

## Appendix C

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### Air Quality and Greenhouse Gas Assessment Letter Report

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September 21, 2020

Project # CUC-01

Mr. Binh Nguyen  
City of Union City  
34009 Alvarado-Niles Road  
Union City, CA 95487

**Subject: 1998 Whipple Road New Gas Station and Convenience Store Project Air Quality and Greenhouse Gas Emissions Assessment**

Dear Mr. Nguyen:

HELIX Environmental Planning, Inc. (HELIX) has assessed the air quality and greenhouse gas (GHG) emissions associated with the construction and operation of the proposed 1998 Whipple Road New Gas Station and Convenience Store Project (project). The analysis has been prepared to support environmental review under the California Environmental Quality Act (CEQA).

## PROJECT LOCATION

The project site is located at 1998 Whipple Road, Union City, CA, at the southeast corner of the Whipple Road and Amaral Street intersection. The site coordinates are 37°36'20.74"N latitude and 122° 3'30.38"W longitude (WGS84 coordinate reference system). The 0.55-acre site is currently vacant and is surrounded by industrial park and light industrial development to the north and west, respectively, and residential development to the south and east. See Figure 1, *Vicinity Map* and Figure 2, *Location Map*.

## PROJECT DESCRIPTION

The proposed project would consist of an approximately 2,800 square-foot (SF) 7-Eleven convenience store and a gas station with 3 multi-product dispensers (pumps), 6 dispensing stations, and three underground storage tanks (USTs; two for gasoline and one for diesel). The gasoline dispensers/refueling stations would be covered by a 1,646 SF canopy. 10 parking spaces would be provided in front of the convenience store, including 1 ADA/van accessible parking space. Landscaping and bioretention areas would comprise approximately 6,252 sf (27 percent) of the site. The remaining areas of the project site would be impervious surfaces (pavement or concrete). See Figure 3, *Proposed Site Plan*. The facility would operate 24-hours, 7-days a week with 2 to 3 employees per 8-hour shift. It is anticipated that 2.7 million gallons of fuel would be dispensed annually.

A three-foot wide median island would be constructed on Whipple Road to control turning movements to/from Whipple Road.

The existing overhead utility lines along Amaral Street adjacent to the project site, and crossing Whipple Road, would be terminated at new and existing utility vaults and/or relocated to new underground utility conduits which would extend across Whipple Road to an existing pole on the north side of the street.

## **Project Construction**

Construction is anticipated to begin in January 2021 and last approximately 10 months. Construction activities include site preparation, grading, installation of underground utilities and fuel tanks, construction of structures, paving, and architectural coating (e.g., painting). Project construction would also include street improvements and utility work within the public right of way (ROW) for Whipple Road and Amaral Street.

## **AIR QUALITY ANALYSIS**

### **Environmental Setting**

The project site is located in the western portion of Alameda County within the San Francisco Bay Area Air Basin (SFBAAB), which comprises all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara counties, the southern portion of Sonoma County, and the southwestern portion of Solano County. Air Quality within the SFBAAB is under the regulatory authority of the Bay Area Air Quality Management District (BAAQMD).

Temperature inversion layers (inversions; layers of warmer air over colder air) affect air quality conditions significantly because they influence the mixing depth (i.e., the vertical depth in the atmosphere available for diluting air contaminants near the ground). The highest air pollutant concentrations in the SFBAAB generally occur during inversions. There are two types of inversions that occur regularly in the SFBAAB. The frequent occurrence of elevated inversions in summer and fall months acts to cap the mixing depth, limiting the depth of air available for dilution. Elevated inversions are caused by subsiding air from the subtropical high-pressure zone, and from the cool marine air layer that is drawn into the SFBAAB by the heated low-pressure region in the Central Valley. The inversions typical of winter, called radiation inversions, are formed as heat quickly radiates from the earth's surface after sunset, causing the air in contact with it to rapidly cool. Radiation inversions are strongest on clear, low-wind, cold winter nights, allowing the build-up of such pollutants as carbon monoxide and particulate matter. Mixing depths under these conditions can be as shallow as 50 to 100 meters, particularly in rural areas.

There are 11 climatological subregions within the SFBAAB. The project site is in the Southwestern Alameda County climatological subregion of the air basin. This subregion encompasses the southeast side of San Francisco Bay, from Dublin Canyon to north of Milpitas. The subregion is bordered on the east by the East Bay hills and on the west by the bay. This climate of this subregion is affected by its proximity to San Francisco Bay and, to a lesser extent, by marine air entering through the Golden Gate. The bay cools the air during warm weather, while during cold weather the bay warms the air. The normal northwest wind pattern carries this air onshore. Bay breezes push cool air onshore during the daytime and draw air from the land offshore at night. Winds are predominantly out of the northwest during the summer months. In the winter, winds are equally likely to be from the east. Wind speeds are moderate in this subregion, with annual average wind speeds close to the bay at about 7 miles per hour.

During the summer months, average maximum temperatures are in the mid-70s degrees Fahrenheit (°F). Average maximum winter temperatures are in the high 50s to low 60s °F. Average minimum temperatures are in the low 40s °F in the winter and the mid-50s °F in the summer. Pollution potential is relatively high in this subregion during the summer and fall, and moderate during the winter. Air pollution sources include light and heavy industry, and motor vehicles (BAAQMD 2017a).

## Regulatory Setting

### Criteria Pollutants

Federal and state ambient air quality standards are defined by ambient air concentrations of specific pollutants identified by state and federal agencies (called criteria pollutants) to be of concern with respect to health and welfare of the general public. The criteria pollutants identified and regulated by the USEPA and CARB are:

- Ozone (O<sub>3</sub>)
- Carbon monoxide (CO)
- Nitrogen dioxide (NO<sub>2</sub>)
- Particulate matter (PM), which is further subdivided:
  - Coarse PM, 10 micrometers or less in diameter (PM<sub>10</sub>)
  - Fine PM, 2.5 micrometers or less in diameter (PM<sub>2.5</sub>)
- Sulfur dioxide (SO<sub>2</sub>)
- Lead (Pb)

Criteria pollutants can be emitted directly from sources (primary pollutants; e.g., CO, SO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, and lead), or they may be formed through chemical and photochemical reactions of precursor pollutants in the atmosphere (secondary pollutants; e.g., ozone, NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>). Note that PM<sub>10</sub> and PM<sub>2.5</sub> can be both primary and secondary pollutants. The principal precursor pollutants of concern are reactive organic gasses ([ROGs] also known as volatile organic compounds [VOCs])<sup>1</sup> and nitrogen oxides (NO<sub>x</sub>).

The descriptions of sources and general health effects for each of the criteria air pollutants are shown in Table 1, *Summary of Common Sources and Human Health Effects of Criteria Air Pollutants*, based on information provided by the California Air Pollution Control Officers Association (CAPCOA 2018). Specific adverse health effects to individuals or population groups induced by criteria pollutant emissions are highly dependent on a multitude of interconnected variables (e.g., cumulative concentrations, local meteorology and atmospheric conditions, and the number and character of exposed individuals [e.g., age, gender]). Criteria pollutant precursors (ROG and NO<sub>x</sub>) affect air quality on a regional scale, typically after significant delay and distance from the pollutant source emissions. Health effects related to ozone and NO<sub>2</sub> are, therefore, the product of emissions generated by numerous sources throughout a region. As such, specific health effects from these criteria pollutant emissions cannot be directly correlated to the incremental contribution from a single project.

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<sup>1</sup> CARB defines and uses the term ROGs while the USEPA defines and uses the term VOCs. The compounds included in the lists of ROGs and VOCs and the methods of calculation are slightly different. However, for the purposes of estimating criteria pollutant precursor emissions, the two terms are often used interchangeably.

**Table 1**  
**SUMMARY OF COMMON SOURCES AND HUMAN HEALTH EFFECTS OF CRITERIA AIR POLLUTANTS**

Pollutant	Major Man-Made Sources	Human Health Effects
Carbon Monoxide (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.
Nitrogen Dioxide (NO <sub>2</sub> )	A reddish-brown gas formed during fuel combustion for motor vehicles and industrial sources. Sources include motor vehicles, electric utilities, and other sources that burn fuel.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Contributes to climate change and nutrient overloading which deteriorates water quality. Causes brown discoloration of the atmosphere.
Ozone (O <sub>3</sub> )	Formed by a chemical reaction between reactive organic gases (ROGs) and nitrogen oxides (NO <sub>x</sub> ) in the presence of sunlight. Common sources of these precursor pollutants include motor vehicle exhaust, industrial emissions, gasoline storage and transport, 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. Damages rubber, some textiles and dyes.
Particulate Matter (PM <sub>10</sub> and PM <sub>2.5</sub> )	Produced by power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles, and other sources.	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).
Sulfur Dioxide (SO <sub>2</sub> )	A colorless, nonflammable gas formed when fuel containing sulfur is burned, when gasoline is extracted from oil, or when metal is extracted from ore. Examples are petroleum refineries, cement manufacturing, metal processing facilities, locomotives, and ships.	Respiratory irritant. Aggravates lung and heart problems. In the presence of moisture and oxygen, sulfur dioxide converts to sulfuric acid which can damage marble, iron and steel. Damages crops and natural vegetation. Impairs visibility. Precursor to acid rain.
Lead	Metallic element emitted from metal refineries, smelters, battery manufacturers, iron and steel producers, use of leaded fuels by racing and aircraft industries.	Anemia, high blood pressure, brain and kidney damage, neurological disorders, cancer, lowered IQ. Affects animals, plants, and aquatic ecosystems.

