may adopt that encourage or require additional measures.

3.3 Greenhouse Gas Emissions Impact Assessment

3.3.1 Thresholds of Significance

The impact analysis provided below is based on the following CEQA Guidelines Appendix G thresholds of significance. The Project would result in a significant impact to greenhouse gas emissions if it would:

- 1) generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, or
- 2) conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

The Appendix G thresholds for GHGs do not prescribe specific methodologies for performing an assessment, do not establish specific thresholds of significance, and do not mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance consistent with the manner in which other impact areas are handled in CEQA. With respect to GHG emissions, the CEQA Guidelines Section 15064.4(a) states that lead agencies "shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions resulting from a project. The CEQA Guidelines note that an agency has the discretion to either quantify a project's greenhouse gas emissions or rely on a "qualitative analysis or other performance-based standards." (14 CCR 15064.4(b)). A lead agency may use a "model or methodology" to estimate GHG emissions and has the discretion to select the model or methodology it considers "most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change." (14 CCR 15064.4(c)). Section 15064.4(b) provides that the lead agency should consider the following when determining the significance of impacts from GHG emissions on the environment:

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

2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4(b)).

In addition, Section 15064.7(c) of the CEQA Guidelines specifies that “[w]hen adopting or using thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence” (14 CCR 15064.7(c)). The CEQA Guidelines also clarify that the effects of GHG emissions are cumulative and should be analyzed in the context of CEQA’s requirements for cumulative impact analysis (see CEQA Guidelines Section 15130(f)). As a note, the CEQA Guidelines were amended in response to SB 97. In particular, the CEQA Guidelines were amended to specify that compliance with a GHG emissions reduction plan renders a cumulative impact insignificant.

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

The significance of the Project’s GHG emissions is evaluated consistent with CEQA Guidelines Section 15064.4(b)(2) by considering whether the Project complies with applicable plans, policies, regulations, and requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. Specifically, the Project will be assessed for consistency with regulations or requirements adopted by the 2008 Climate Change Scoping Plan and subsequent updates.

3.3.2 Methodology

GHG emissions were modeled using CalEEMod, version 2016.3.2. CalEEMod is a statewide land use emissions computer model designed to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects. Project construction-generated air pollutant emissions were calculated using CalEEMod model defaults for Colusa County. Project operational emissions are calculated based on Project site plans and vehicle trip information provided in the Traffic Impact Analysis (KD Anderson and Associates 2020) prepared for the Project.

3.3.3 Impact Analysis

Generation of Greenhouse Gas Emissions that Conflict with any Applicable Plan, Policy, or Regulation of an Agency Adopted for the Purpose of Reducing the Emissions of Greenhouse Gases

GHG emissions associated with the Project would occur over the short term from construction activities, consisting primarily of emissions from equipment exhaust. There would also be long-term regional emissions associated with new vehicular trips and indirect source emissions, such as electricity usage for lighting.

Table 3-2 illustrates the specific construction generated GHG emissions that would result from construction of the Project. As shown in Table 3-2, Project construction would result in the generation of approximately 533 metric tons of CO₂e over the course of construction. Once construction is complete, the generation of these GHG emissions would cease.

Table 3-2. Construction-Related Greenhouse Gas Emissions	
Emissions Source	CO₂e (Metric Tons/Year)
Project Site Construction (year one)	422
Project Site Construction (year two)	111
Total Construction	533

Source: CalEEMod version 2016.3.2. Refer to Attachment B for Model Data Outputs.

Long-term operational GHG emissions attributable to the Project are identified in Table 3-3.

Table 3-3. Operational-Related GHG Emissions	
Emissions Source	CO₂e (Metric Tons/Year)
Area Source Emissions	0
Energy Source Emissions	227
Mobile Source Emissions	4,300
Solid Waste Emissions	103
Water Emissions	10
Total Emissions	4,640

Source: CalEEMod version 2016.3.2. Refer to Attachment B for Model Data Outputs.

As shown in Table 3-3, Project operations would result in the generation of approximately 6,021 metric tons of CO₂e annually.

As previously described, the significance of the Project's GHG emissions is evaluated consistent with CEQA Guidelines Section 15064.4(b)(2) by considering whether the Project complies with applicable plans,

policies, regulations, and requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. Specifically, the Project is assessed for consistency with regulations or requirements adopted by the 2008 Climate Change Scoping Plan and subsequent updates.

Consistency with CARB's Scoping Plan

The Scoping Plan (approved by CARB in 2008 and updated in 2014 and 2017) provides a framework for actions to reduce California's GHG emissions and requires CARB and other State agencies to adopt regulations and other initiatives to reduce GHGs. The Scoping Plan is not directly applicable to specific projects, nor is it intended to be used for project-level evaluations. It does not provide recommendations for lead agencies to develop evidence-based numeric thresholds consistent with the Scoping Plan, the State's long-term GHG goals, and climate change science. Under the Scoping Plan, however, there are several State regulatory measures aimed at the identification and reduction of GHG emissions. CARB and other State agencies have adopted many of the measures identified in the Scoping Plan. Most of these measures focus on area source emissions (e.g., energy usage, high-global warming potential (GWP) GHGs in consumer products) and changes to the vehicle fleet (i.e., hybrid, electric, and more fuel-efficient vehicles) and associated fuels (e.g., Low Carbon Fuel Standard), among others.

The Scoping Plan recommends strategies for implementation at the statewide level to meet the goals of AB 32 and establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions. Table 3-4 highlights measures that have been, or will be, developed under the Scoping Plan and presents the Project's consistency with Scoping Plan measures. The Project would comply with all regulations adopted in furtherance of the Scoping Plan to the extent required by law and to the extent that they are applicable to the Project.

Table 3-4. Project Consistency with Scoping Plan GHG Emission Reduction Strategies		
Scoping Plan Measure	Measure Number	Proposed Project Consistency
<i>Transportation Sector</i>		
Advanced Clean Cars	T-1	<i>Consistent.</i> The Project's employees and customers would purchase vehicles in compliance with CARB vehicle standards that are in effect at the time of vehicle purchase.
Low Carbon Fuel Standard	T-2	<i>Consistent.</i> Motor vehicles driven by the Project's employees and customers would use compliant fuels. The proposed gas station component would sale compliant fuels.
Regional Transportation-Related GHG Targets	T-3	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure.
Advanced Clean Transit	N/A	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure.
Last-Mile Delivery	N/A	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure.
Reduction in vehicle miles traveled (VMT)	N/A	<i>Consistent.</i> The proposed Project would provide a convenient proximity to retail uses for Colusa residents. The Project is considered infill development as it proposes to develop a

Table 3-4. Project Consistency with Scoping Plan GHG Emission Reduction Strategies

Scoping Plan Measure	Measure Number	Proposed Project Consistency
		<p>property surrounded by urban uses, thereby enhancing the physical design of the urban environment by instigating land use diversity. The increases in land use diversity and mix of uses in the Project area would reduce vehicle trips and VMT by encouraging shortened automobile trips, walking, and non-automotive forms of transportation, which would result in corresponding reductions in transportation-related emissions.</p> <p>The Project can be identified for its “location efficiency.” Location efficiency describes the location of the Project relative to the type of urban landscape its proposed to fit within, such as an “urban area,” “compact infill,” or “suburban center.” The Project would complementary retail uses in close proximity to existing residential uses; therefore, the Project would provide job and retail options to residents currently living near the site. The location efficiency of the Project site would result in synergistic benefits that would reduce vehicle trips and VMT compared to statewide average and would result in corresponding reduction of transportation-related GHG emissions.</p>
Vehicle Efficiency Measure <ol style="list-style-type: none"> 1. Tire Pressure 2. Fuel Efficiency Tire Program 3. Low-Friction Oil 4. Solar-Reflective Automotive Paint and Window Glazing 	T-4	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure.
Ship Electrification at Ports (Shore Power)	T-5	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure.
Goods Movement Efficiency Measures <ol style="list-style-type: none"> 1. Port Drayage Trucks 2. Transport Refrigeration Units Cold Storage Prohibition 3. Cargo Handling Equipment, Anti-Idling, Hybrid, Electrification 4. Goods Movement Systemwide Efficiency Improvements 5. Commercial Harbor Craft Maintenance and Design Efficiency 6. Clean Ships 7. Vessel Speed Reduction 	T-6	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure.
Heavy-Duty Vehicle GHG Emission Reduction Tractor-Trailer GHG Regulation Heavy-Duty GHG Standards for New Vehicle and Engines (Phase I)	T-7	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure.
Medium- and Heavy-Duty Vehicle Hybridization Voucher Incentive Proposed Project	T-8	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure.
Medium and Heavy-Duty GHG Phase 2	N/A	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure.

Table 3-4. Project Consistency with Scoping Plan GHG Emission Reduction Strategies

Scoping Plan Measure	Measure Number	Proposed Project Consistency
High-Speed Rail	T-9	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure.
Electricity and Natural Gas Sector		
Energy Efficiency Measures (Electricity)	E-1	<i>Consistent.</i> The Project would be constructed in accordance with CALGreen and Title 24 building standards.
Energy Efficiency Measures (Natural Gas)	CR-1	<i>Consistent.</i> The Project would be constructed in accordance with CALGreen and Title 24 building standards.
Solar Water Heating (California Solar Initiative Thermal Program)	CR-2	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure
Combined Heat and Power	E-2	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure
Renewables Portfolio Standard (33 percent by 2020)	E-3	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure
Renewables Portfolio Standard (60 percent by 2030)	N/A	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure
SB 1 Million Solar Roofs (California Solar Initiative, New Solar Home Partnership, Public Utility Programs) and Earlier Solar Programs	E-4	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure
Water Sector		
Water Use Efficiency	W-1	<i>Consistent.</i> The Project would be constructed in accordance with CALGreen and Title 24 building standards.
Water Recycling	W-2	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure
Water System Energy Efficiency	W-3	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure
Reuse Urban Runoff	W-4	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure
Renewable Energy Production	W-5	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure
Green Buildings		
State Green Building Initiative: Leading the Way with State Buildings (Greening New and Existing State Buildings)	GB-1	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure
Green Building Standards Code (Greening New Public Schools, Residential and Commercial Buildings)	GB-1	<i>Consistent.</i> The Project would be constructed in accordance with CALGreen and Title 24 building standards.
Beyond Code: Voluntary Programs at the Local Level (Greening New Public Schools, Residential, and Commercial Buildings)	GB-1	<i>Consistent.</i> The Project would be constructed in accordance with CALGreen and Title 24 building standards. Additionally, the state is to increase the use of green building practices. The proposed Project would implement required green building strategies through existing regulation that requires

Table 3-4. Project Consistency with Scoping Plan GHG Emission Reduction Strategies

Scoping Plan Measure	Measure Number	Proposed Project Consistency
		the proposed Project to comply with various CALGreen requirements. The proposed Project includes sustainability design features that support the Green Building Strategy.
Greening Existing Buildings (Greening Existing Homes and Commercial Buildings)	GB-1	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure
Industry Sector		
Energy Efficiency and Co-Benefits Audits for Large Industrial Sources	I-1	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure
Oil and Gas Extraction GHG Emissions Reduction	I-2	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure
Reduce GHG Emissions by 20% in Oil Refinery Sector	N/A	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure
GHG Emissions Reduction from Natural Gas Transmission and Distribution	I-3	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure
Refinery Flare Recovery Process Improvements	I-4	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure
Work with the Local Air Districts to Evaluate Amendments to Their Existing Leak Detection and Repair Rules for Industrial Facilities to Include Methane Leaks	I-5	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure
Recycling and Waste Management Sector		
Landfill Methane Control Measure	RW-1	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure
Increasing the Efficiency of Landfill Methane Capture	RW-2	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure
Mandatory Commercial Recycling	RW-3	<i>Consistent.</i> The Project would include recycling during both construction and operation consistent with the requirements of the Title 24 Building Standards
Increase Production and Markets for Compost and Other Organics	RW-3	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure
Anaerobic/Aerobic Digestion	RW-3	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure
Extended Producer Responsibility	RW-3	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure
Environmentally Preferable Purchasing	RW-3	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure
Forests Sector		
Sustainable Forest Target	F-1	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure

Table 3-4. Project Consistency with Scoping Plan GHG Emission Reduction Strategies		
Scoping Plan Measure	Measure Number	Proposed Project Consistency
Motor Vehicle Air Condition Systems: Reduction of Refrigerant Emissions from Non-Professional Servicing	H-1	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure
SF ₆ Limits in Non-Utility and Non-Semiconductor Applications	H-2	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure
Reduction of Perfluorocarbons in Semiconductor Manufacturing	H-3	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure
Limit High GWP Use in Consumer Products	H-4	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure
Air Conditioning Refrigerant Leak Test During Vehicle Smog Check	H-5	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure
Stationary Equipment Refrigerant Management Program – Refrigerant Tracking/Reporting/Repair Program	H-6	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure
Stationary Equipment Refrigerant Management Program – Specifications for Commercial and Industrial Refrigeration	H-6	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure
SF ₆ Leak Reduction Gas Insulated Switchgear	H-6	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure
40 Percent Reduction in Methane and Hydrofluorocarbon Emissions	N/A	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure
50 Percent Reduction in Black Carbon Emissions	N/A	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure
Agriculture Sector		
Methane Capture at Large Dairies	A-1	<i>Not applicable.</i> The Project would not prevent CARB from implementing this measure

Based on the analysis in Table 3-4, the Project would be consistent with the applicable strategies and measures in the Scoping Plan.