Source: CAPCOA 2018

The USEPA is responsible for enforcing the Federal Clean Air Act (CAA) of 1970 and its 1977 and 1990 Amendments. The CAA required the USEPA to establish National Ambient Air Quality Standards (NAAQS), which identify concentrations of pollutants in the ambient air below which no adverse effects on the public health and welfare are anticipated. In response, the USEPA established both primary and secondary standards for several criteria pollutants, which are introduced above. Table 2, *Ambient Air Quality Standards*, shows the federal and state ambient air quality standards (AAQS) for these pollutants. As permitted by the Clean Air Act, California has adopted the more stringent California ambient air quality standards (CAAQS) and expanded the number of regulated air pollutant constituents.

**Table 2**  
**AMBIENT AIR QUALITY STANDARDS**

Pollutant	Averaging Time	California Standards	Federal Standards	Federal Standards
			Primary <sup>1</sup>	Secondary <sup>2</sup>
O <sub>3</sub>	1 Hour	0.09 ppm (180 µg/m <sup>3</sup> )	–	–
	8 Hour	0.070 ppm (137 µg/m <sup>3</sup> )	0.070 ppm (137 µg/m <sup>3</sup> )	Same as Primary
PM <sub>10</sub>	24 Hour	50 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>	Same as Primary
	AAM	20 µg/m <sup>3</sup>	–	Same as Primary
PM <sub>2.5</sub>	24 Hour	–	35 µg/m <sup>3</sup>	Same as Primary
	AAM	12 µg/m <sup>3</sup>	12.0 µg/m <sup>3</sup>	15.0 µg/m <sup>3</sup>
CO	1 Hour	20 ppm (23 mg/m <sup>3</sup> )	35 ppm (40 mg/m <sup>3</sup> )	–
	8 Hour	9.0 ppm (10 mg/m <sup>3</sup> )	9 ppm (10 mg/m <sup>3</sup> )	–
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m <sup>3</sup> )	–	–
NO <sub>2</sub>	1 Hour	0.18 ppm (339 µg/m <sup>3</sup> )	0.100 ppm (188 µg/m <sup>3</sup> )	–
	AAM	0.030 ppm (57 µg/m <sup>3</sup> )	0.053 ppm (100 µg/m <sup>3</sup> )	Same as Primary
SO <sub>2</sub>	1 Hour	0.25 ppm (655 µg/m <sup>3</sup> )	0.075 ppm (196 µg/m <sup>3</sup> )	–
	3 Hour	–	–	0.5 ppm (1,300 µg/m <sup>3</sup> )
	24 Hour	0.04 ppm (105 µg/m <sup>3</sup> )	–	–
Lead	30-day Avg.	1.5 µg/m <sup>3</sup>	–	–
	Calendar Quarter	–	1.5 µg/m <sup>3</sup>	Same as Primary
	Rolling 3-month Avg.	–	0.15 µg/m <sup>3</sup>	Same as Primary
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per km – visibility ≥ 10 miles (0.07 per km – ≥30 miles for Lake Tahoe)	No Federal Standards	No Federal Standards
Sulfates	24 Hour	25 µg/m <sup>3</sup>		
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m <sup>3</sup> )		
Vinyl Chloride	24 Hour	0.01 ppm (26 µg/m <sup>3</sup> )		

Source: BAAQMD 2017a.

<sup>1</sup> National Primary Standards: The levels of air quality necessary, within an adequate margin of safety, to protect the public health.

<sup>2</sup> National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

O<sub>3</sub>: ozone; ppm: parts per million; µg/m<sup>3</sup>: micrograms per cubic meter; PM<sub>10</sub>: particulate matter with an aerodynamic diameter of 10 microns or less; AAM: Annual Arithmetic Mean; PM<sub>2.5</sub>: fine particulate matter; CO: carbon monoxide; mg/m<sup>3</sup>: milligrams per cubic meter; NO<sub>2</sub>: nitrogen dioxide; SO<sub>2</sub>: sulfur dioxide; km: kilometer; –: No Standard.

The California Air Resources Board (CARB) is required to designate areas of the state as attainment, nonattainment, or unclassified for the ambient air quality standards. An “attainment” designation for an area signifies that pollutant concentrations do not violate the standard for that pollutant in that area. A “nonattainment” designation indicates that a pollutant concentration violated the standard at least once. The air quality attainment status of the SFBAAB is shown in Table 3, *San Francisco Bay Area Air Basin Attainment Status*.

**Table 3**  
**SAN FRANCISCO BAY AREA AIR BASIN ATTAINMENT STATUS**

<b>Pollutant</b>	<b>State of California Attainment Status</b>	<b>Federal Attainment Status</b>
Ozone (1-hour)	Nonattainment	No Federal Standard
Ozone (8-hour)	Nonattainment	Nonattainment (marginal)
Suspended Particulate Matter (PM <sub>10</sub> )	Nonattainment	Attainment/Unclassified
Fine Particulate Matter (PM <sub>2.5</sub> )	Nonattainment	Nonattainment (moderate)
Carbon Monoxide (CO)	Attainment	Attainment/Unclassified
Nitrogen Dioxide (NO <sub>2</sub> )	Attainment	Attainment/Unclassified
Lead	Attainment	Attainment/Unclassified
Sulfur Dioxide (SO <sub>2</sub> )	Attainment	Attainment/Unclassified
Sulfates	Attainment	No Federal Standard
Hydrogen Sulfide	Unclassified	No Federal Standard
Visibility Reducing Particles	Unclassified	No Federal Standard

Sources: BAAQMD 2017b; CARB 2018a.

The SFBAAB is designated as nonattainment for the state and national ozone standards, the state PM<sub>10</sub> standards, and the state and national PM<sub>2.5</sub> standards. The BAAQMD is responsible for implementing emissions standards and other requirements of federal and state laws in the SFBAAB. Attainment plans for meeting the federal air quality standards are incorporated into the State Implementation Plan (SIP), which is subsequently submitted to the U.S. Environmental Protection Agency (USEPA), the federal agency that administers the Federal CAA of 1970, as amended in 1990. The current air quality plan applicable to the project, 2017 Clean Air Plan: Spare the Air, Cool the Climate, was developed by the BAAQMD to describe how the Air District will continue the progress toward attaining all state and national air quality standards and eliminating health risk disparities from exposure to air pollution among Bay Area communities (BAAQMD 2017c).

### Toxic Air Contaminants

Toxic air contaminants (TACs) are a diverse group of air pollutants that may cause or contribute to an increase in deaths or in serious illness or that may pose a present or potential hazard to human health. TACs can cause long-term health effects such as cancer, birth defects, neurological damage, asthma, bronchitis, or genetic damage, or short-term acute effects such as eye watering, respiratory irritation (a cough), runny nose, throat pain, and headaches. TACs are considered either carcinogenic or noncarcinogenic based on the nature of the health effects associated with exposure to the pollutant. For carcinogenic TACs, there is no level of exposure that is considered safe and impacts are evaluated in terms of overall relative risk 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.

The Health and Safety Code (§39655[a]) defines TAC as “an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health.” All substances that are listed as hazardous air pollutants pursuant to subsection (b) of Section 112 of the CAA (42 United States Code Sec. 7412[b]) are designated as TACs. Under State law, the California Environmental Protection Agency (CalEPA), acting through CARB, is authorized to identify a substance as a TAC if it determines the substance is an air pollutant that may cause or contribute to an increase in mortality or an increase in serious illness, or that may pose a present or potential hazard to human health.

### Diesel Particulate Matter

Diesel engines emit a complex mixture of air pollutants, including both gaseous and solid material. The solid material in diesel exhaust is known as diesel particulate matter (DPM). Almost all DPM is 10 microns or less in diameter, and 90 percent of DPM is less than 2.5 microns in diameter. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung. In 1998, the CARB identified DPM as a TAC based on published evidence of a relationship between diesel exhaust exposure and lung cancer and other adverse health effects. DPM has a significant impact on California’s population—it is estimated that about 70 percent of total known cancer risk related to air toxics in California is attributable to DPM (CARB 2018b).

### Gasoline Dispensing Facilities

Activities at gas stations can release TACs into the air, including the organic compounds benzene, toluene, and xylene. Acute (short-term) inhalation exposure of humans to benzene may cause drowsiness, dizziness, headaches, as well as eye, skin, and respiratory tract irritation, and, at high levels, unconsciousness. Chronic (long-term) inhalation exposure of benzene has caused various disorders in the blood, including reduced numbers of red blood cells and aplastic anemia. Increased incidence of leukemia (cancer of the tissues that form white blood cells) have been observed in humans occupationally exposed to benzene. The USEPA has classified benzene as a known human carcinogen (USEPA 2012). Toluene and xylene are not considered carcinogens, but they can contribute to chronic and acute health conditions.

State regulations require all new gas stations to obtain an Authority to Construct (A/C) and a Permit to Operate (P/O) from the local air district. BAAQMD regulates gas stations through Regulation 8, Rule 7 *Gasoline Dispensing Facilities* which requires implementation, maintenance and testing of the Best Available Control Technology (BACT) to minimize TAC emissions and resulting public health risks from the facility. Gas station BACT designs are regulated and certified by CARB and consist of vapor recovery systems to collect gasoline vapors that would otherwise escape into the atmosphere. Gasoline vapor emissions at gas stations are controlled in two phases. Phase I vapor recovery collects vapors displaced from USTs when a cargo tank truck delivers gasoline to a gas station. Phase II vapor recovery collects vapors displaced during the transfer of gasoline from a dispensing nozzle to a vehicle, fuel container, or gasoline-powered equipment; and the storage of gasoline at a gas station. CARB regulations establish standards for the level of emissions control vapor recovery systems must achieve during the transfer and storage of gasoline.

Vapor recovery system performance standards for gas stations have become more stringent over the years. Since 2001, CARB has adopted several significant advancements as part of the enhanced vapor recovery (EVR) program. Phase I EVR, in accordance with California Executive Order VR-102, requires more durable and leak-tight components, along with an increased collection efficiency of 98 percent. Phase II EVR, in accordance with California Executive Order VR-204, includes three major advancements: (1) dispensing nozzles with less spillage and required compatibility with onboard refueling vapor recovery (ORVR) vehicles, (2) a processor to control the static pressure of the ullage, or vapor space, in the underground storage tank, and (3) an in-station diagnostic (ISD) system that provides warning alarms to alert a gas station operator of potential vapor recovery system malfunctions. Phase I EVR was fully implemented in 2005. Phase II EVR was fully implemented between 2009 and 2011 (CARB 2013). The project would be required to implement Phase I EVR and Phase II EVR systems (with an ISD system) meeting the latest CARB performance standards.

ORVR systems were phased in beginning with 1998 model year passenger vehicles, and are now installed on all passenger, light-duty, and medium-duty vehicles manufactured since the 2006 model year. When an ORVR vehicle is fueled, almost all the gasoline vapor displaced from the fuel tank is routed to a carbon canister in the vehicle fuel system. At the start of dispensing, a small portion of the vapor in the vehicle fuel tank may escape through the fill-pipe before the onboard system is fully engaged. Uncontrolled fill-pipe emissions from ORVR vehicles are approximately two orders of magnitude lower than the same emissions from vehicles without ORVR and are easily captured by Phase II vapor recovery systems (CARB 2013).

## Existing Air Quality

The BAAQMD operates a network of ambient air monitoring stations throughout the SFBAAB. The air quality monitoring station closest to the project site is the Hayward-La Mesa Monitoring Station, approximately 3.6 miles northeast of the project site. The Hayward-La Mesa Station only monitors hourly ozone. Data for the other criteria pollutants were obtained from the San Jose-Jackson Street Monitoring Station, approximately 20 miles southeast of the project site. There are no monitoring stations in the SFBAAB for SO<sub>2</sub> or Lead. The ambient pollutant concentrations collected at the stations during the last 3 available years (2016 through 2018) are shown in Table 4, *Air Quality Monitoring Data*. The data indicates: exceedance of the state 1-hour standard on 2 days in 2017, exceedance of the state 8-hour standard on 4 days in 2017 and exceedance of the federal 8-hour standard on 3 days in 2017; and exceedance of the PM<sub>10</sub> standards on multiple days in 2017 and 2018; and exceedance of the federal PM<sub>2.5</sub> standard on multiple days in 2017 and 2018. Data for NO<sub>2</sub> showed no exceedances from 2016 through 2018.

**Table 4**  
**AIR QUALITY MONITORING DATA**

<b>Pollutant Standard</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
<i>Ozone (O<sub>3</sub>) Hayward Monitoring Station</i>			
Maximum 1-hour concentration (ppm)	0.083	0.139	0.075
Days above 1-hour state standard (0.09 ppm)	0	2	0
Maximum 8-hour concentration (ppm)	0.064	0.110	0.066
Days above 8-hour state standard (0.070 ppm)	0	3	0
Days above 8-hour federal standard (0.070 ppm)	0	4	0
<i>Respirable Particulate Matter (PM<sub>10</sub>) San Jose Monitoring Station</i>			
Maximum 24-hour concentration (µg/m <sup>3</sup> )	41.0	69.8	121.8
Estimated Days above state standard (50 µg/m <sup>3</sup> )	0	19.2	12.2
Estimated Days above federal standard (150 µg/m <sup>3</sup> )	0	0	3.1
<i>Fine Particulate Matter (PM<sub>2.5</sub>) San Jose Monitoring Station</i>			
Maximum 24-hour concentration (µg/m <sup>3</sup> )	22.6	49.7	133.9
Estimated Days above federal standard (35 µg/m <sup>3</sup> )	0.0	6.0	15.5
<i>Nitrogen Dioxide (NO<sub>2</sub>) San Jose Monitoring Station</i>			
Maximum 1-hour concentration (ppb)	51.1	67.5	86.1
Days above state 1-hour standard (180 ppb)	0	0	0

Source: CARB 2020.

ppb = parts per billion; ppm = parts per million; µg/m<sup>3</sup> = micrograms per cubic meter.

## Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved and are referred to as sensitive receptors. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB and the Office of Environmental Health Hazard Assessment (OEHHA) have identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, infants (including in utero in the third trimester of pregnancy), and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis (CARB 2005; OEHHA 2015).

Residential areas are considered sensitive receptors to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Children and infants are considered more susceptible to health effects of air pollution due to their immature immune systems, developing organs, and higher breathing rates. As such, schools are also considered sensitive receptors, as children are present for extended durations and engage in regular outdoor activities.

The closest existing sensitive receptors to the project site are five single-family residences adjacent to the project site to the south and east. The closest school is the Alvarado Elementary School approximately 1.1 miles to the southwest.

## Methods

Criteria pollutant and precursor emissions for the project construction activities and long-term operation were calculated using the California Emissions Estimator Model (CalEEMod), Version 2016.3.2. CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects. The model was developed for the California Air Pollution Control Officers Association (CAPCOA) in collaboration with the California air districts. CalEEMod allows for the use of default data (e.g., emission factors, trip lengths, meteorology, source inventory) provided by the various California air districts to account for local requirements and conditions, and/or user-defined inputs. The model calculates emissions of CO, PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>2</sub>, and the ozone precursors ROG<sub>s</sub> and NO<sub>x</sub>. The calculation methodology and input data used in CalEEMod can be found in the CalEEMod User's Guide Appendices A, D, and E (CAPCOA 2017). The input data and subsequent construction and operation emission estimates for the Project are discussed below. CalEEMod output files for the project are included in Attachment A to this letter.

### Construction Emissions

As described above, remediation and construction emissions were assessed using CalEEMod, Version 2016.3.2. CalEEMod contains OFFROAD2011 emission factors and EMFAC2014 emission factors from CARB's models for off-road equipment and on-road vehicles, respectively. The construction analysis included modeling of emissions the projected construction equipment that would be used during each construction activity, and emissions from the haul truck used to import or export earth and debris from the project site.

Construction input data for CalEEMod include, but are not limited to, (1) the anticipated start and finish dates of construction activity; (2) inventories of construction equipment to be used; (3) areas to be excavated and graded; and (4) volumes of materials to be exported from and imported to the project area. The analysis assessed maximum daily emissions from individual construction activities, including site preparation, grading/excavation, building construction, architectural coating and paving.

The project construction activities are anticipated to commence in January 2021 and last for approximately ten months. Construction would require heavy equipment during site preparation, grading/excavation, building construction, and paving. Construction equipment estimates are based on CalEEMod defaults, adjusted for the anticipated construction schedule and excavation. Approximately 275 cubic yards of soil and vegetation would be exported from the site during site preparation. Approximately 800 cubic yards of soil would be exported during excavation for the fuel tanks and underground utilities. The CalEEMod default a one-way haul distance of 20 miles was used in the modeling of the project's soil export during construction. Underground utility work within the public ROW on Whipple Road and Amaral Street was assumed to last approximately five workdays and would occur concurrently with the project grading.

The modeled construction emissions assume implementation of the BAAQMD Basic Construction Mitigation Measures, specifically watering exposed areas twice per day and limiting vehicle speeds on unpaved surfaces to 15 miles per hour.

## Operation Emissions

Operational impacts were estimated using CalEEMod, Version 2016.3.2, as described above. The project land uses were modeled as a convenience store with gas pumps. Operational sources of criteria pollutant and precursor emissions in CalEEMod include area, energy and mobile:

- **Area** – area sources include emissions from landscaping equipment, the use of consumer products, and the reapplication of architectural coatings for maintenance. Emissions associated with area sources were estimated using the CalEEMod default values for the project.
- **Energy** – The project would use electricity and natural gas for lighting, heating and cooling. Electricity and natural gas would be supplied by Pacific Gas and Electric (PG&E). Criteria pollutant and precursor emissions related to the generation of electrical power are emitted at the site of the generation facilities and are not included in the CalEEMod operation emissions. Criteria pollutant and precursor emissions related to the burning of natural gas in the project's furnaces, water heaters and appliances are included in the CalEEMod operation emissions. The CalEEMod default natural gas usage rates for convenience stores in Alameda County were used.
- **Mobile** – Operational emissions from mobile sources are associated with project-related vehicle trip generation and trip length. Based on the trip generation rate from the traffic study, the project would generate 716 average daily trips, including 63 percent a.m. peak hour and 66 percent p.m. peak hour pass-by trip reductions (KD Anderson 2020). The CalEEMod default vehicle speeds, trip purposes, and distances were used.