The Project would not impede the attainment of the GHG reduction goals for 2030 or 2050 identified in EO S-03-05 and SB 32. EO S-03-05 establishes the following goals: GHG emissions should be reduced to 2000 levels by 2010, to 1990 levels by 2020, and to 80 percent below 1990 levels by 2050. SB 32 establishes for a statewide GHG emissions reduction target whereby CARB, in adopting rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions, shall ensure that statewide GHG emissions are reduced to at least 40 percent below 1990 levels by December 31, 2030. While there are no established protocols or thresholds of significance for that future year analysis, CARB forecasts that compliance with the current Scoping Plan puts the state on a trajectory toward meeting these long-term GHG goals, although the specific path to compliance is unknown (CARB 2014).

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

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

In other words, CARB believes that the state is on a trajectory to meet the 2030 and 2050 GHG reduction targets set forth in AB 32, SB 32, and EO S-03-05. This is confirmed in the Second Update, which states (CARB 2017):

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

As discussed previously, the Project is consistent with the GHG emission reduction measures in the Scoping Plan and would not conflict with the state’s trajectory toward future GHG reductions. In addition, since the specific path to compliance for the state in regard to the long-term goals will likely require development of technology or other changes that are not currently known or available, specific additional mitigation measures for the Project would be speculative and cannot be identified at this time. The Project’s consistency would assist in meeting the City’s contribution to GHG emission reduction targets in California. With respect to future GHG targets under SB 32 and EO S-03-05, CARB has also made clear its legal interpretation is that it has the requisite authority to adopt whatever regulations are necessary, beyond the AB 32 horizon year of 2020, to meet SB 32’s 40 percent reduction target by 2030 and EO S-03-05’s 80 percent reduction target by 2050; this legal interpretation by an expert agency provides evidence that future regulations will be adopted to continue the state on its trajectory toward meeting these future GHG targets. The Project would not interfere with implementation of any of the previously described GHG reduction goals for 2030 or 2050 or impede the state’s trajectory toward the previously described statewide GHG reduction goals for 2030 or 2050.

4.0 REFERENCES

- CAPCOA. 2013. Health Effects. <http://www.capcoa.org/health-effects/>.
- CARB. 2019a. Air Quality Data Statistics. <http://www.arb.ca.gov/adam/index.html>.
- _____. 2019b. *California Greenhouse Gas Emission Inventory 2019 Edition*.
<https://ww3.arb.ca.gov/cc/inventory/data/data.htm>
- _____. 2018. State and Federal Area Designation Maps. <http://www.arb.ca.gov/desig/adm/adm.htm>.
- _____. 2017. California's 2017 Climate Change Scoping Plan.
https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf.
- _____. 2014. First Update to the Climate Change Scoping Plan: Building on the Framework. May 2014.
<http://www.arb.ca.gov/cc/scopingplan/document/updatedscopingplan2013.htm>.
- _____. 2013. *California Almanac of Emissions and Air Quality*.
- _____. 2005. *Air Quality and Land Use Handbook*
- IPCC. 2014. *Climate Change 2014 Synthesis Report: Approved Summary for Policymakers*.
<http://www.ipcc.ch/>.
- _____. 2013. *Carbon and Other Biogeochemical Cycles*. In: *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. http://www.climatechange2013.org/images/report/WG1AR5_ALL_FINAL.pdf.
- K.D. Anderson & Associates. 2020. *Traffic Impact Analysis for SR 20/Wescott Road Retail Center*.
- SCAQMD. 2015. *2015 Risk Assessment Procedures for Rules 1401, 1401.1, & 212*.
- _____. 1992. *1992 Federal Attainment Plan for Carbon Monoxide*.
- SMAQMD. 2019. *Guide to Air Quality Assessment in Sacramento County*.
- SVAQEPP. 2015. *Northern Sacramento Valley Planning Area: 2015, Triennial Air Quality Attainment Plan*.
- USEPA. 2016a. *Climate Change – Greenhouse Gas Emissions: Carbon Dioxide*.
<http://www.epa.gov/climatechange/emissions/co2.html>.
- _____. 2016b. *Methane*. <https://www3.epa.gov/climatechange/ghgemissions/gases/ch4.html>.
- _____. 2016c. *Nitrous Oxide*. <https://www3.epa.gov/climatechange/ghgemissions/gases/n2o.html>.

Daily Criteria Air Pollutant Emissions

Colusa Towne Center - Colusa County, Summer

Colusa Towne Center

Colusa County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	2.80	Acre	2.75	121,968.00	0
Parking Lot	188.00	Space	1.69	75,200.00	0
Fast Food Restaurant with Drive Thru	1.63	1000sqft	0.04	1,633.00	0
Fast Food Restaurant with Drive Thru	2.75	1000sqft	0.06	2,745.00	0
Fast Food Restaurant with Drive Thru	2.20	1000sqft	0.05	2,200.00	0
Convenience Market (24 Hour)	5.52	1000sqft	0.13	5,520.00	0
Gasoline/Service Station	16.00	Pump	0.05	2,258.80	0
Strip Mall	1.75	1000sqft	0.04	1,748.00	0
Supermarket	18.00	1000sqft	0.41	18,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	56
Climate Zone	3			Operational Year	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	290	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Colusa Towne Center - Colusa County, Summer

Project Characteristics - PG&E 2020 CO2 Intensity Factor

Land Use - Land uses account for 3,000 sf store with 600 sf storage room and 1,920 sf carwash, 6,578 sf of restaurants, 19,748 sf of retail, a 16-pump gas dispensing area, 188 parking spaces, and 2.8 acres of internal circulation and other hardscape.

Construction Phase - Building construction, paving, and painting assumed to occur simultaneously

Vehicle Trips - Trip generation per Traffic Impact Analysis

Water And Wastewater - Water consumption adjusted to reflect water use at carwash, based on the estimate of 24.6 gallons per carwash from the International Carwash Association. Assumes 72 carwashes daily

Mobile Land Use Mitigation -

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	1,630.00	1,633.00
tblLandUse	LandUseSquareFeet	2,750.00	2,745.00
tblLandUse	LandUseSquareFeet	1,750.00	1,748.00
tblLandUse	LotAcreage	2.80	2.75
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblVehicleTrips	PB_TP	61.00	0.00
tblVehicleTrips	PB_TP	50.00	0.00
tblVehicleTrips	PB_TP	15.00	0.00
tblVehicleTrips	PB_TP	36.00	0.00
tblVehicleTrips	PR_TP	24.00	85.00
tblVehicleTrips	PR_TP	29.00	79.00
tblVehicleTrips	PR_TP	45.00	60.00
tblVehicleTrips	PR_TP	34.00	70.00
tblVehicleTrips	ST_TR	863.10	224.28
tblVehicleTrips	ST_TR	722.03	212.62
tblVehicleTrips	ST_TR	168.56	0.00
tblVehicleTrips	ST_TR	42.04	34.90
tblVehicleTrips	ST_TR	177.59	61.50

Colusa Towne Center - Colusa County, Summer

tblVehicleTrips	SU_TR	758.45	224.28
tblVehicleTrips	SU_TR	542.72	212.61
tblVehicleTrips	SU_TR	168.56	0.00
tblVehicleTrips	SU_TR	20.43	34.90
tblVehicleTrips	SU_TR	166.44	61.50
tblVehicleTrips	WD_TR	737.99	224.28
tblVehicleTrips	WD_TR	496.12	212.61
tblVehicleTrips	WD_TR	168.56	0.00
tblVehicleTrips	WD_TR	44.32	34.90
tblVehicleTrips	WD_TR	102.24	61.50
tblWater	IndoorWaterUseRate	408,880.32	410,651.00
tblWater	IndoorWaterUseRate	212,510.22	0.00

2.0 Emissions Summary

Colusa Towne Center - Colusa County, Summer

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					
2020	4.1618	42.4719	22.1630	0.0462	18.2141	2.1984	20.4125	9.9699	2.0225	11.9924	0.0000	4,525.7915	4,525.7915	1.1972	0.0000	4,543.7958
2021	46.6744	21.6936	20.8136	0.0458	1.0299	0.9762	2.0060	0.2790	0.9179	1.1969	0.0000	4,489.8877	4,489.8877	0.7178	0.0000	4,507.6114
Maximum	46.6744	42.4719	22.1630	0.0462	18.2141	2.1984	20.4125	9.9699	2.0225	11.9924	0.0000	4,525.7915	4,525.7915	1.1972	0.0000	4,543.7958

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					
2020	4.1618	42.4719	22.1630	0.0462	18.2141	2.1984	20.4125	9.9699	2.0225	11.9924	0.0000	4,525.7915	4,525.7915	1.1972	0.0000	4,543.7958
2021	46.6744	21.6936	20.8136	0.0458	1.0299	0.9762	2.0060	0.2790	0.9179	1.1969	0.0000	4,489.8877	4,489.8877	0.7178	0.0000	4,507.6114
Maximum	46.6744	42.4719	22.1630	0.0462	18.2141	2.1984	20.4125	9.9699	2.0225	11.9924	0.0000	4,525.7915	4,525.7915	1.1972	0.0000	4,543.7958

[illegible]

Colusa Towne Center - Colusa County, Summer

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	1.0561	2.2000e-004	0.0245	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0522	0.0522	1.4000e-004		0.0557
Energy	0.0599	0.5447	0.4576	3.2700e-003		0.0414	0.0414		0.0414	0.0414		653.6637	653.6637	0.0125	0.0120	657.5481
Mobile	8.7540	49.6470	77.4410	0.2750	18.1489	0.2522	18.4011	4.8518	0.2377	5.0895		27,890.3392	27,890.3392	1.4374		27,926.2753
Total	9.8700	50.1919	77.9230	0.2783	18.1489	0.2937	18.4425	4.8518	0.2792	5.1310		28,544.0551	28,544.0551	1.4501	0.0120	28,583.8791

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	1.0561	2.2000e-004	0.0245	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0522	0.0522	1.4000e-004		0.0557
Energy	0.0599	0.5447	0.4576	3.2700e-003		0.0414	0.0414		0.0414	0.0414		653.6637	653.6637	0.0125	0.0120	657.5481
Mobile	8.6338	48.5968	74.4520	0.2634	17.2414	0.2415	17.4829	4.6092	0.2276	4.8368		26,719.8028	26,719.8028	1.4080		26,755.0031
Total	9.7498	49.1417	74.9340	0.2667	17.2414	0.2830	17.5244	4.6092	0.2691	4.8783		27,373.5187	27,373.5187	1.4207	0.0120	27,412.6069