## Gas Station Health Risks

A community health risk assessment of potential increased cancer, chronic and acute health risks associated with long-term operation of the proposed retail gasoline dispensing facility (gas station) was completed in a separate report (HELIX 2000). Future emissions of the TAC benzene were estimated following the California Air Pollution Control Officers Association (CAPCOA 1997) *Gasoline Service Station Industrywide Risk Assessment Guidelines* and the California Air Resources Board (CARB 2013) *Revised Emission Factors for Gasoline Marketing Operations at California Gasoline Dispensing Facilities*. Localized concentrations of benzene in gasoline vapor were modeled using Lakes AERMOD View version 9.8.3. The Lakes program utilizes the USEPA's AERMOD gaussian air dispersion model version 19191. Plot files from AERMOD using unitized emissions (one gram per second) for each benzene source were imported into CARB's Hotspots Analysis and Reporting Program (HARP), Air Dispersion Modeling and Risk Tool (ADMRT) version 19121 for determination of ground-level concentrations and community health risks.

## Significance Criteria

The following potential air quality impacts are based on Appendix G of the State CEQA Guidelines, a significant impact is identified if the project would result in any of the following:

- Conflict with or obstruct implementation of the applicable air quality plan?*
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?*

- c) *Expose sensitive receptors to substantial pollutant concentrations?*  
d) *Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?*

While the final determination of whether or not a project has a significant effect is within the purview of the lead agency pursuant to CEQA Guidelines Section 15064(b). The BAAQMD has adopted thresholds which lead agencies can use to determine the significance of a development project's short-term construction and long-term operational pollutant emissions. The BAAQMD's 2017 thresholds of significance for criteria pollutant and precursors are shown in Table 5, *BAAQMD Significance Thresholds* (BAAQMD 2017b). For a project's construction-related emissions of fugitive dust PM<sub>10</sub> and PM<sub>2.5</sub>, rather than adopting quantitative mass emissions thresholds, the BAAQMD has adopted a qualitative threshold where a project's fugitive dust emissions would be considered to have a less than significant impact if the project implements the Basic Construction Mitigation Measures, described in Mitigation Measure AQ-1, below (BAAQMD 2017a).

**Table 5**  
**BAAQMD SIGNIFICANCE THRESHOLDS**

Pollutant	Construction	Operation	Operation
	Average Daily Emissions (pounds/day)	Average Daily Emissions (pounds/day)	Maximum Annual Emissions (tons/year)
Reactive Organic Gasses (ROG)	54	54	10
Nitrogen Oxides (NO <sub>x</sub> )	54	54	10
Particulate Matter Exhaust (PM <sub>10</sub> )	82	82	15
Fine Particulate Matter Exhaust (PM <sub>2.5</sub> )	54	54	10
PM <sub>10</sub> and PM <sub>2.5</sub> Fugitive Dust	BMPs <sup>1</sup>	none	none
Local Carbon Monoxide (CO)	none	9.0 ppm (8-hour average), 20.0 ppm (1-hour average)	
Sulfur Oxides (SO <sub>x</sub> )	none	none	none

Source: BAAQMD 2017a.

ppm = part per million; BMP = Best Management Practices

<sup>1</sup> For construction fugitive dust, rather than a numeric threshold BAAQMD recommends that lead agencies consider projects which implement the Basic Construction Mitigation Measures to have a less than significant impact related to fugitive dust.

## Air Quality Impact Analysis

- a) *Conflict with or obstruct implementation of the applicable air quality plan?*

**Less than significant.** Consistency with the air quality plan is determined by whether the project would hinder implementation of control measures identified in the air quality plan or would result in growth of population or employment that is not accounted for in local and regional planning. The BAAQMD's Clean Air Plan is the applicable air quality plan for the SFBAAB and the City.

The project would be consistent with the General Plan land use designation of Commercial. Therefore, the small increase in employment is consistent with the General Plan and would be consistent with the local and regional employment growth assumptions used in developing the 2017 Clean Air Plan. The project does not include any residential components and would not result in an increase in regional

population. In addition, as described in impact discussion b), below, the project would not result in a cumulatively considerable increase of any criteria pollutant.

As described in the 2017 Clean Air Plan, all of the 2010 Transportation Control Measures (TCMs) were carried forward into the 2017 Clean Air Plan, although the measure descriptions and numbering were updated. In addition, 8 of the 10 Mobile Source Measures (MSMs), all 6 of the Land Use Measure (LUM)s, and all 4 Energy and Climate Measures (ECMS) from 2010 were carried forward into the 2017 plan (BAAQMD 2017c). The MSMs primarily address vehicles and their components as they relate to emissions and are not directly applicable to the project. The project would be required to comply with the building energy efficiency standards of 2019 Title 24 part 6 (California Energy Commission 2018), and Title 24 part 11 (CALGreen; California Building Standards Commission 2019). Therefore, the project would not conflict with or obstruct implementation of the 2017 Clean Air Plan and the impact would be less than significant.

b) *Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?*

### Construction (Short-Term) Emissions

**Less than Significant with Mitigation Incorporated.** A project-specific analysis of construction emissions was completed using CalEEMod Version 2016.3.2, as described in the methodology description, above. The project's estimated construction emissions are shown below in Table 6, *Construction Criteria Pollutant and Precursor Emissions*. The emissions estimates assume: an export of approximately 275 cubic yards of vegetation and soil during grubbing and clearing and an export of approximately 800 cubic yards of soil during grading and excavation. The emissions estimate also assumes the implementation of the BAAQMD recommended Basic Construction Mitigation Measures (BCMMS), listed in Mitigation Measure **AQ-1**, below, specifically watering exposed areas a minimum of twice per day and enforcing a 15 miles per hour speed limit on unpaved surfaces.

**Table 6**  
**CONSTRUCTION CRITERIA POLLUTANT AND PRECURSOR EMISSIONS**

Phase	Pollutant Emissions (pounds per day)							
	ROG	NO <sub>x</sub>	CO	SO <sub>x</sub>	Fugitive PM <sub>10</sub>	Exhaust PM <sub>10</sub>	Fugitive PM <sub>2.5</sub>	Exhaust PM <sub>2.5</sub>
Site Preparation	0.5	6.3	3.5	<0.1	0.3	0.2	<0.1	0.2
Grading/Excavation	0.7	7.5	7.0	<0.1	0.5	0.3	0.2	0.6
Underground Utilities	0.8	7.6	6.3	0.0	0.1	0.3	0.0	0.3
Paving	0.7	6.5	6.8	<0.1	0.1	0.4	<0.1	0.4
Building Construction	1.0	6.8	7.5	<0.1	0.1	0.4	<0.1	0.4
Architectural Coating	7.3	1.5	1.8	<0.1	<0.1	0.1	<0.1	0.1
<b>Maximum Daily<sup>1</sup></b>	<b>7.3</b>	<b>15.1</b>	<b>13.3</b>	<b>&lt;0.1</b>	<b>0.7</b>	<b>0.6</b>	<b>0.3</b>	<b>0.6</b>
<i>BAAQMD Daily Thresholds</i>	<i>54</i>	<i>54</i>	<i>none</i>	<i>none</i>	<i>BMPs</i>	<i>84</i>	<i>BMPs</i>	<i>54</i>
<b>Exceed Daily Threshold?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

Source: CalEEMod (output data is provided in Attachment A).

<sup>1</sup> Totals may not sum due to rounding.

As shown in Table 6, the project's construction emissions related to the criteria pollutants and precursors would not exceed the BAAQMD thresholds. Because the BAAQMD considers fugitive dust emissions to be significant if the BCMs are not implemented, Mitigation Measure **AQ-1** would require implementation of the BCMs. Therefore, the project's construction emissions of criteria pollutants and precursors would be less than significant with mitigation.

### Operation (Long-Term) Emissions

**Less than Significant.** A project-specific analysis of operational emissions and existing land use operational emissions was completed using CalEEMod Version 2016.3.2, as described in the methodology description, above. The project's estimated daily and annual long-term operational emissions for the anticipated first full year of operations, 2022, are compared to the BAAQMD thresholds in Table 7, *Operational Criteria Pollutant and Precursor Emissions*.

**Table 7**  
**OPERATIONAL CRITERIA POLLUTANT AND PRECURSOR EMISSIONS**

Source	Pollutant Emissions							
	ROG	NO <sub>x</sub>	CO	SO <sub>x</sub>	Fugitive PM <sub>10</sub>	Exhaust PM <sub>10</sub>	Fugitive PM <sub>2.5</sub>	Exhaust PM <sub>2.5</sub>
<b>Daily Emissions (pounds per day)</b>								
Area	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Energy	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mobile	1.1	5.9	9.1	<0.1	2.2	<0.1	0.6	<0.1
<b>Total Project Emissions<sup>1,2</sup></b>	<b>1.1</b>	<b>5.9</b>	<b>9.1</b>	<b>&lt;0.1</b>	<b>2.2</b>	<b>&lt;0.1</b>	<b>0.6</b>	<b>&lt;0.1</b>
<i>BAAQMD Daily Thresholds</i>	<i>54</i>	<i>54</i>	<i>none</i>	<i>none</i>	<i>none</i>	<i>84</i>	<i>none</i>	<i>54</i>
<b>Exceed Daily Threshold?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>
<b>Annual Emissions (tons per year)</b>								
Area	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Energy	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Mobile	0.2	1.1	1.5	<0.1	0.4	<0.1	0.1	<0.1
<b>Total Project Emissions<sup>1</sup></b>	<b>0.2</b>	<b>1.1</b>	<b>1.5</b>	<b>&lt;0.1</b>	<b>0.4</b>	<b>&lt;0.1</b>	<b>0.1</b>	<b>&lt;0.1</b>
<i>BAAQMD Annual Thresholds</i>	<i>10</i>	<i>10</i>	<i>none</i>	<i>none</i>	<i>none</i>	<i>15</i>	<i>none</i>	<i>10</i>
<b>Exceed Annual Threshold?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

Source: CalEEMod (output data is provided in Attachment A).