Colusa Towne Center - Colusa 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	N2O	CO2e
Percent Reduction	1.22	2.09	3.84	4.16	5.00	3.63	4.98	5.00	3.60	4.92	0.00	4.10	4.10	2.03	0.00	4.10

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	3/4/2020	3/17/2020	5	10	
2	Grading	Grading	3/18/2020	4/14/2020	5	20	
3	Building Construction	Building Construction	4/15/2020	3/2/2021	5	230	
4	Paving	Paving	3/3/2021	3/30/2021	5	20	
5	Architectural Coating	Architectural Coating	3/31/2021	4/27/2021	5	20	

Acres of Grading (Site Preparation Phase): 0**Acres of Grading (Grading Phase): 10****Acres of Paving: 4.44****Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 51,157; Non-Residential Outdoor: 17,052; Striped Parking Area: 11,830 (Architectural Coating – sqft)****OffRoad Equipment**

Colusa Towne Center - Colusa 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	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	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	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	94.00	38.00	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	19.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Colusa Towne Center - Colusa County, Summer

3.2 Site Preparation - 2020**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216		3,685.1016	3,685.1016	1.1918		3,714.8975
Total	4.0765	42.4173	21.5136	0.0380	18.0663	2.1974	20.2637	9.9307	2.0216	11.9523		3,685.1016	3,685.1016	1.1918		3,714.8975

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	0.0854	0.0546	0.6494	1.5300e-003	0.1479	9.9000e-004	0.1489	0.0392	9.1000e-004	0.0401		151.8887	151.8887	5.3300e-003		152.0218
Total	0.0854	0.0546	0.6494	1.5300e-003	0.1479	9.9000e-004	0.1489	0.0392	9.1000e-004	0.0401		151.8887	151.8887	5.3300e-003		152.0218

Colusa Towne Center - Colusa County, Summer

3.2 Site Preparation - 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	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216	0.0000	3,685.1016	3,685.1016	1.1918		3,714.8975
Total	4.0765	42.4173	21.5136	0.0380	18.0663	2.1974	20.2637	9.9307	2.0216	11.9523	0.0000	3,685.1016	3,685.1016	1.1918		3,714.8975

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	0.0854	0.0546	0.6494	1.5300e-003	0.1479	9.9000e-004	0.1489	0.0392	9.1000e-004	0.0401		151.8887	151.8887	5.3300e-003		152.0218
Total	0.0854	0.0546	0.6494	1.5300e-003	0.1479	9.9000e-004	0.1489	0.0392	9.1000e-004	0.0401		151.8887	151.8887	5.3300e-003		152.0218

Colusa Towne Center - Colusa County, Summer

3.3 Grading - 2020**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716		2,872.485 1	2,872.485 1	0.9290		2,895.710 6
Total	2.4288	26.3859	16.0530	0.0297	6.5523	1.2734	7.8258	3.3675	1.1716	4.5390		2,872.485 1	2,872.485 1	0.9290		2,895.710 6

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	0.0711	0.0455	0.5412	1.2700e-003	0.1232	8.2000e-004	0.1241	0.0327	7.6000e-004	0.0334		126.5739	126.5739	4.4400e-003		126.6848
Total	0.0711	0.0455	0.5412	1.2700e-003	0.1232	8.2000e-004	0.1241	0.0327	7.6000e-004	0.0334		126.5739	126.5739	4.4400e-003		126.6848

Colusa Towne Center - Colusa County, Summer

3.3 Grading - 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	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716	0.0000	2,872.485 1	2,872.485 1	0.9290		2,895.710 6
Total	2.4288	26.3859	16.0530	0.0297	6.5523	1.2734	7.8258	3.3675	1.1716	4.5390	0.0000	2,872.485 1	2,872.485 1	0.9290		2,895.710 6

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	0.0711	0.0455	0.5412	1.2700e-003	0.1232	8.2000e-004	0.1241	0.0327	7.6000e-004	0.0334		126.5739	126.5739	4.4400e-003		126.6848
Total	0.0711	0.0455	0.5412	1.2700e-003	0.1232	8.2000e-004	0.1241	0.0327	7.6000e-004	0.0334		126.5739	126.5739	4.4400e-003		126.6848

Colusa Towne Center - Colusa County, Summer

3.4 Building Construction - 2020**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.063 1	2,553.063 1	0.6229		2,568.634 5
Total	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.063 1	2,553.063 1	0.6229		2,568.634 5

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	0.1972	4.3743	1.3402	0.0113	0.2577	0.0235	0.2811	0.0742	0.0224	0.0966		1,179.532 0	1,179.532 0	0.0695		1,181.269 7
Worker	0.4458	0.2850	3.3912	7.9700e-003	0.7722	5.1700e-003	0.7774	0.2048	4.7600e-003	0.2096		793.1964	793.1964	0.0278		793.8916
Total	0.6429	4.6593	4.7314	0.0193	1.0299	0.0286	1.0585	0.2790	0.0272	0.3062		1,972.728 5	1,972.728 5	0.0973		1,975.161 3

Colusa Towne Center - Colusa County, Summer

3.4 Building Construction - 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	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.063 1	2,553.063 1	0.6229		2,568.634 5
Total	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.063 1	2,553.063 1	0.6229		2,568.634 5

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	0.1972	4.3743	1.3402	0.0113	0.2577	0.0235	0.2811	0.0742	0.0224	0.0966		1,179.532 0	1,179.532 0	0.0695		1,181.269 7
Worker	0.4458	0.2850	3.3912	7.9700e-003	0.7722	5.1700e-003	0.7774	0.2048	4.7600e-003	0.2096		793.1964	793.1964	0.0278		793.8916
Total	0.6429	4.6593	4.7314	0.0193	1.0299	0.0286	1.0585	0.2790	0.0272	0.3062		1,972.728 5	1,972.728 5	0.0973		1,975.161 3

Colusa Towne Center - Colusa County, Summer

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	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643

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	0.1683	4.0082	1.1654	0.0112	0.2577	0.0126	0.2702	0.0742	0.0120	0.0862		1,170.8354	1,170.8354	0.0683		1,172.5429
Worker	0.4099	0.2533	3.0730	7.6900e-003	0.7722	4.9800e-003	0.7772	0.2048	4.5900e-003	0.2094		765.6884	765.6884	0.0246		766.3043
Total	0.5782	4.2615	4.2384	0.0189	1.0299	0.0176	1.0474	0.2790	0.0166	0.2956		1,936.5238	1,936.5238	0.0929		1,938.8472

Colusa Towne Center - Colusa County, Summer

3.4 Building Construction - 2021**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.363 9	2,553.363 9	0.6160		2,568.764 3
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.363 9	2,553.363 9	0.6160		2,568.764 3

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	0.1683	4.0082	1.1654	0.0112	0.2577	0.0126	0.2702	0.0742	0.0120	0.0862		1,170.835 4	1,170.835 4	0.0683		1,172.542 9
Worker	0.4099	0.2533	3.0730	7.6900e-003	0.7722	4.9800e-003	0.7772	0.2048	4.5900e-003	0.2094		765.6884	765.6884	0.0246		766.3043
Total	0.5782	4.2615	4.2384	0.0189	1.0299	0.0176	1.0474	0.2790	0.0166	0.2956		1,936.523 8	1,936.523 8	0.0929		1,938.847 2

Colusa Towne Center - Colusa County, Summer

3.5 Paving - 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	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.5816					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.8372	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573

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	0.0654	0.0404	0.4904	1.2300e-003	0.1232	7.9000e-004	0.1240	0.0327	7.3000e-004	0.0334		122.1843	122.1843	3.9300e-003		122.2826
Total	0.0654	0.0404	0.4904	1.2300e-003	0.1232	7.9000e-004	0.1240	0.0327	7.3000e-004	0.0334		122.1843	122.1843	3.9300e-003		122.2826

Colusa Towne Center - Colusa County, Summer

3.5 Paving - 2021**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.5816					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.8372	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573

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	0.0654	0.0404	0.4904	1.2300e-003	0.1232	7.9000e-004	0.1240	0.0327	7.3000e-004	0.0334		122.1843	122.1843	3.9300e-003		122.2826
Total	0.0654	0.0404	0.4904	1.2300e-003	0.1232	7.9000e-004	0.1240	0.0327	7.3000e-004	0.0334		122.1843	122.1843	3.9300e-003		122.2826

Colusa Towne Center - Colusa County, Summer

3.6 Architectural Coating - 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					
Archit. Coating	46.3726					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	46.5915	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309

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	0.0829	0.0512	0.6211	1.5500e-003	0.1561	1.0100e-003	0.1571	0.0414	9.3000e-004	0.0423		154.7668	154.7668	4.9800e-003		154.8913
Total	0.0829	0.0512	0.6211	1.5500e-003	0.1561	1.0100e-003	0.1571	0.0414	9.3000e-004	0.0423		154.7668	154.7668	4.9800e-003		154.8913

Colusa Towne Center - Colusa County, Summer

3.6 Architectural Coating - 2021**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	46.3726					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	46.5915	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309

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	0.0829	0.0512	0.6211	1.5500e-003	0.1561	1.0100e-003	0.1571	0.0414	9.3000e-004	0.0423		154.7668	154.7668	4.9800e-003		154.8913
Total	0.0829	0.0512	0.6211	1.5500e-003	0.1561	1.0100e-003	0.1571	0.0414	9.3000e-004	0.0423		154.7668	154.7668	4.9800e-003		154.8913

4.0 Operational Detail - Mobile

Colusa Towne Center - Colusa County, Summer

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	8.6338	48.5968	74.4520	0.2634	17.2414	0.2415	17.4829	4.6092	0.2276	4.8368		26,719.80 28	26,719.80 28	1.4080		26,755.00 31
Unmitigated	8.7540	49.6470	77.4410	0.2750	18.1489	0.2522	18.4011	4.8518	0.2377	5.0895		27,890.33 92	27,890.33 92	1.4374		27,926.27 53

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Convenience Market (24 Hour)	1,238.03	1,238.03	1238.03	2,927,511	2,781,136
Fast Food Restaurant with Drive Thru	346.55	346.57	346.55	780,977	741,928
Fast Food Restaurant with Drive Thru	584.68	584.71	584.68	1,317,599	1,251,719
Fast Food Restaurant with Drive Thru	467.74	467.76	467.74	1,054,080	1,001,376
Gasoline/Service Station	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Strip Mall	61.08	61.08	61.08	119,285	113,321
Supermarket	1,107.00	1,107.00	1107.00	2,324,335	2,208,118
Total	3,805.07	3,805.14	3,805.07	8,523,787	8,097,598

Colusa Towne Center - Colusa County, Summer

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
Convenience Market (24 Hour)	9.50	7.30	7.30	0.90	80.10	19.00	85	15	0
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	79	21	0
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	79	21	0
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	79	21	0
Gasoline/Service Station	9.50	7.30	7.30	2.00	79.00	19.00	14	27	59
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	60	40	0
Supermarket	9.50	7.30	7.30	6.50	74.50	19.00	70	30	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Convenience Market (24 Hour)	0.536952	0.036131	0.183149	0.127934	0.026885	0.006680	0.007966	0.065455	0.000936	0.001568	0.004917	0.000552	0.000876
Fast Food Restaurant with Drive Thru	0.536952	0.036131	0.183149	0.127934	0.026885	0.006680	0.007966	0.065455	0.000936	0.001568	0.004917	0.000552	0.000876
Gasoline/Service Station	0.536952	0.036131	0.183149	0.127934	0.026885	0.006680	0.007966	0.065455	0.000936	0.001568	0.004917	0.000552	0.000876
Other Asphalt Surfaces	0.536952	0.036131	0.183149	0.127934	0.026885	0.006680	0.007966	0.065455	0.000936	0.001568	0.004917	0.000552	0.000876
Parking Lot	0.536952	0.036131	0.183149	0.127934	0.026885	0.006680	0.007966	0.065455	0.000936	0.001568	0.004917	0.000552	0.000876
Strip Mall	0.536952	0.036131	0.183149	0.127934	0.026885	0.006680	0.007966	0.065455	0.000936	0.001568	0.004917	0.000552	0.000876
Supermarket	0.536952	0.036131	0.183149	0.127934	0.026885	0.006680	0.007966	0.065455	0.000936	0.001568	0.004917	0.000552	0.000876