<sup>1</sup> Totals may not sum due to rounding.

<sup>2</sup> Maximum daily emissions of ROG and SO<sub>x</sub> occur during the summer, maximum daily emissions of NO<sub>x</sub> and CO occur during the winter, emissions of PM<sub>10</sub> and PM<sub>2.5</sub> are not seasonally dependent.

As shown in Table 7, the project's long-term emissions of criteria pollutants and precursors would not exceed the BAAQMD daily or annual thresholds. Therefore, the project's long-term operational emissions would not result in a cumulatively considerable net increase of any criteria pollutant and impacts would be less than significant.

## Recommended Mitigation

**AQ-1:** Prior to issuing construction permits, the City shall specify on all grading, building, and other construction permits for the project, implementation of the following Basic Construction Mitigation Measures:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of the California Code of Regulations). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.
- Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The air district's phone number shall also be visible to ensure compliance with applicable regulations.

*c) Expose sensitive receptors to substantial pollutant concentrations?*

### Construction (Short-Term) Local Emissions

**Less than Significant.** Construction activities associated with implementation of the project would result in emissions of DPM from the use of diesel-powered equipment. Generation of DPM from construction projects typically occurs in a localized area (e.g., at the project site) for a short period of time. Because construction activities and subsequent emissions vary depending on the phase of construction (e.g., grading, building construction), the construction-related emissions to which nearby receptors are exposed to would also vary throughout the construction period. During some equipment-intensive phases such as site preparation and grading/excavation, construction-related emissions would be higher than other less equipment-intensive phases such as building construction. Site preparation and grading/excavation are anticipated to last a total of approximately 20 working days.

The generation of DPM during construction would be variable and sporadic due to the nature of construction activity. Current models and methodologies for conducting health risk assessments are associated with longer-term exposure periods of 9, 30, and 70 years, which do not correlate well with the temporary and highly variable nature of construction activities. Additionally, project construction activities would occur in an area of less than one acre. Construction projects contained in a site of such

size typically represent less than significant health risk impacts due to limitations on the size and numbers of off-road diesel equipment able to operate and thus a reduced amount of generated DPM, the reduced amount of dust-generating ground disturbance possible compared to larger construction sites, and the reduced duration of construction activities compared to the development of larger sites.

Due to the short duration and sporadic nature of construction activities requiring the use of heavy diesel-powered equipment, and because the use of heavy construction equipment would not be concentrated near the residential property lines, and because DPM emissions disperse rapidly over relatively short distances, project construction related DPM emissions during construction would not expose sensitive receptors to substantial pollutant concentrations and the impact would be less than significant.

### **Operation (Long-Term) Local Emissions**

#### **Less than Significant.**

#### Carbon Monoxide Hotspots

Vehicle exhaust is the primary source of CO. In an urban setting, the highest CO concentrations are generally found in close proximity to congested intersections. Under typical meteorological conditions, CO concentrations tend to decrease as distance from the emissions source (i.e., congested intersection) increase. Project-generated traffic has the potential of contributing to localized “hot spots” of CO off-site. Because CO is a byproduct of incomplete combustion, exhaust emissions are worse when fossil-fueled vehicles are operated inefficiently, such as in stop-and-go traffic or through heavily congested intersections. Because CO disperses rapidly, hotspots are most likely to occur in areas with limited vertical mixing such as tunnels, long underpasses, or below-grade roadways.

The BAAQMD provides screening criteria to determine if a proposed development project would result in a less-than-significant impact to localized CO concentrations:

- The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans.
- The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
- The project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited.

According to turning movement counts completed for the project, the project-affected intersection with the highest traffic would be the intersection of Huntwood Avenue and Whipple Road which has a peak-hour traffic volume of 2,637 vehicles. The project would add up to 46 additional vehicles to this intersection during the peak-hour. None of the project affected intersections would have limited vertical or horizontal mixing. All project affected intersections would have peak-hour traffic volumes far below the BAAQMD screening criteria of 44,000 vehicles per hours. Therefore, long-term operation of the

project would not result the exposure of sensitive receptors to substantial CO Hotspots and the impact would be less than significant.

#### Gasoline Dispensing Facilities

The proposed project would require an authority to construct and a permit to operate for a gasoline dispensing facility from the BAAQMD. Toxic emissions from gas stations are proportional to the annual throughput of gasoline at the facility. The project developers anticipate the average annual throughput of gasoline to be 2.7 million gallons per year. However, for permitting purposes and to account for potential fluctuations in annual gasoline sales and to be conservative (health protective) in evaluating risks, the assessment analyzed emissions and health risks at a maximum gasoline throughput of 6 million gallons per year.

The BAAQMD stationary source permitting process is defined and regulated through Regulation 2 *Permits*, Rule 1 *General Requirements* and Rule 2 *New Source Review*. BAAQMD regulates gas stations through Regulation 8, Rule 7 *Gasoline Dispensing Facilities* which requires implementation, maintenance and testing of the BACTs to minimize TAC emissions and resulting public health risks from the facility. The BACTs for gas stations are vapor recovery systems to collect gasoline vapors that would otherwise escape into the atmosphere. Gasoline vapor emissions at gas stations are controlled in two phases. Phase I vapor recovery collects vapors displaced from USTs when a cargo tank truck delivers gasoline to a gas station. Phase II vapor recovery collects vapors displaced during the transfer of gasoline from a dispensing nozzle to a vehicle, fuel container, or gasoline-powered equipment; and the storage of gasoline at a gas station. CARB regulations establish standards for the level of emissions control vapor recovery systems must achieve during the transfer and storage of gasoline.

The incremental excess cancer risk is an estimate of the chance a person exposed to a specific source of a TAC may have of developing cancer from that exposure beyond the individual's risk of developing cancer from existing background levels of pollutants in the ambient air. For context, the average cancer risk from TACs in the ambient air for an individual living in an urban area of California is 830 in 1 million (CARB 2015). Cancer risk estimates do not mean, and should not be interpreted to mean, that a person will develop cancer from estimated exposures to toxic air pollutants.

The maximum estimated community incremental excess cancer, chronic and acute health risks due to exposure to the project TAC emissions from long term operation of the proposed retail gasoline dispensing facility at the maximum proposed permitted gasoline throughput are presented in Table 8, *Maximum Exposed Individual Incremental Cancer Health Risk and Hazard Index*. These estimates are conservative (health protective) and assume that the resident or worker is outdoors for the entire exposure period.

**Table 8**  
**MAXIMUM EXPOSED INDIVIDUAL INCREMENTAL CANCER RISK AND HAZARD INDEX**

	MEI Resident Cancer Risk	MEI Worker Cancer Risk	MEI Resident Chronic Hazard Index	MEI Worker Chronic Hazard Index	MEI Acute Hazard Index
Results	7.2 in 1 million	<0.1 in 1 million	0.03	<0.01	0.03
Threshold	10 in 1 million	10 in 1 million	1	1	1
Exceed Threshold?	No	No	No	No	No

Source: Retail Gasoline Station Health Risk Assessment for the 1998 Whipple Road 7-Eleven Project (HELIX 2020).

MEI = Maximum Exposed Individual.

As shown in Table 8, the maximum incremental increased cancer risks and maximum chronic health index due to exposure to benzene emissions from long term operation of the proposed retail gasoline dispensing facility would not exceed the BAAQMD thresholds at the maximum proposed permitted throughput of 6 million gallons per year (HELIX 2000). Therefore, long-term operation of proposed gas station would not result in the exposure of sensitive receptors to substantial TAC concentrations. The impact would be less than significant.

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

Heavy diesel equipment could generate odors during construction activities. The generation of odors during the construction period would be temporary and would tend to be dispersed within a short distance from the active work area. Once operational, the project would not be a significant source odors or other emissions. Therefore, due to the short duration of construction activity near any individual residence, the project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people and the impact would be less than significant.

## **GREENHOUSE GAS EMISSIONS**

### **Environmental Setting**

Global climate change refers to changes in average climatic conditions on Earth including temperature, wind patterns, precipitation, and storms. Global temperatures are moderated by atmospheric gases. These gases are commonly referred to as greenhouse gasses (GHGs) because they function like a greenhouse by letting sunlight in but preventing heat from escaping, thus warming the Earth's atmosphere.

GHGs are emitted by natural processes and human (anthropogenic) activities. Anthropogenic GHG emissions are primarily associated with: the burning of fossil fuels during motorized transport; electricity generation; natural gas consumption; industrial activity; manufacturing; and other activities such as deforestation, agricultural activity, and solid waste decomposition.