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Colusa Towne Center - Colusa 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	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0599	0.5447	0.4576	3.2700e-003		0.0414	0.0414		0.0414	0.0414		653.6637	653.6637	0.0125	0.0120	657.5481
NaturalGas Unmitigated	0.0599	0.5447	0.4576	3.2700e-003		0.0414	0.0414		0.0414	0.0414		653.6637	653.6637	0.0125	0.0120	657.5481

Colusa Towne Center - Colusa County, Summer

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					
Convenience Market (24 Hour)	161.819	1.7500e-003	0.0159	0.0133	1.0000e-004		1.2100e-003	1.2100e-003		1.2100e-003	1.2100e-003		19.0376	19.0376	3.6000e-004	3.5000e-004	19.1507
Fast Food Restaurant with Drive Thru	1268.28	0.0137	0.1243	0.1045	7.5000e-004		9.4500e-003	9.4500e-003		9.4500e-003	9.4500e-003		149.2100	149.2100	2.8600e-003	2.7400e-003	150.0967
Fast Food Restaurant with Drive Thru	1582.47	0.0171	0.1551	0.1303	9.3000e-004		0.0118	0.0118		0.0118	0.0118		186.1734	186.1734	3.5700e-003	3.4100e-003	187.2797
Fast Food Restaurant with Drive Thru	941.413	0.0102	0.0923	0.0775	5.5000e-004		7.0100e-003	7.0100e-003		7.0100e-003	7.0100e-003		110.7545	110.7545	2.1200e-003	2.0300e-003	111.4127
Gasoline/Service Station	129.154	1.3900e-003	0.0127	0.0106	8.0000e-005		9.6000e-004	9.6000e-004		9.6000e-004	9.6000e-004		15.1946	15.1946	2.9000e-004	2.8000e-004	15.2849
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	51.2427	5.5000e-004	5.0200e-003	4.2200e-003	3.0000e-005		3.8000e-004	3.8000e-004		3.8000e-004	3.8000e-004		6.0286	6.0286	1.2000e-004	1.1000e-004	6.0644
Supermarket	1421.75	0.0153	0.1394	0.1171	8.4000e-004		0.0106	0.0106		0.0106	0.0106		167.2651	167.2651	3.2100e-003	3.0700e-003	168.2591
Total		0.0599	0.5447	0.4576	3.2800e-003		0.0414	0.0414		0.0414	0.0414		653.6637	653.6637	0.0125	0.0120	657.5481

Colusa Towne Center - Colusa County, Summer

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					
Convenience Market (24 Hour)	0.161819	1.7500e-003	0.0159	0.0133	1.0000e-004		1.2100e-003	1.2100e-003		1.2100e-003	1.2100e-003		19.0376	19.0376	3.6000e-004	3.5000e-004	19.1507
Fast Food Restaurant with Drive Thru	1.58247	0.0171	0.1551	0.1303	9.3000e-004		0.0118	0.0118		0.0118	0.0118		186.1734	186.1734	3.5700e-003	3.4100e-003	187.2797
Fast Food Restaurant with Drive Thru	0.941413	0.0102	0.0923	0.0775	5.5000e-004		7.0100e-003	7.0100e-003		7.0100e-003	7.0100e-003		110.7545	110.7545	2.1200e-003	2.0300e-003	111.4127
Fast Food Restaurant with Drive Thru	1.26828	0.0137	0.1243	0.1045	7.5000e-004		9.4500e-003	9.4500e-003		9.4500e-003	9.4500e-003		149.2100	149.2100	2.8600e-003	2.7400e-003	150.0967
Gasoline/Service Station	0.129154	1.3900e-003	0.0127	0.0106	8.0000e-005		9.6000e-004	9.6000e-004		9.6000e-004	9.6000e-004		15.1946	15.1946	2.9000e-004	2.8000e-004	15.2849
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.0512427	5.5000e-004	5.0200e-003	4.2200e-003	3.0000e-005		3.8000e-004	3.8000e-004		3.8000e-004	3.8000e-004		6.0286	6.0286	1.2000e-004	1.1000e-004	6.0644
Supermarket	1.42175	0.0153	0.1394	0.1171	8.4000e-004		0.0106	0.0106		0.0106	0.0106		167.2651	167.2651	3.2100e-003	3.0700e-003	168.2591
Total		0.0599	0.5447	0.4576	3.2800e-003		0.0414	0.0414		0.0414	0.0414		653.6637	653.6637	0.0125	0.0120	657.5481

6.0 Area Detail**6.1 Mitigation Measures Area**

Colusa Towne Center - Colusa 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	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.0561	2.2000e-004	0.0245	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0522	0.0522	1.4000e-004		0.0557
Unmitigated	1.0561	2.2000e-004	0.0245	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0522	0.0522	1.4000e-004		0.0557

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	0.2541					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.7997					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.2800e-003	2.2000e-004	0.0245	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0522	0.0522	1.4000e-004		0.0557
Total	1.0561	2.2000e-004	0.0245	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0522	0.0522	1.4000e-004		0.0557

Colusa Towne Center - Colusa County, Summer

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	0.2541					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.7997					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.2800e-003	2.2000e-004	0.0245	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0522	0.0522	1.4000e-004		0.0557
Total	1.0561	2.2000e-004	0.0245	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0522	0.0522	1.4000e-004		0.0557

7.0 Water Detail**7.1 Mitigation Measures Water****8.0 Waste Detail****8.1 Mitigation Measures Waste****9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

Colusa Towne Center - Colusa County, Summer

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

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

Equipment Type	Number
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11.0 Vegetation

Colusa Towne Center - Colusa County, Winter

Colusa Towne Center

Colusa County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	2.80	Acre	2.75	121,968.00	0
Parking Lot	188.00	Space	1.69	75,200.00	0
Fast Food Restaurant with Drive Thru	1.63	1000sqft	0.04	1,633.00	0
Fast Food Restaurant with Drive Thru	2.75	1000sqft	0.06	2,745.00	0
Fast Food Restaurant with Drive Thru	2.20	1000sqft	0.05	2,200.00	0
Convenience Market (24 Hour)	5.52	1000sqft	0.13	5,520.00	0
Gasoline/Service Station	16.00	Pump	0.05	2,258.80	0
Strip Mall	1.75	1000sqft	0.04	1,748.00	0
Supermarket	18.00	1000sqft	0.41	18,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	56
Climate Zone	3			Operational Year	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	290	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Colusa Towne Center - Colusa County, Winter

Project Characteristics - PG&E 2020 CO2 Intensity Factor

Land Use - Land uses account for 3,000 sf store with 600 sf storage room and 1,920 sf carwash, 6,578 sf of restaurants, 19,748 sf of retail, a 16-pump gas dispensing area, 188 parking spaces, and 2.8 acres of internal circulation and other hardscape.

Construction Phase - Building construction, paving, and painting assumed to occur simultaneously

Vehicle Trips - Trip generation per Traffic Impact Analysis

Water And Wastewater - Water consumption adjusted to reflect water use at carwash, based on the estimate of 24.6 gallons per carwash from the International Carwash Association. Assumes 72 carwashes daily

Mobile Land Use Mitigation -

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	1,630.00	1,633.00
tblLandUse	LandUseSquareFeet	2,750.00	2,745.00
tblLandUse	LandUseSquareFeet	1,750.00	1,748.00
tblLandUse	LotAcreage	2.80	2.75
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblVehicleTrips	PB_TP	61.00	0.00
tblVehicleTrips	PB_TP	50.00	0.00
tblVehicleTrips	PB_TP	15.00	0.00
tblVehicleTrips	PB_TP	36.00	0.00
tblVehicleTrips	PR_TP	24.00	85.00
tblVehicleTrips	PR_TP	29.00	79.00
tblVehicleTrips	PR_TP	45.00	60.00
tblVehicleTrips	PR_TP	34.00	70.00
tblVehicleTrips	ST_TR	863.10	224.28
tblVehicleTrips	ST_TR	722.03	212.62
tblVehicleTrips	ST_TR	168.56	0.00
tblVehicleTrips	ST_TR	42.04	34.90
tblVehicleTrips	ST_TR	177.59	61.50

Colusa Towne Center - Colusa County, Winter

tblVehicleTrips	SU_TR	758.45	224.28
tblVehicleTrips	SU_TR	542.72	212.61
tblVehicleTrips	SU_TR	168.56	0.00
tblVehicleTrips	SU_TR	20.43	34.90
tblVehicleTrips	SU_TR	166.44	61.50
tblVehicleTrips	WD_TR	737.99	224.28
tblVehicleTrips	WD_TR	496.12	212.61
tblVehicleTrips	WD_TR	168.56	0.00
tblVehicleTrips	WD_TR	44.32	34.90
tblVehicleTrips	WD_TR	102.24	61.50
tblWater	IndoorWaterUseRate	408,880.32	410,651.00
tblWater	IndoorWaterUseRate	212,510.22	0.00

2.0 Emissions Summary

Colusa Towne Center - Colusa County, Winter

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					
2020	4.1535	42.4838	22.0661	0.0448	18.2141	2.1984	20.4125	9.9699	2.0225	11.9924	0.0000	4,383.6699	4,383.6699	1.1965	0.0000	4,401.7888
2021	46.6664	21.8237	20.5426	0.0445	1.0299	0.9767	2.0066	0.2790	0.9184	1.1974	0.0000	4,351.2786	4,351.2786	0.7173	0.0000	4,369.1292
Maximum	46.6664	42.4838	22.0661	0.0448	18.2141	2.1984	20.4125	9.9699	2.0225	11.9924	0.0000	4,383.6699	4,383.6699	1.1965	0.0000	4,401.7888

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					
2020	4.1535	42.4838	22.0661	0.0448	18.2141	2.1984	20.4125	9.9699	2.0225	11.9924	0.0000	4,383.6699	4,383.6699	1.1965	0.0000	4,401.7888
2021	46.6664	21.8237	20.5426	0.0445	1.0299	0.9767	2.0066	0.2790	0.9184	1.1974	0.0000	4,351.2786	4,351.2786	0.7173	0.0000	4,369.1292
Maximum	46.6664	42.4838	22.0661	0.0448	18.2141	2.1984	20.4125	9.9699	2.0225	11.9924	0.0000	4,383.6699	4,383.6699	1.1965	0.0000	4,401.7888

[illegible]

Colusa Towne Center - Colusa County, Winter

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	1.0561	2.2000e-004	0.0245	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0522	0.0522	1.4000e-004		0.0557
Energy	0.0599	0.5447	0.4576	3.2700e-003		0.0414	0.0414		0.0414	0.0414		653.6637	653.6637	0.0125	0.0120	657.5481
Mobile	6.6219	51.3000	73.7108	0.2489	18.1489	0.2590	18.4078	4.8518	0.2442	5.0960		25,258.79 97	25,258.79 97	1.5085		25,296.51 28
Total	7.7379	51.8449	74.1928	0.2522	18.1489	0.3005	18.4493	4.8518	0.2857	5.1375		25,912.51 56	25,912.51 56	1.5212	0.0120	25,954.11 66

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	1.0561	2.2000e-004	0.0245	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0522	0.0522	1.4000e-004		0.0557
Energy	0.0599	0.5447	0.4576	3.2700e-003		0.0414	0.0414		0.0414	0.0414		653.6637	653.6637	0.0125	0.0120	657.5481
Mobile	6.5093	50.1274	71.3467	0.2384	17.2414	0.2483	17.4897	4.6092	0.2341	4.8433		24,194.05 50	24,194.05 50	1.4828		24,231.12 49
Total	7.6252	50.6723	71.8287	0.2416	17.2414	0.2898	17.5312	4.6092	0.2756	4.8848		24,847.77 09	24,847.77 09	1.4955	0.0120	24,888.72 87

Colusa Towne Center - Colusa County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	1.46	2.26	3.19	4.17	5.00	3.54	4.98	5.00	3.52	4.92	0.00	4.11	4.11	1.69	0.00	4.10

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	3/4/2020	3/17/2020	5	10	
2	Grading	Grading	3/18/2020	4/14/2020	5	20	
3	Building Construction	Building Construction	4/15/2020	3/2/2021	5	230	
4	Paving	Paving	3/3/2021	3/30/2021	5	20	
5	Architectural Coating	Architectural Coating	3/31/2021	4/27/2021	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 4.44

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 51,157; Non-Residential Outdoor: 17,052; Striped Parking Area: 11,830 (Architectural Coating – sqft)

OffRoad Equipment

Colusa Towne Center - Colusa County, Winter

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	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	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	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	94.00	38.00	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	19.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Colusa Towne Center - Colusa County, Winter

3.2 Site Preparation - 2020**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216		3,685.1016	3,685.1016	1.1918		3,714.8975
Total	4.0765	42.4173	21.5136	0.0380	18.0663	2.1974	20.2637	9.9307	2.0216	11.9523		3,685.1016	3,685.1016	1.1918		3,714.8975

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	0.0771	0.0665	0.5524	1.3300e-003	0.1479	9.9000e-004	0.1489	0.0392	9.1000e-004	0.0401		132.2860	132.2860	4.6300e-003		132.4016
Total	0.0771	0.0665	0.5524	1.3300e-003	0.1479	9.9000e-004	0.1489	0.0392	9.1000e-004	0.0401		132.2860	132.2860	4.6300e-003		132.4016

Colusa Towne Center - Colusa County, Winter

3.2 Site Preparation - 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	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216	0.0000	3,685.1016	3,685.1016	1.1918		3,714.8975
Total	4.0765	42.4173	21.5136	0.0380	18.0663	2.1974	20.2637	9.9307	2.0216	11.9523	0.0000	3,685.1016	3,685.1016	1.1918		3,714.8975

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	0.0771	0.0665	0.5524	1.3300e-003	0.1479	9.9000e-004	0.1489	0.0392	9.1000e-004	0.0401		132.2860	132.2860	4.6300e-003		132.4016
Total	0.0771	0.0665	0.5524	1.3300e-003	0.1479	9.9000e-004	0.1489	0.0392	9.1000e-004	0.0401		132.2860	132.2860	4.6300e-003		132.4016

Colusa Towne Center - Colusa County, Winter

3.3 Grading - 2020**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716		2,872.485 1	2,872.485 1	0.9290		2,895.710 6
Total	2.4288	26.3859	16.0530	0.0297	6.5523	1.2734	7.8258	3.3675	1.1716	4.5390		2,872.485 1	2,872.485 1	0.9290		2,895.710 6

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	0.0642	0.0554	0.4604	1.1100e-003	0.1232	8.2000e-004	0.1241	0.0327	7.6000e-004	0.0334		110.2383	110.2383	3.8500e-003		110.3347
Total	0.0642	0.0554	0.4604	1.1100e-003	0.1232	8.2000e-004	0.1241	0.0327	7.6000e-004	0.0334		110.2383	110.2383	3.8500e-003		110.3347

Colusa Towne Center - Colusa County, Winter

3.3 Grading - 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	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716	0.0000	2,872.485 1	2,872.485 1	0.9290		2,895.710 6
Total	2.4288	26.3859	16.0530	0.0297	6.5523	1.2734	7.8258	3.3675	1.1716	4.5390	0.0000	2,872.485 1	2,872.485 1	0.9290		2,895.710 6

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	0.0642	0.0554	0.4604	1.1100e-003	0.1232	8.2000e-004	0.1241	0.0327	7.6000e-004	0.0334		110.2383	110.2383	3.8500e-003		110.3347
Total	0.0642	0.0554	0.4604	1.1100e-003	0.1232	8.2000e-004	0.1241	0.0327	7.6000e-004	0.0334		110.2383	110.2383	3.8500e-003		110.3347

Colusa Towne Center - Colusa County, Winter

3.4 Building Construction - 2020**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.063 1	2,553.063 1	0.6229		2,568.634 5
Total	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.063 1	2,553.063 1	0.6229		2,568.634 5

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	0.2076	4.4726	1.5537	0.0109	0.2577	0.0241	0.2817	0.0742	0.0230	0.0972		1,139.780 3	1,139.780 3	0.0777		1,141.723 8
Worker	0.4025	0.3473	2.8849	6.9400e-003	0.7722	5.1700e-003	0.7774	0.2048	4.7600e-003	0.2096		690.8266	690.8266	0.0242		691.4306
Total	0.6101	4.8198	4.4386	0.0179	1.0299	0.0292	1.0591	0.2790	0.0278	0.3068		1,830.606 9	1,830.606 9	0.1019		1,833.154 3

Colusa Towne Center - Colusa County, Winter

3.4 Building Construction - 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	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.063 1	2,553.063 1	0.6229		2,568.634 5
Total	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.063 1	2,553.063 1	0.6229		2,568.634 5

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	0.2076	4.4726	1.5537	0.0109	0.2577	0.0241	0.2817	0.0742	0.0230	0.0972		1,139.780 3	1,139.780 3	0.0777		1,141.723 8
Worker	0.4025	0.3473	2.8849	6.9400e-003	0.7722	5.1700e-003	0.7774	0.2048	4.7600e-003	0.2096		690.8266	690.8266	0.0242		691.4306
Total	0.6101	4.8198	4.4386	0.0179	1.0299	0.0292	1.0591	0.2790	0.0278	0.3068		1,830.606 9	1,830.606 9	0.1019		1,833.154 3

Colusa Towne Center - Colusa County, Winter

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	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643

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	0.1780	4.0832	1.3648	0.0109	0.2577	0.0131	0.2708	0.0742	0.0126	0.0868		1,131.0232	1,131.0232	0.0766		1,132.9392
Worker	0.3704	0.3085	2.6026	6.7000e-003	0.7722	4.9800e-003	0.7772	0.2048	4.5900e-003	0.2094		666.8915	666.8915	0.0214		667.4257
Total	0.5484	4.3916	3.9674	0.0176	1.0299	0.0181	1.0480	0.2790	0.0171	0.2962		1,797.9147	1,797.9147	0.0980		1,800.3649

Colusa Towne Center - Colusa County, Winter

3.4 Building Construction - 2021**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643

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	0.1780	4.0832	1.3648	0.0109	0.2577	0.0131	0.2708	0.0742	0.0126	0.0868		1,131.0232	1,131.0232	0.0766		1,132.9392
Worker	0.3704	0.3085	2.6026	6.7000e-003	0.7722	4.9800e-003	0.7772	0.2048	4.5900e-003	0.2094		666.8915	666.8915	0.0214		667.4257
Total	0.5484	4.3916	3.9674	0.0176	1.0299	0.0181	1.0480	0.2790	0.0171	0.2962		1,797.9147	1,797.9147	0.0980		1,800.3649

Colusa Towne Center - Colusa County, Winter

3.5 Paving - 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	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.5816					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.8372	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573

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	0.0591	0.0492	0.4153	1.0700e-003	0.1232	7.9000e-004	0.1240	0.0327	7.3000e-004	0.0334		106.4189	106.4189	3.4100e-003		106.5041
Total	0.0591	0.0492	0.4153	1.0700e-003	0.1232	7.9000e-004	0.1240	0.0327	7.3000e-004	0.0334		106.4189	106.4189	3.4100e-003		106.5041

Colusa Towne Center - Colusa County, Winter

3.5 Paving - 2021**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.5816					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.8372	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573

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	0.0591	0.0492	0.4153	1.0700e-003	0.1232	7.9000e-004	0.1240	0.0327	7.3000e-004	0.0334		106.4189	106.4189	3.4100e-003		106.5041
Total	0.0591	0.0492	0.4153	1.0700e-003	0.1232	7.9000e-004	0.1240	0.0327	7.3000e-004	0.0334		106.4189	106.4189	3.4100e-003		106.5041

Colusa Towne Center - Colusa County, Winter

3.6 Architectural Coating - 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					
Archit. Coating	46.3726					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	46.5915	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309

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	0.0749	0.0624	0.5261	1.3500e-003	0.1561	1.0100e-003	0.1571	0.0414	9.3000e-004	0.0423		134.7972	134.7972	4.3200e-003		134.9052
Total	0.0749	0.0624	0.5261	1.3500e-003	0.1561	1.0100e-003	0.1571	0.0414	9.3000e-004	0.0423		134.7972	134.7972	4.3200e-003		134.9052

Colusa Towne Center - Colusa County, Winter

3.6 Architectural Coating - 2021**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	46.3726					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	46.5915	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309

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	0.0749	0.0624	0.5261	1.3500e-003	0.1561	1.0100e-003	0.1571	0.0414	9.3000e-004	0.0423		134.7972	134.7972	4.3200e-003		134.9052
Total	0.0749	0.0624	0.5261	1.3500e-003	0.1561	1.0100e-003	0.1571	0.0414	9.3000e-004	0.0423		134.7972	134.7972	4.3200e-003		134.9052

4.0 Operational Detail - Mobile

Colusa Towne Center - Colusa County, Winter

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	6.5093	50.1274	71.3467	0.2384	17.2414	0.2483	17.4897	4.6092	0.2341	4.8433		24,194.05 50	24,194.05 50	1.4828		24,231.12 49
Unmitigated	6.6219	51.3000	73.7108	0.2489	18.1489	0.2590	18.4078	4.8518	0.2442	5.0960		25,258.79 97	25,258.79 97	1.5085		25,296.51 28

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Convenience Market (24 Hour)	1,238.03	1,238.03	1238.03	2,927,511	2,781,136
Fast Food Restaurant with Drive Thru	346.55	346.57	346.55	780,977	741,928
Fast Food Restaurant with Drive Thru	584.68	584.71	584.68	1,317,599	1,251,719
Fast Food Restaurant with Drive Thru	467.74	467.76	467.74	1,054,080	1,001,376
Gasoline/Service Station	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Strip Mall	61.08	61.08	61.08	119,285	113,321
Supermarket	1,107.00	1,107.00	1107.00	2,324,335	2,208,118
Total	3,805.07	3,805.14	3,805.07	8,523,787	8,097,598

Colusa Towne Center - Colusa County, Winter

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
Convenience Market (24 Hour)	9.50	7.30	7.30	0.90	80.10	19.00	85	15	0
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	79	21	0
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	79	21	0
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	79	21	0
Gasoline/Service Station	9.50	7.30	7.30	2.00	79.00	19.00	14	27	59
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	60	40	0
Supermarket	9.50	7.30	7.30	6.50	74.50	19.00	70	30	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Convenience Market (24 Hour)	0.536952	0.036131	0.183149	0.127934	0.026885	0.006680	0.007966	0.065455	0.000936	0.001568	0.004917	0.000552	0.000876
Fast Food Restaurant with Drive Thru	0.536952	0.036131	0.183149	0.127934	0.026885	0.006680	0.007966	0.065455	0.000936	0.001568	0.004917	0.000552	0.000876
Gasoline/Service Station	0.536952	0.036131	0.183149	0.127934	0.026885	0.006680	0.007966	0.065455	0.000936	0.001568	0.004917	0.000552	0.000876
Other Asphalt Surfaces	0.536952	0.036131	0.183149	0.127934	0.026885	0.006680	0.007966	0.065455	0.000936	0.001568	0.004917	0.000552	0.000876
Parking Lot	0.536952	0.036131	0.183149	0.127934	0.026885	0.006680	0.007966	0.065455	0.000936	0.001568	0.004917	0.000552	0.000876
Strip Mall	0.536952	0.036131	0.183149	0.127934	0.026885	0.006680	0.007966	0.065455	0.000936	0.001568	0.004917	0.000552	0.000876
Supermarket	0.536952	0.036131	0.183149	0.127934	0.026885	0.006680	0.007966	0.065455	0.000936	0.001568	0.004917	0.000552	0.000876

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Colusa Towne Center - Colusa County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.0599	0.5447	0.4576	3.2700e-003		0.0414	0.0414		0.0414	0.0414		653.6637	653.6637	0.0125	0.0120	657.5481
NaturalGas Unmitigated	0.0599	0.5447	0.4576	3.2700e-003		0.0414	0.0414		0.0414	0.0414		653.6637	653.6637	0.0125	0.0120	657.5481