The GHGs defined under California's Assembly Bill (AB) 32, described below, include carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>). 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. Estimates of GHG emissions are

commonly presented in carbon dioxide equivalents (CO<sub>2</sub>e), which weigh each gas by its global warming potential (GWP). Expressing GHG emissions in CO<sub>2</sub>e 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 CO<sub>2</sub> were being emitted. GHG emissions quantities in this analysis are presented in metric tons (MT) of CO<sub>2</sub>e. For consistency with United Nations Standards, modeling and reporting of GHGs in California and the U.S. use the GWPs defined in the Intergovernmental Panel on Climate Change's (IPCC) Fourth Assessment Report (IPCC 2007), as shown in Table 9, *Global Warming Potential and Atmospheric Lifetimes*.

**Table 9**  
**GLOBAL WARMING POTENTIAL AND ATMOSPHERIC LIFETIMES**

Greenhouse Gas	Atmospheric Lifetime (years)	GWP
Carbon Dioxide (CO <sub>2</sub> )	50-200	1
Methane (CH <sub>4</sub> )	12	25
Nitrous Oxide (N <sub>2</sub> O)	114	298
HFC-134a	14	1,430
PFC: Tetrafluoromethane (CF <sub>4</sub> )	50,000	7,390
PFC: Hexafluoroethane (C <sub>2</sub> F <sub>6</sub> )	10,000	12,200
Sulfur Hexafluoride (SF <sub>6</sub> )	3,200	22,800

Source: IPCC 2007.

HFC: hydrofluorocarbon; PFC: perfluorocarbon

## Regulatory Setting

The primary regulatory framework for greenhouse gas reduction mandates in California, the Bay Area, and the City of Union City (City) are described below. Implementation of California's GHG reduction mandates is primarily under the authority of: the California Air Resources Board (CARB) at the state level; the BAAQMD, the Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC) at the regional level; and the City at the local level.

### Executive Order S-3-05

On June 1, 2005, Executive Order (EO) S-3-05 proclaimed that California is vulnerable to climate change impacts. It declared that increased temperatures could reduce snowpack in the Sierra Nevada, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To avoid or reduce climate change impacts, EO S-3-05 calls for a reduction in GHG emissions to the year 2000 level by 2010, to year 1990 levels by 2020, and to 80 percent below 1990 levels by 2050. Executive Orders are not laws and can only provide the governor's direction to state agencies to act within their authority to reinforce existing laws.

### Assembly Bill 32 – Global Warming Solution Act of 2006

The California Global Warming Solutions Act of 2006, widely known as AB 32, requires that CARB develop and enforce regulations for the reporting and verification of statewide GHG emissions. CARB is directed by AB 32 to set a GHG emission limit, based on 1990 levels, to be achieved by 2020. The bill

requires CARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG emission reductions.

#### Executive Order B-30-15

On April 29, 2015, EO B-30-15 established a California GHG emission reduction target of 40 percent below 1990 levels by 2030. The EO aligns California's GHG emission reduction targets with those of leading international governments, including the 28 nation European Union. California is on track to meet or exceed the target of reducing GHGs emissions to 1990 levels by 2020, as established in AB 32. California's new emission reduction target of 40 percent below 1990 levels by 2030 will make it possible to reach the goal established by EO S-3-05 of reducing emissions 80 percent under 1990 levels by 2050.

#### Senate Bill 32

Signed into law by Governor Brown on September 8, 2016, Senate Bill (SB) 32 (Amendments to the California Global Warming Solutions Action of 2006) extends 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 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 EO B-30-15 of 80 percent below 1990 emissions levels by 2050.

#### California Air Resources Board

On December 11, 2008, the CARB adopted the Climate Change Scoping Plan (Scoping Plan) as directed by AB 32. The Scoping Plan proposes a set of actions designed to reduce overall GHG emissions in California to the levels required by AB 32. Measures applicable to development projects include those related to energy-efficiency building and appliance standards, the use of renewable sources for electricity generation, regional transportation targets, and green building strategy. Relative to transportation, the Scoping Plan includes nine measures or recommended actions related to reducing vehicle miles traveled (VMT) and vehicle GHGs through fuel and efficiency measures. These measures would be implemented statewide rather than on a project by project basis (CARB 2008).

In response to EO B-30-15 and SB 32, all state agencies with jurisdiction over sources of GHG emissions were directed to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 targets. CARB was directed to update the Scoping Plan to reflect the 2030 target and, therefore, is moving forward with the update process. The mid-term target is critical to help frame the suite of policy measures, regulations, planning efforts, and investments in clean technologies and infrastructure needed to continue driving down emissions (CARB 2014). In December 2017, CARB adopted the 2017 Climate Change Scoping Plan Update, the Strategy for Achieving California's 2030 Greenhouse Gas Target, to reflect the 2030 target set by EO B 30 15 and codified by SB 32 (CARB 2017).

#### Bay Area Air Quality Management District

The BAAQMD provides direction and recommendations for the analysis of GHG impacts of a project and approach to mitigation measures in its CEQA Guidelines (BAAQMD 2017a).

## Association of Bay Area Governments and Metropolitan Transportation Commission

As required by the Sustainable Communities and Climate Protection Act of 2008 (SB 375), ABAG and the MTC have developed a Regional Transportation Plan and Sustainable Communities Strategy (SCS) as a component of Plan Bay Area 2040 (MTC and ABAG 2017). This plan seeks to reduce GHG and other mobile source emissions through coordinated transportation and land use planning to reduce VMT.

## City of Union City

The City adopted a Climate Action Plan (CAP) in November 2010. The CAP presents a summary of actions the City has already taken towards the reduction of GHG emissions; summarizes the 2005 emissions inventory; presents actions the City, residents and businesses can take to further reduce emissions; and sets reduction goals (City 2010).

## Methods

GHG emissions for the project remediation and construction activities and long-term operation were calculated using CalEEMod, as described in the *Air Quality Analysis*, above.

### *Remediation and Construction Emissions*

The CalEEMod input and assumptions for modeling remediation and construction emissions are described in the *Air Quality Analysis Section*, above.

### *Operation Emissions*

Operational impacts were estimated using CalEEMod, Version 2016.3.2, as described above. The project land uses were modeled as a convenience store with gas pumps. Operational sources of GHG emissions in CalEEMod include area, energy, mobile, water use, and solid waste. Operational project input and design features incorporated into CalEEMod for the project include:

- **Area** – area sources include GHG emissions from landscaping equipment and the use of consumer products. Emissions associated with area sources were estimated using the CalEEMod default values for the project.
- **Energy** – The project would use electricity and natural gas for lighting, heating and cooling, and product refrigeration. Electricity generation typically entails the combustion of fossil fuels, including natural gas and coal, which are then stored and transported to end users. Electricity and natural gas would be supplied by PG&E.
- **Mobile** – Operational emissions from mobile sources are associated with project-related vehicle trip generation and trip length. Based on the trip generation rate from the traffic study, the project would generate 716 average daily trips, including 63 percent a.m. peak hour and 66 percent p.m. peak hour pass-by trip reductions (KD Anderson 2020). The CalEEMod default vehicle speeds, trip purposes, and distances were used.

- **Solid Waste** – Solid waste generated by the project would also contribute to GHG emissions. Treatment and disposal of solid waste produces emissions of methane. Modeling was conducted using CalEEMod default solid waste generation rates and GHG factors for Alameda County
- **Water Sources** – Water-related GHG emissions are from the energy used and process emissions for the conveyance and treatment of water. The California Energy Commission's 2006 Refining Estimates of Water-Related Energy Use in California defines average energy values for water use. These values are used in CalEEMod to establish default water related emission factors.

## Significance Criteria

The following potential air quality impacts are based on Appendix G of the State CEQA Guidelines, a significant impact is identified if the project would result in any of the following:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?*

The BAAQMD has adopted GHG thresholds of significance that a lead agency may use for determining the significance of a land use development project's GHG impacts. For development project, the BAAQMD recommends a bright line screening threshold of 1,100 MT or carbon dioxide equivalents (CO<sub>2</sub>e) per year for a project's long-term operational GHG emissions (BAAQMD 2017a). The BAAQMD's GHG thresholds were developed to meet the year 2020 statewide GHG emissions targets as mandated by AB 32 and implemented by the CARB Scoping Plan. The BAAQMD has not adopted guidance or revised thresholds to account for GHG reduction target beyond 2020. Therefore, this analysis compares the project's emissions to a reduced threshold corresponding to the SB 32 reduction target of emissions 40 percent below 1990 levels by 2030. Accordingly, a threshold reduced by 4.98 percent for each year between 2020 and 2030 would meet the mandates of SB 32. The first full year of operation for the project is anticipated to be 2022. Therefore, a threshold 9.7 percent below the BAAQMD threshold of 1,100 MT CO<sub>2</sub>e per year (or 993 MT per year) is used in this analysis.

The BAAQMD has not adopted a threshold for determining the significance of a project's construction GHG emissions. However, the BAAQMD recommends quantification and disclosure of GHG emissions that would occur during construction. To be conservative in accounting for all of the project's GHG emissions, the project construction GHG emissions were amortized (averaged) over the 30-year estimated life span of the buildings and included in the project's operational GHG emissions inventory.