Colusa Towne Center - Colusa County, Winter

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					
Convenience Market (24 Hour)	161.819	1.7500e-003	0.0159	0.0133	1.0000e-004		1.2100e-003	1.2100e-003		1.2100e-003	1.2100e-003		19.0376	19.0376	3.6000e-004	3.5000e-004	19.1507
Fast Food Restaurant with Drive Thru	1268.28	0.0137	0.1243	0.1045	7.5000e-004		9.4500e-003	9.4500e-003		9.4500e-003	9.4500e-003		149.2100	149.2100	2.8600e-003	2.7400e-003	150.0967
Fast Food Restaurant with Drive Thru	1582.47	0.0171	0.1551	0.1303	9.3000e-004		0.0118	0.0118		0.0118	0.0118		186.1734	186.1734	3.5700e-003	3.4100e-003	187.2797
Fast Food Restaurant with Drive Thru	941.413	0.0102	0.0923	0.0775	5.5000e-004		7.0100e-003	7.0100e-003		7.0100e-003	7.0100e-003		110.7545	110.7545	2.1200e-003	2.0300e-003	111.4127
Gasoline/Service Station	129.154	1.3900e-003	0.0127	0.0106	8.0000e-005		9.6000e-004	9.6000e-004		9.6000e-004	9.6000e-004		15.1946	15.1946	2.9000e-004	2.8000e-004	15.2849
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	51.2427	5.5000e-004	5.0200e-003	4.2200e-003	3.0000e-005		3.8000e-004	3.8000e-004		3.8000e-004	3.8000e-004		6.0286	6.0286	1.2000e-004	1.1000e-004	6.0644
Supermarket	1421.75	0.0153	0.1394	0.1171	8.4000e-004		0.0106	0.0106		0.0106	0.0106		167.2651	167.2651	3.2100e-003	3.0700e-003	168.2591
Total		0.0599	0.5447	0.4576	3.2800e-003		0.0414	0.0414		0.0414	0.0414		653.6637	653.6637	0.0125	0.0120	657.5481

Colusa Towne Center - Colusa County, Winter

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					
Convenience Market (24 Hour)	0.161819	1.7500e-003	0.0159	0.0133	1.0000e-004		1.2100e-003	1.2100e-003		1.2100e-003	1.2100e-003		19.0376	19.0376	3.6000e-004	3.5000e-004	19.1507
Fast Food Restaurant with Drive Thru	1.26828	0.0137	0.1243	0.1045	7.5000e-004		9.4500e-003	9.4500e-003		9.4500e-003	9.4500e-003		149.2100	149.2100	2.8600e-003	2.7400e-003	150.0967
Fast Food Restaurant with Drive Thru	1.58247	0.0171	0.1551	0.1303	9.3000e-004		0.0118	0.0118		0.0118	0.0118		186.1734	186.1734	3.5700e-003	3.4100e-003	187.2797
Fast Food Restaurant with Drive Thru	0.941413	0.0102	0.0923	0.0775	5.5000e-004		7.0100e-003	7.0100e-003		7.0100e-003	7.0100e-003		110.7545	110.7545	2.1200e-003	2.0300e-003	111.4127
Gasoline/Service Station	0.129154	1.3900e-003	0.0127	0.0106	8.0000e-005		9.6000e-004	9.6000e-004		9.6000e-004	9.6000e-004		15.1946	15.1946	2.9000e-004	2.8000e-004	15.2849
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.0512427	5.5000e-004	5.0200e-003	4.2200e-003	3.0000e-005		3.8000e-004	3.8000e-004		3.8000e-004	3.8000e-004		6.0286	6.0286	1.2000e-004	1.1000e-004	6.0644
Supermarket	1.42175	0.0153	0.1394	0.1171	8.4000e-004		0.0106	0.0106		0.0106	0.0106		167.2651	167.2651	3.2100e-003	3.0700e-003	168.2591
Total		0.0599	0.5447	0.4576	3.2800e-003		0.0414	0.0414		0.0414	0.0414		653.6637	653.6637	0.0125	0.0120	657.5481

6.0 Area Detail**6.1 Mitigation Measures Area**

Colusa Towne Center - Colusa County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	1.0561	2.2000e-004	0.0245	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0522	0.0522	1.4000e-004		0.0557
Unmitigated	1.0561	2.2000e-004	0.0245	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0522	0.0522	1.4000e-004		0.0557

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	0.2541					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.7997					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.2800e-003	2.2000e-004	0.0245	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0522	0.0522	1.4000e-004		0.0557
Total	1.0561	2.2000e-004	0.0245	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0522	0.0522	1.4000e-004		0.0557

Colusa Towne Center - Colusa County, Winter

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	0.2541					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.7997					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.2800e-003	2.2000e-004	0.0245	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0522	0.0522	1.4000e-004		0.0557
Total	1.0561	2.2000e-004	0.0245	0.0000		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		0.0522	0.0522	1.4000e-004		0.0557

7.0 Water Detail**7.1 Mitigation Measures Water****8.0 Waste Detail****8.1 Mitigation Measures Waste****9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

Colusa Towne Center - Colusa County, Winter

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

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

Equipment Type	Number
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11.0 Vegetation

ATTACHMENT B

Annual Greenhouse Gas Emissions

Colusa Towne Center - Colusa County, Annual

Colusa Towne Center

Colusa County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	2.80	Acre	2.75	121,968.00	0
Parking Lot	188.00	Space	1.69	75,200.00	0
Fast Food Restaurant with Drive Thru	1.63	1000sqft	0.04	1,633.00	0
Fast Food Restaurant with Drive Thru	2.75	1000sqft	0.06	2,745.00	0
Fast Food Restaurant with Drive Thru	2.20	1000sqft	0.05	2,200.00	0
Convenience Market (24 Hour)	5.52	1000sqft	0.13	5,520.00	0
Gasoline/Service Station	16.00	Pump	0.05	2,258.80	0
Strip Mall	1.75	1000sqft	0.04	1,748.00	0
Supermarket	18.00	1000sqft	0.41	18,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	56
Climate Zone	3			Operational Year	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	290	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Colusa Towne Center - Colusa County, Annual

Project Characteristics - PG&E 2020 CO2 Intensity Factor

Land Use - Land uses account for 3,000 sf store with 600 sf storage room and 1,920 sf carwash, 6,578 sf of restaurants, 19,748 sf of retail, a 16-pump gas dispensing area, 188 parking spaces, and 2.8 acres of internal circulation and other hardscape.

Construction Phase - Building construction, paving, and painting assumed to occur simultaneously

Vehicle Trips - Trip generation per Traffic Impact Analysis

Water And Wastewater - Water consumption adjusted to reflect water use at carwash, based on the estimate of 24.6 gallons per carwash from the International Carwash Association. Assumes 72 carwashes daily

Mobile Land Use Mitigation -

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	1,630.00	1,633.00
tblLandUse	LandUseSquareFeet	2,750.00	2,745.00
tblLandUse	LandUseSquareFeet	1,750.00	1,748.00
tblLandUse	LotAcreage	2.80	2.75
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblVehicleTrips	PB_TP	61.00	0.00
tblVehicleTrips	PB_TP	50.00	0.00
tblVehicleTrips	PB_TP	15.00	0.00
tblVehicleTrips	PB_TP	36.00	0.00
tblVehicleTrips	PR_TP	24.00	85.00
tblVehicleTrips	PR_TP	29.00	79.00
tblVehicleTrips	PR_TP	45.00	60.00
tblVehicleTrips	PR_TP	34.00	70.00
tblVehicleTrips	ST_TR	863.10	224.28
tblVehicleTrips	ST_TR	722.03	212.62
tblVehicleTrips	ST_TR	168.56	0.00
tblVehicleTrips	ST_TR	42.04	34.90
tblVehicleTrips	ST_TR	177.59	61.50

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tblVehicleTrips	SU_TR	758.45	224.28
tblVehicleTrips	SU_TR	542.72	212.61
tblVehicleTrips	SU_TR	168.56	0.00
tblVehicleTrips	SU_TR	20.43	34.90
tblVehicleTrips	SU_TR	166.44	61.50
tblVehicleTrips	WD_TR	737.99	224.28
tblVehicleTrips	WD_TR	496.12	212.61
tblVehicleTrips	WD_TR	168.56	0.00
tblVehicleTrips	WD_TR	44.32	34.90
tblVehicleTrips	WD_TR	102.24	61.50
tblWater	IndoorWaterUseRate	408,880.32	410,651.00
tblWater	IndoorWaterUseRate	212,510.22	0.00

2.0 Emissions Summary

Colusa Towne Center - Colusa County, Annual

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.2981	2.7181	2.2515	4.7300e-003	0.2510	0.1309	0.3819	0.1092	0.1226	0.2318	0.0000	420.1814	420.1814	0.0750	0.0000	422.0560
2021	0.5376	0.6141	0.6129	1.2500e-003	0.0241	0.0287	0.0529	6.5400e-003	0.0269	0.0335	0.0000	110.5948	110.5948	0.0206	0.0000	111.1089
Maximum	0.5376	2.7181	2.2515	4.7300e-003	0.2510	0.1309	0.3819	0.1092	0.1226	0.2318	0.0000	420.1814	420.1814	0.0750	0.0000	422.0560

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.2981	2.7181	2.2514	4.7300e-003	0.2510	0.1309	0.3819	0.1092	0.1226	0.2318	0.0000	420.1811	420.1811	0.0750	0.0000	422.0557
2021	0.5376	0.6141	0.6129	1.2500e-003	0.0241	0.0287	0.0529	6.5400e-003	0.0269	0.0335	0.0000	110.5947	110.5947	0.0206	0.0000	111.1088
Maximum	0.5376	2.7181	2.2514	4.7300e-003	0.2510	0.1309	0.3819	0.1092	0.1226	0.2318	0.0000	420.1811	420.1811	0.0750	0.0000	422.0557

[illegible]

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	3-4-2020	6-3-2020	0.9977	0.9977
2	6-4-2020	9-3-2020	0.8743	0.8743
3	9-4-2020	12-3-2020	0.8677	0.8677
4	12-4-2020	3-3-2021	0.8015	0.8015
5	3-4-2021	6-3-2021	0.6259	0.6259
		Highest	0.9977	0.9977

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1925	2.0000e-005	2.2000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.2600e-003	4.2600e-003	1.0000e-005	0.0000	4.5500e-003
Energy	0.0109	0.0994	0.0835	6.0000e-004		7.5600e-003	7.5600e-003		7.5600e-003	7.5600e-003	0.0000	225.2990	225.2990	0.0138	4.4100e-003	226.9566
Mobile	1.2698	9.2398	12.7461	0.0466	3.1950	0.0464	3.2413	0.8565	0.0437	0.9002	0.0000	4,293.797 1	4,293.797 1	0.2374	0.0000	4,299.733 1
Waste						0.0000	0.0000		0.0000	0.0000	41.4832	0.0000	41.4832	2.4516	0.0000	102.7730
Water						0.0000	0.0000		0.0000	0.0000	1.5090	3.6877	5.1966	0.1554	3.7400e-003	10.1938
Total	1.4733	9.3392	12.8318	0.0472	3.1950	0.0539	3.2489	0.8565	0.0513	0.9078	42.9922	4,522.788 0	4,565.780 2	2.8582	8.1500e-003	4,639.661 0

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2.2 Overall Operational**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1925	2.0000e-005	2.2000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.2600e-003	4.2600e-003	1.0000e-005	0.0000	4.5500e-003
Energy	0.0109	0.0994	0.0835	6.0000e-004		7.5600e-003	7.5600e-003		7.5600e-003	7.5600e-003	0.0000	225.2990	225.2990	0.0138	4.4100e-003	226.9566
Mobile	1.2492	9.0349	12.3015	0.0447	3.0352	0.0444	3.0797	0.8137	0.0419	0.8555	0.0000	4,114.2575	4,114.2575	0.2331	0.0000	4,120.0846
Waste						0.0000	0.0000		0.0000	0.0000	41.4832	0.0000	41.4832	2.4516	0.0000	102.7730
Water						0.0000	0.0000		0.0000	0.0000	1.5090	3.6877	5.1966	0.1554	3.7400e-003	10.1938
Total	1.4527	9.1343	12.3872	0.0453	3.0352	0.0520	3.0872	0.8137	0.0494	0.8631	42.9922	4,343.2485	4,386.2407	2.8538	8.1500e-003	4,460.0125