## Greenhouse Gas Emissions Impact Analysis

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

**Less than significant.**

### Construction (Short-Term) Emissions

The project's estimated total and amortized short-term construction GHG emissions are shown in Table 10, *Construction GHG Emissions*. The amortized construction GHG emissions are included with the operational GHG emissions, below.

**Table 10**  
**CONSTRUCTION GHG EMISSIONS**

Year	Emissions (MT CO <sub>2</sub> e)
2021	102.8
<i>Amortized Construction Emissions (30 years)</i>	<i>3.4</i>

Source: CalEEMod (output data is provided in Attachment A).

### Operation (Long-Term) Emissions

The project's estimated long-term operational GHG emissions for the anticipated first full year of operations, 2022, are compared to the BAAQMD thresholds in Table 11, *Operational GHG Emissions*.

**Table 11**  
**OPERATIONAL GHG EMISSIONS**

Source	Annual Emissions (MT CO <sub>2</sub> e)
Area	<0.1
Energy	9.2
Mobile	497.1
Waste	<0.1
Water	0.2
Operational Subtotal <sup>1</sup>	506.6
Amortized Construction Emissions (30 years)	3.4
Total Project Emissions	510.0
BAAQMD 2022 Adjusted Threshold	993
<b>Exceed Threshold?</b>	<b>No</b>

Source: CalEEMod (output data is provided in Attachment A).

<sup>1</sup> Totals may not sum due to rounding.

As shown in Table 11, the project's operational emissions of 510.0 MT CO<sub>2</sub>e would be below the BAAQMD 2022 adjusted project-level operational screening threshold of 993 MT CO<sub>2</sub>e. Therefore, the project's operational GHG emissions would be less than cumulatively considerable and the impact would be less than significant.

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

**Less Than Significant.** As discussed in criterion a), above, the project's net GHG emission would not exceed the BAAQMD 2022 adjusted GHG emissions threshold. In addition, many long-term GHG reduction plans, including the CARB Scoping Plan, estimate future GHG emissions and corresponding

reduction targets based on local and statewide growth estimates. The project site has a City General Plan land use designation of Commercial and is zoned Neighborhood Commercial. The proposed project's development of a convenience store with gas station would be consistent with the land use designation and zoning. Because the project would be consistent with the project site land use designation and zoning, any employment growth in the County as a result of the project would be within the growth assumptions of the City General Plan which provides growth assumptions for GHG forecasting in regional plans such as the BAAQMD 2017 Clean Air Plan, and the Plan Bay Area 2040.

Transportation sources account for the largest portion of the State's GHG emissions inventory—38 percent in 2015 (CARB 2017). Regional metropolitan SCS plans such as Plan Bay Area 2040 aim to reduce GHG emissions in the transportation sector. A key to accomplishing this is to reduce the VMT for cars and light trucks. As part of the 2019 update to the CEQA Statutes and Guidelines that became effective on January 1, 2019, the guidelines for assessing transportation impacts were revised to reflect SB 743, which mandates a change in transportation impact analysis from a consideration of the project's congestion impacts to a consideration of a project's VMT impacts. In response to this anticipated change, the OPR released the Technical Advisory on Evaluating Transportation Impacts in CEQA to assist CEQA practitioners with the implementation of SB 743. The technical advisory contains the following recommendations for the transportation analysis of retail development projects (OPR 2018):

Because new retail development typically redistributes shopping trips rather than creating new trips, estimating the total change in VMT (i.e., the difference in total VMT in the area affected with and without the project) is the best way to analyze a retail project's transportation impacts.

By adding retail opportunities into the urban fabric and thereby improving retail destination proximity, local-serving retail development tends to shorten trips and reduce VMT. Thus, lead agencies generally may presume such development creates a less-than-significant transportation impact. Regional-serving retail development, on the other hand, which can lead to substitution of longer trips for shorter ones, may tend to have a significant impact.

The project's proposed development of a convenience store and gas station is consistent with the project site zoning and the site is located near existing residential areas. It is reasonable, therefore, to characterize the project as local-serving retail, and that, on a regional level, VMT may be reduced as a result of the project's customers traveling a shorter distance than previously assumed in regional planning estimates. Therefore, the project would be consistent with the Plan Bay Area 2040.

The City's CAP contains 21 potential GHG reduction measures. Of the 21 reduction measures, three items are potentially applicable to the project (City 2010):

Measure E-3.2 – Promote 'Cool Roofs' to mitigate the urban heat island effect and reduce air conditioning use: The project would comply with the 2019 Title 24, Part 6, which contains requirements for thermal emittance and solar reflectance index for new commercial buildings in each of California's climate zones.

Measure WR-1.2 – Strengthen Construction and Demolition Standards: The project would be required to comply with the City's Construction and Demolition and Debris Recycling Ordinance, which requires new construction projects to recycle or reuse 100 percent of all asphalt, concrete, uncontaminated soil, land-clearing debris, and plant debris; and requires recycling or

reuse of 65 percent of all other construction debris generated by the project's construction activities.

Measure WR-1.1 – Water Efficient Landscape Ordinance: The project would be required to comply with the City's Water Efficient Landscape Ordinance through plant selection and efficient irrigation systems.

The project would be required to comply with all applicable City and state green building measures, including the State Building Energy Efficiency Standards - Title 24, Part 6 and Part 11 (CALGreen). The project would be consistent with the City General Plan land use and zoning designations support and would implement all applicable GHG reduction measures from the City's CAP. Therefore, the project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. The impact would be less than significant.

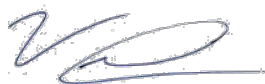
## SUMMARY

The project's construction and operational emissions of criteria pollutants and precursors, with the incorporation of mitigation measure **AQ-1**, would be below BAAQMD thresholds and would result in a less than significant impact with mitigation. Emissions of TACs from the project short-term construction activities and long-term operation (including emissions from operation of the proposed gas station) would not result in increased health risks beyond the BAAQMD thresholds and the impact would be less than significant. The project's net operational GHG emissions would be below the BAAQMD adjusted screening thresholds and would be less than significant. The project would be consistent with local and regional GHG reduction plans and would result in a less than significant impact with mitigation.

Sincerely,



Martin Rolph  
Air Quality Specialist



Victor Ortiz  
Senior Air Quality Specialist

## Attachments:

Figure 1, Vicinity Map  
Figure 2, Location Map  
Figure 3, Proposed Site Plan  
Attachment A: CalEEMod Output