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	1.40	2.19	3.46	4.13	5.00	3.60	4.98	5.00	3.57	4.92	0.00	3.97	3.93	0.15	0.00	3.87

3.0 Construction Detail**Construction Phase**

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	3/4/2020	3/17/2020	5	10	
2	Grading	Grading	3/18/2020	4/14/2020	5	20	
3	Building Construction	Building Construction	4/15/2020	3/2/2021	5	230	
4	Paving	Paving	3/3/2021	3/30/2021	5	20	
5	Architectural Coating	Architectural Coating	3/31/2021	4/27/2021	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 4.44

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 51,157; Non-Residential Outdoor: 17,052; Striped Parking Area: 11,830 (Architectural Coating – sqft)

OffRoad Equipment

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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	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	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	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	94.00	38.00	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	19.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

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3.2 Site Preparation - 2020**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0204	0.2121	0.1076	1.9000e-004		0.0110	0.0110		0.0101	0.0101	0.0000	16.7153	16.7153	5.4100e-003	0.0000	16.8505
Total	0.0204	0.2121	0.1076	1.9000e-004	0.0903	0.0110	0.1013	0.0497	0.0101	0.0598	0.0000	16.7153	16.7153	5.4100e-003	0.0000	16.8505

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6000e-004	3.0000e-004	2.7400e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6202	0.6202	2.0000e-005	0.0000	0.6207
Total	3.6000e-004	3.0000e-004	2.7400e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6202	0.6202	2.0000e-005	0.0000	0.6207

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3.2 Site Preparation - 2020**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0204	0.2121	0.1076	1.9000e-004		0.0110	0.0110		0.0101	0.0101	0.0000	16.7153	16.7153	5.4100e-003	0.0000	16.8505
Total	0.0204	0.2121	0.1076	1.9000e-004	0.0903	0.0110	0.1013	0.0497	0.0101	0.0598	0.0000	16.7153	16.7153	5.4100e-003	0.0000	16.8505

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.6000e-004	3.0000e-004	2.7400e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6202	0.6202	2.0000e-005	0.0000	0.6207
Total	3.6000e-004	3.0000e-004	2.7400e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6202	0.6202	2.0000e-005	0.0000	0.6207

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3.3 Grading - 2020**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0655	0.0000	0.0655	0.0337	0.0000	0.0337	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0243	0.2639	0.1605	3.0000e-004		0.0127	0.0127		0.0117	0.0117	0.0000	26.0588	26.0588	8.4300e-003	0.0000	26.2694
Total	0.0243	0.2639	0.1605	3.0000e-004	0.0655	0.0127	0.0783	0.0337	0.0117	0.0454	0.0000	26.0588	26.0588	8.4300e-003	0.0000	26.2694

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	6.1000e-004	5.0000e-004	4.5600e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0337	1.0337	4.0000e-005	0.0000	1.0345
Total	6.1000e-004	5.0000e-004	4.5600e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0337	1.0337	4.0000e-005	0.0000	1.0345

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3.3 Grading - 2020**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0655	0.0000	0.0655	0.0337	0.0000	0.0337	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0243	0.2639	0.1605	3.0000e-004		0.0127	0.0127		0.0117	0.0117	0.0000	26.0587	26.0587	8.4300e-003	0.0000	26.2694
Total	0.0243	0.2639	0.1605	3.0000e-004	0.0655	0.0127	0.0783	0.0337	0.0117	0.0454	0.0000	26.0587	26.0587	8.4300e-003	0.0000	26.2694

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	6.1000e-004	5.0000e-004	4.5600e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0337	1.0337	4.0000e-005	0.0000	1.0345
Total	6.1000e-004	5.0000e-004	4.5600e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.0337	1.0337	4.0000e-005	0.0000	1.0345

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3.4 Building Construction - 2020**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1982	1.7939	1.5753	2.5200e-003		0.1044	0.1044		0.0982	0.0982	0.0000	216.5553	216.5553	0.0528	0.0000	217.8761
Total	0.1982	1.7939	1.5753	2.5200e-003		0.1044	0.1044		0.0982	0.0982	0.0000	216.5553	216.5553	0.0528	0.0000	217.8761

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	0.0186	0.4184	0.1333	1.0400e-003	0.0234	2.2200e-003	0.0257	6.7800e-003	2.1200e-003	8.9000e-003	0.0000	98.6331	98.6331	6.1800e-003	0.0000	98.7877
Worker	0.0356	0.0291	0.2674	6.7000e-004	0.0698	4.8000e-004	0.0703	0.0186	4.5000e-004	0.0190	0.0000	60.5650	60.5650	2.0800e-003	0.0000	60.6170
Total	0.0542	0.4475	0.4007	1.7100e-003	0.0932	2.7000e-003	0.0959	0.0253	2.5700e-003	0.0279	0.0000	159.1981	159.1981	8.2600e-003	0.0000	159.4047

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3.4 Building Construction - 2020**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1982	1.7939	1.5753	2.5200e-003		0.1044	0.1044		0.0982	0.0982	0.0000	216.5551	216.5551	0.0528	0.0000	217.8759
Total	0.1982	1.7939	1.5753	2.5200e-003		0.1044	0.1044		0.0982	0.0982	0.0000	216.5551	216.5551	0.0528	0.0000	217.8759

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	0.0186	0.4184	0.1333	1.0400e-003	0.0234	2.2200e-003	0.0257	6.7800e-003	2.1200e-003	8.9000e-003	0.0000	98.6331	98.6331	6.1800e-003	0.0000	98.7877
Worker	0.0356	0.0291	0.2674	6.7000e-004	0.0698	4.8000e-004	0.0703	0.0186	4.5000e-004	0.0190	0.0000	60.5650	60.5650	2.0800e-003	0.0000	60.6170
Total	0.0542	0.4475	0.4007	1.7100e-003	0.0932	2.7000e-003	0.0959	0.0253	2.5700e-003	0.0279	0.0000	159.1981	159.1981	8.2600e-003	0.0000	159.4047

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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	0.0409	0.3748	0.3564	5.8000e-004		0.0206	0.0206		0.0194	0.0194	0.0000	49.8020	49.8020	0.0120	0.0000	50.1024
Total	0.0409	0.3748	0.3564	5.8000e-004		0.0206	0.0206		0.0194	0.0194	0.0000	49.8020	49.8020	0.0120	0.0000	50.1024

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	3.6600e-003	0.0879	0.0268	2.4000e-004	5.3900e-003	2.8000e-004	5.6600e-003	1.5600e-003	2.6000e-004	1.8200e-003	0.0000	22.5102	22.5102	1.4000e-003	0.0000	22.5452
Worker	7.5300e-003	5.9400e-003	0.0556	1.5000e-004	0.0161	1.1000e-004	0.0162	4.2700e-003	1.0000e-004	4.3700e-003	0.0000	13.4441	13.4441	4.2000e-004	0.0000	13.4547
Total	0.0112	0.0939	0.0824	3.9000e-004	0.0214	3.9000e-004	0.0218	5.8300e-003	3.6000e-004	6.1900e-003	0.0000	35.9543	35.9543	1.8200e-003	0.0000	35.9999

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3.4 Building Construction - 2021**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0409	0.3748	0.3564	5.8000e-004		0.0206	0.0206		0.0194	0.0194	0.0000	49.8020	49.8020	0.0120	0.0000	50.1023
Total	0.0409	0.3748	0.3564	5.8000e-004		0.0206	0.0206		0.0194	0.0194	0.0000	49.8020	49.8020	0.0120	0.0000	50.1023

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	3.6600e-003	0.0879	0.0268	2.4000e-004	5.3900e-003	2.8000e-004	5.6600e-003	1.5600e-003	2.6000e-004	1.8200e-003	0.0000	22.5102	22.5102	1.4000e-003	0.0000	22.5452
Worker	7.5300e-003	5.9400e-003	0.0556	1.5000e-004	0.0161	1.1000e-004	0.0162	4.2700e-003	1.0000e-004	4.3700e-003	0.0000	13.4441	13.4441	4.2000e-004	0.0000	13.4547
Total	0.0112	0.0939	0.0824	3.9000e-004	0.0214	3.9000e-004	0.0218	5.8300e-003	3.6000e-004	6.1900e-003	0.0000	35.9543	35.9543	1.8200e-003	0.0000	35.9999

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3.5 Paving - 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	0.0126	0.1292	0.1465	2.3000e-004		6.7800e-003	6.7800e-003		6.2400e-003	6.2400e-003	0.0000	20.0235	20.0235	6.4800e-003	0.0000	20.1854
Paving	5.8200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0184	0.1292	0.1465	2.3000e-004		6.7800e-003	6.7800e-003		6.2400e-003	6.2400e-003	0.0000	20.0235	20.0235	6.4800e-003	0.0000	20.1854

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	4.4000e-004	4.1300e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9978	0.9978	3.0000e-005	0.0000	0.9986
Total	5.6000e-004	4.4000e-004	4.1300e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9978	0.9978	3.0000e-005	0.0000	0.9986

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3.5 Paving - 2021**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0126	0.1292	0.1465	2.3000e-004		6.7800e-003	6.7800e-003		6.2400e-003	6.2400e-003	0.0000	20.0235	20.0235	6.4800e-003	0.0000	20.1854
Paving	5.8200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0184	0.1292	0.1465	2.3000e-004		6.7800e-003	6.7800e-003		6.2400e-003	6.2400e-003	0.0000	20.0235	20.0235	6.4800e-003	0.0000	20.1854

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	4.4000e-004	4.1300e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9978	0.9978	3.0000e-005	0.0000	0.9986
Total	5.6000e-004	4.4000e-004	4.1300e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	0.9978	0.9978	3.0000e-005	0.0000	0.9986

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3.6 Architectural Coating - 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					
Archit. Coating	0.4637					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1900e-003	0.0153	0.0182	3.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	2.5533	2.5533	1.8000e-004	0.0000	2.5576
Total	0.4659	0.0153	0.0182	3.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	2.5533	2.5533	1.8000e-004	0.0000	2.5576

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	7.1000e-004	5.6000e-004	5.2300e-003	1.0000e-005	1.5100e-003	1.0000e-005	1.5200e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.2639	1.2639	4.0000e-005	0.0000	1.2649
Total	7.1000e-004	5.6000e-004	5.2300e-003	1.0000e-005	1.5100e-003	1.0000e-005	1.5200e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.2639	1.2639	4.0000e-005	0.0000	1.2649

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3.6 Architectural Coating - 2021**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4637					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1900e-003	0.0153	0.0182	3.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	2.5533	2.5533	1.8000e-004	0.0000	2.5576
Total	0.4659	0.0153	0.0182	3.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	2.5533	2.5533	1.8000e-004	0.0000	2.5576

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	7.1000e-004	5.6000e-004	5.2300e-003	1.0000e-005	1.5100e-003	1.0000e-005	1.5200e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.2639	1.2639	4.0000e-005	0.0000	1.2649
Total	7.1000e-004	5.6000e-004	5.2300e-003	1.0000e-005	1.5100e-003	1.0000e-005	1.5200e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.2639	1.2639	4.0000e-005	0.0000	1.2649

4.0 Operational Detail - Mobile

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4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	1.2492	9.0349	12.3015	0.0447	3.0352	0.0444	3.0797	0.8137	0.0419	0.8555	0.0000	4,114.2575	4,114.2575	0.2331	0.0000	4,120.0846
Unmitigated	1.2698	9.2398	12.7461	0.0466	3.1950	0.0464	3.2413	0.8565	0.0437	0.9002	0.0000	4,293.7971	4,293.7971	0.2374	0.0000	4,299.7331

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Convenience Market (24 Hour)	1,238.03	1,238.03	1238.03	2,927,511	2,781,136
Fast Food Restaurant with Drive Thru	346.55	346.57	346.55	780,977	741,928
Fast Food Restaurant with Drive Thru	584.68	584.71	584.68	1,317,599	1,251,719
Fast Food Restaurant with Drive Thru	467.74	467.76	467.74	1,054,080	1,001,376
Gasoline/Service Station	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Strip Mall	61.08	61.08	61.08	119,285	113,321
Supermarket	1,107.00	1,107.00	1107.00	2,324,335	2,208,118
Total	3,805.07	3,805.14	3,805.07	8,523,787	8,097,598

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4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
Convenience Market (24 Hour)	9.50	7.30	7.30	0.90	80.10	19.00	85	15	0
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	79	21	0
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	79	21	0
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	79	21	0
Gasoline/Service Station	9.50	7.30	7.30	2.00	79.00	19.00	14	27	59
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	60	40	0
Supermarket	9.50	7.30	7.30	6.50	74.50	19.00	70	30	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Convenience Market (24 Hour)	0.536952	0.036131	0.183149	0.127934	0.026885	0.006680	0.007966	0.065455	0.000936	0.001568	0.004917	0.000552	0.000876
Fast Food Restaurant with Drive Thru	0.536952	0.036131	0.183149	0.127934	0.026885	0.006680	0.007966	0.065455	0.000936	0.001568	0.004917	0.000552	0.000876
Gasoline/Service Station	0.536952	0.036131	0.183149	0.127934	0.026885	0.006680	0.007966	0.065455	0.000936	0.001568	0.004917	0.000552	0.000876
Other Asphalt Surfaces	0.536952	0.036131	0.183149	0.127934	0.026885	0.006680	0.007966	0.065455	0.000936	0.001568	0.004917	0.000552	0.000876
Parking Lot	0.536952	0.036131	0.183149	0.127934	0.026885	0.006680	0.007966	0.065455	0.000936	0.001568	0.004917	0.000552	0.000876
Strip Mall	0.536952	0.036131	0.183149	0.127934	0.026885	0.006680	0.007966	0.065455	0.000936	0.001568	0.004917	0.000552	0.000876
Supermarket	0.536952	0.036131	0.183149	0.127934	0.026885	0.006680	0.007966	0.065455	0.000936	0.001568	0.004917	0.000552	0.000876

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	117.0777	117.0777	0.0117	2.4200e-003	118.0922
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	117.0777	117.0777	0.0117	2.4200e-003	118.0922
NaturalGas Mitigated	0.0109	0.0994	0.0835	6.0000e-004		7.5600e-003	7.5600e-003		7.5600e-003	7.5600e-003	0.0000	108.2214	108.2214	2.0700e-003	1.9800e-003	108.8645
NaturalGas Unmitigated	0.0109	0.0994	0.0835	6.0000e-004		7.5600e-003	7.5600e-003		7.5600e-003	7.5600e-003	0.0000	108.2214	108.2214	2.0700e-003	1.9800e-003	108.8645

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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					
Convenience Market (24 Hour)	59064	3.2000e-004	2.9000e-003	2.4300e-003	2.0000e-005		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	3.1519	3.1519	6.0000e-005	6.0000e-005	3.1706
Fast Food Restaurant with Drive Thru	343616	1.8500e-003	0.0168	0.0142	1.0000e-004		1.2800e-003	1.2800e-003		1.2800e-003	1.2800e-003	0.0000	18.3367	18.3367	3.5000e-004	3.4000e-004	18.4456
Fast Food Restaurant with Drive Thru	462924	2.5000e-003	0.0227	0.0191	1.4000e-004		1.7200e-003	1.7200e-003		1.7200e-003	1.7200e-003	0.0000	24.7034	24.7034	4.7000e-004	4.5000e-004	24.8502
Fast Food Restaurant with Drive Thru	577603	3.1100e-003	0.0283	0.0238	1.7000e-004		2.1500e-003	2.1500e-003		2.1500e-003	2.1500e-003	0.0000	30.8231	30.8231	5.9000e-004	5.7000e-004	31.0063
Gasoline/Service Station	47141.2	2.5000e-004	2.3100e-003	1.9400e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	2.5156	2.5156	5.0000e-005	5.0000e-005	2.5306
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	18703.6	1.0000e-004	9.2000e-004	7.7000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.9981	0.9981	2.0000e-005	2.0000e-005	1.0040
Supermarket	518940	2.8000e-003	0.0254	0.0214	1.5000e-004		1.9300e-003	1.9300e-003		1.9300e-003	1.9300e-003	0.0000	27.6926	27.6926	5.3000e-004	5.1000e-004	27.8572
Total		0.0109	0.0994	0.0835	6.0000e-004		7.5500e-003	7.5500e-003		7.5500e-003	7.5500e-003	0.0000	108.2214	108.2214	2.0700e-003	2.0000e-003	108.8645

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5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Convenience Market (24 Hour)	59064	3.2000e-004	2.9000e-003	2.4300e-003	2.0000e-005		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	3.1519	3.1519	6.0000e-005	6.0000e-005	3.1706
Fast Food Restaurant with Drive Thru	343616	1.8500e-003	0.0168	0.0142	1.0000e-004		1.2800e-003	1.2800e-003		1.2800e-003	1.2800e-003	0.0000	18.3367	18.3367	3.5000e-004	3.4000e-004	18.4456
Fast Food Restaurant with Drive Thru	462924	2.5000e-003	0.0227	0.0191	1.4000e-004		1.7200e-003	1.7200e-003		1.7200e-003	1.7200e-003	0.0000	24.7034	24.7034	4.7000e-004	4.5000e-004	24.8502
Fast Food Restaurant with Drive Thru	577603	3.1100e-003	0.0283	0.0238	1.7000e-004		2.1500e-003	2.1500e-003		2.1500e-003	2.1500e-003	0.0000	30.8231	30.8231	5.9000e-004	5.7000e-004	31.0063
Gasoline/Service Station	47141.2	2.5000e-004	2.3100e-003	1.9400e-003	1.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	2.5156	2.5156	5.0000e-005	5.0000e-005	2.5306
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	18703.6	1.0000e-004	9.2000e-004	7.7000e-004	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.9981	0.9981	2.0000e-005	2.0000e-005	1.0040
Supermarket	518940	2.8000e-003	0.0254	0.0214	1.5000e-004		1.9300e-003	1.9300e-003		1.9300e-003	1.9300e-003	0.0000	27.6926	27.6926	5.3000e-004	5.1000e-004	27.8572
Total		0.0109	0.0994	0.0835	6.0000e-004		7.5500e-003	7.5500e-003		7.5500e-003	7.5500e-003	0.0000	108.2214	108.2214	2.0700e-003	2.0000e-003	108.8645

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5.3 Energy by Land Use - Electricity**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Convenience Market (24 Hour)	44988	5.9178	5.9000e-004	1.2000e-004	5.9691
Fast Food Restaurant with Drive Thru	47308	6.2230	6.2000e-004	1.3000e-004	6.2769
Fast Food Restaurant with Drive Thru	63734	8.3837	8.4000e-004	1.7000e-004	8.4563
Fast Food Restaurant with Drive Thru	79522.6	10.4606	1.0500e-003	2.2000e-004	10.5512
Gasoline/Service Station	19922.6	2.6207	2.6000e-004	5.0000e-005	2.6434
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	26320	3.4622	3.5000e-004	7.0000e-005	3.4922
Strip Mall	14246.2	1.8740	1.9000e-004	4.0000e-005	1.8902
Supermarket	594000	78.1358	7.8100e-003	1.6200e-003	78.8129
Total		117.0776	0.0117	2.4200e-003	118.0922

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5.3 Energy by Land Use - Electricity**Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Convenience Market (24 Hour)	44988	5.9178	5.9000e-004	1.2000e-004	5.9691
Fast Food Restaurant with Drive Thru	47308	6.2230	6.2000e-004	1.3000e-004	6.2769
Fast Food Restaurant with Drive Thru	63734	8.3837	8.4000e-004	1.7000e-004	8.4563
Fast Food Restaurant with Drive Thru	79522.6	10.4606	1.0500e-003	2.2000e-004	10.5512
Gasoline/Service Station	19922.6	2.6207	2.6000e-004	5.0000e-005	2.6434
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	26320	3.4622	3.5000e-004	7.0000e-005	3.4922
Strip Mall	14246.2	1.8740	1.9000e-004	4.0000e-005	1.8902
Supermarket	594000	78.1358	7.8100e-003	1.6200e-003	78.8129
Total		117.0776	0.0117	2.4200e-003	118.0922

6.0 Area Detail**6.1 Mitigation Measures Area**

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1925	2.0000e-005	2.2000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.2600e-003	4.2600e-003	1.0000e-005	0.0000	4.5500e-003
Unmitigated	0.1925	2.0000e-005	2.2000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.2600e-003	4.2600e-003	1.0000e-005	0.0000	4.5500e-003

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	0.0464					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1459					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.1000e-004	2.0000e-005	2.2000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.2600e-003	4.2600e-003	1.0000e-005	0.0000	4.5500e-003
Total	0.1925	2.0000e-005	2.2000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.2600e-003	4.2600e-003	1.0000e-005	0.0000	4.5500e-003

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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	0.0464					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1459					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.1000e-004	2.0000e-005	2.2000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.2600e-003	4.2600e-003	1.0000e-005	0.0000	4.5500e-003
Total	0.1925	2.0000e-005	2.2000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.2600e-003	4.2600e-003	1.0000e-005	0.0000	4.5500e-003

7.0 Water Detail**7.1 Mitigation Measures Water**

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	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	5.1966	0.1554	3.7400e-003	10.1938
Unmitigated	5.1966	0.1554	3.7400e-003	10.1938

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7.2 Water by Land Use**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Convenience Market (24 Hour)	0.410651 / 0.250604	0.5380	0.0134	3.2000e-004	0.9702
Fast Food Restaurant with Drive Thru	1.99725 / 0.127484	2.1139	0.0652	1.5700e-003	4.2117
Gasoline/Service Station	0 / 0.130248	0.0600	1.0000e-005	0.0000	0.0605
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.129627 / 0.0794487	0.1700	4.2400e-003	1.0000e-004	0.3064
Supermarket	2.21883 / 0.0686235	2.3148	0.0725	1.7400e-003	4.6450
Total		5.1966	0.1554	3.7300e-003	10.1938

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7.2 Water by Land Use**Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Convenience Market (24 Hour)	0.410651 / 0.250604	0.5380	0.0134	3.2000e-004	0.9702
Fast Food Restaurant with Drive Thru	1.99725 / 0.127484	2.1139	0.0652	1.5700e-003	4.2117
Gasoline/Service Station	0 / 0.130248	0.0600	1.0000e-005	0.0000	0.0605
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	0.129627 / 0.0794487	0.1700	4.2400e-003	1.0000e-004	0.3064
Supermarket	2.21883 / 0.0686235	2.3148	0.0725	1.7400e-003	4.6450
Total		5.1966	0.1554	3.7300e-003	10.1938

8.0 Waste Detail**8.1 Mitigation Measures Waste**

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Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	41.4832	2.4516	0.0000	102.7730
Unmitigated	41.4832	2.4516	0.0000	102.7730

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8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Convenience Market (24 Hour)	16.59	3.3676	0.1990	0.0000	8.3431
Fast Food Restaurant with Drive Thru	75.79	15.3847	0.9092	0.0000	38.1149
Gasoline/Service Station	8.62	1.7498	0.1034	0.0000	4.3350
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	1.84	0.3735	0.0221	0.0000	0.9253
Supermarket	101.52	20.6076	1.2179	0.0000	51.0546
Total		41.4832	2.4516	0.0000	102.7730

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8.2 Waste by Land Use**Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Convenience Market (24 Hour)	16.59	3.3676	0.1990	0.0000	8.3431
Fast Food Restaurant with Drive Thru	75.79	15.3847	0.9092	0.0000	38.1149
Gasoline/Service Station	8.62	1.7498	0.1034	0.0000	4.3350
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	1.84	0.3735	0.0221	0.0000	0.9253
Supermarket	101.52	20.6076	1.2179	0.0000	51.0546
Total		41.4832	2.4516	0.0000	102.7730

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

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

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

Equipment Type	Number
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11.0 Vegetation