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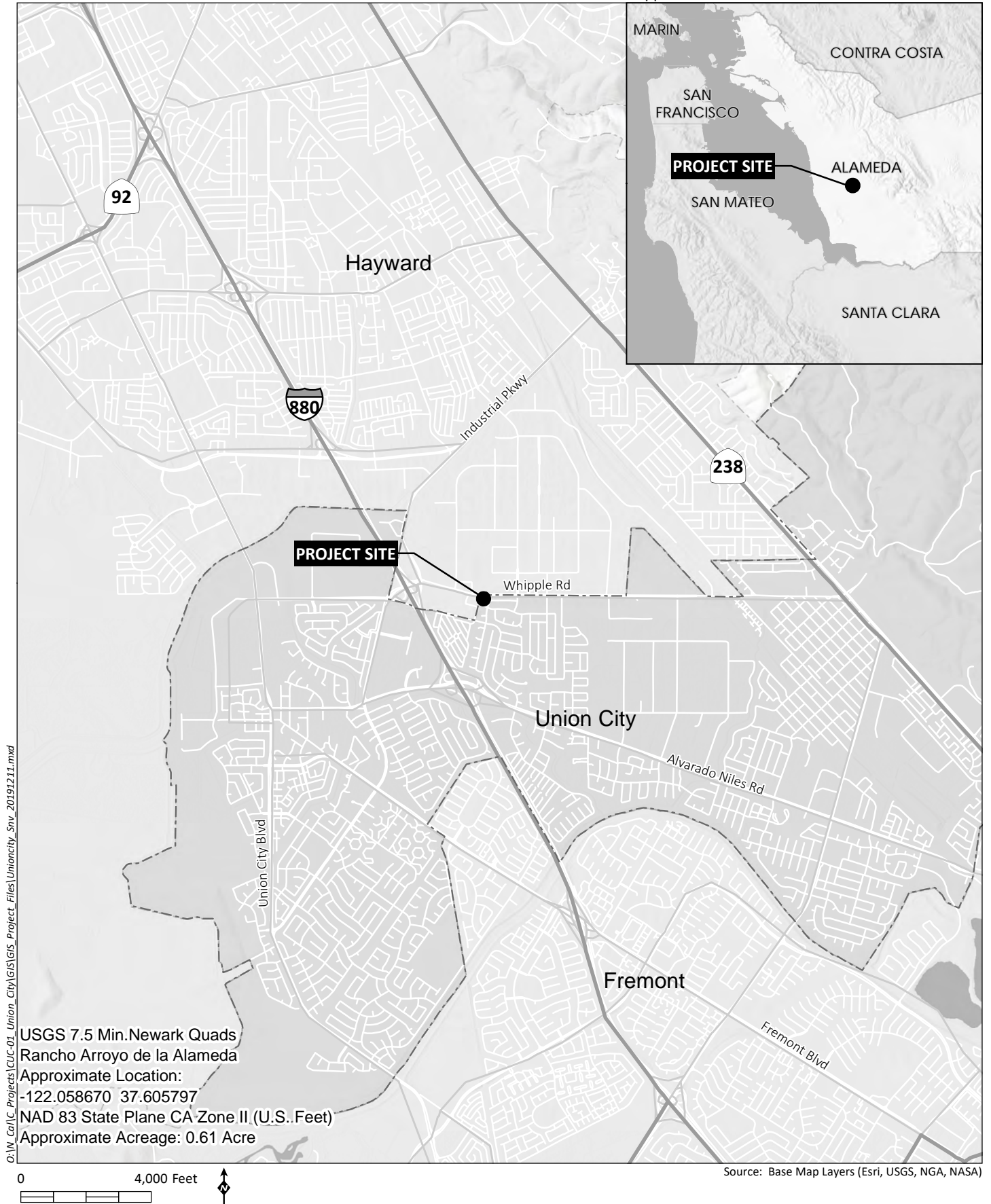
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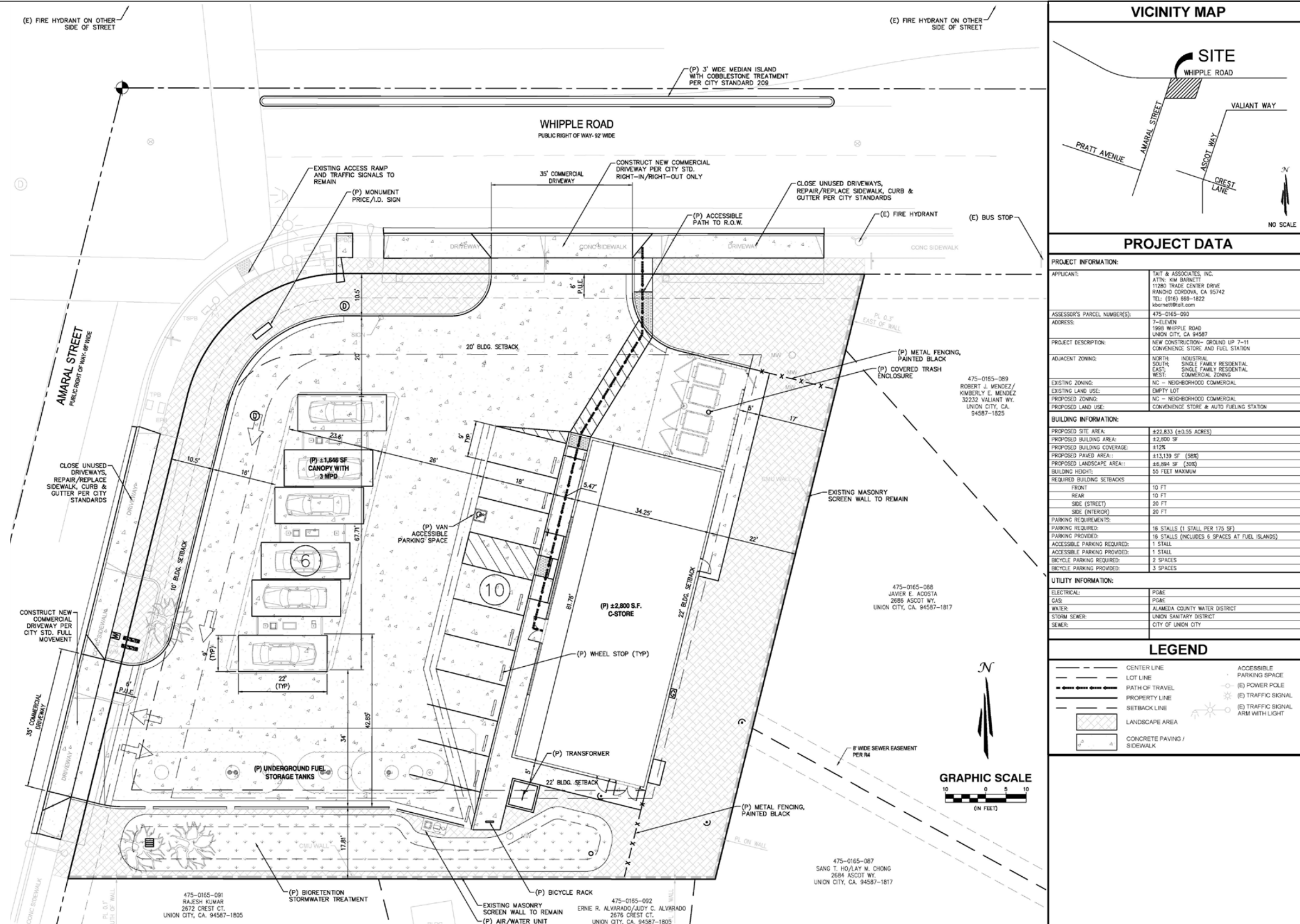
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Source: TAIT & Associates, 2019

# Attachment A

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CalEEMod Output

CUC-01 1998 Whipple Road 7-Eleven - Alameda County, Winter

## CUC-01 1998 Whipple Road 7-Eleven

### Alameda County, Winter

## 1.0 Project Characteristics

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### 1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	14.90	1000sqft	0.34	14,898.00	0
Convenience Market With Gas Pumps	6.00	Pump	0.06	2,800.00	0

### 1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	63
Climate Zone	5			Operational Year	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

### 1.3 User Entered Comments & Non-Default Data

## CUC-01 1998 Whipple Road 7-Eleven - Alameda County, Winter

## Project Characteristics -

Land Use - Parking = parking lot and all paved surfaces.

Construction Phase - Grading/excavation includes excavation for underground tanks.

Underground utilities assumed concurrent with grading.

Building construction includes tank installation, fuel islands and canopy.

Site prep and grading/excavation extended for anticipated soil export.

## Off-road Equipment -

Off-road Equipment - 1-story building, limited use of cranes anticipated.

Off-road Equipment - Excavator added for underground tanks and utilities.

## Off-road Equipment -

Off-road Equipment - Grader use adjusted for extended schedule.

## Trips and VMT -

Grading - 275 CY soil/vegetation exported during site prep.

800 CY soil exported during excavation for underground tanks/utilities.

Vehicle Trips - Trip generation rate per preliminary traffic study trip table (KDA 2020), includes passby reductions.

Construction Off-road Equipment Mitigation - Fugitive dust mitigation per BAAQMD Basic Construction Mitigation Measures.

Off-road Equipment - Bore/drill rig for trenchless installation of underground utilities.

Off-highway truck - boom mounted auger for utility pole installation.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	1.00	5.00
tblConstructionPhase	NumDays	2.00	15.00
tblConstructionPhase	NumDays	100.00	175.00
tblGrading	MaterialExported	0.00	800.00
tblGrading	MaterialExported	0.00	275.00
tblLandUse	LandUseSquareFeet	14,900.00	14,898.00
tblLandUse	LandUseSquareFeet	847.05	2,800.00
tblLandUse	LotAcreage	0.02	0.06
tblOffRoadEquipment	LoadFactor	0.29	0.29

## CUC-01 1998 Whipple Road 7-Eleven - Alameda County, Winter

tblOffRoadEquipment	LoadFactor	0.50	0.50
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType		Concrete/Industrial Saws
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	4.00	1.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblVehicleTrips	DV_TP	21.00	60.00
tblVehicleTrips	PB_TP	65.00	0.00
tblVehicleTrips	PR_TP	14.00	40.00
tblVehicleTrips	ST_TR	204.47	119.33
tblVehicleTrips	SU_TR	166.88	119.33
tblVehicleTrips	WD_TR	542.60	119.33

## 2.0 Emissions Summary

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## CUC-01 1998 Whipple Road 7-Eleven - Alameda 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					
2021	7.3056	15.1423	13.3234	0.0338	1.0750	0.6441	1.7191	0.5001	0.5980	1.0980	0.0000	3,307.8958	3,307.8958	0.8309	0.0000	3,328.6683
Maximum	7.3056	15.1423	13.3234	0.0338	1.0750	0.6441	1.7191	0.5001	0.5980	1.0980	0.0000	3,307.8958	3,307.8958	0.8309	0.0000	3,328.6683

**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	7.3056	15.1423	13.3234	0.0338	0.6610	0.6441	1.3051	0.2725	0.5980	0.8704	0.0000	3,307.8958	3,307.8958	0.8309	0.0000	3,328.6683
Maximum	7.3056	15.1423	13.3234	0.0338	0.6610	0.6441	1.3051	0.2725	0.5980	0.8704	0.0000	3,307.8958	3,307.8958	0.8309	0.0000	3,328.6683

	ROG	NOx	CO	SO2	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	0.00	0.00	0.00	0.00	38.51	0.00	24.08	45.51	0.00	20.73	0.00	0.00	0.00	0.00	0.00	0.00

## CUC-01 1998 Whipple Road 7-Eleven - Alameda 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	0.0751	2.0000e-005	2.1400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.5700e-003	4.5700e-003	1.0000e-005		4.8800e-003
Energy	3.8000e-004	3.4600e-003	2.9100e-003	2.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		4.1515	4.1515	8.0000e-005	8.0000e-005	4.1762
Mobile	0.9076	5.9366	9.0566	0.0292	2.2378	0.0285	2.2662	0.5996	0.0267	0.6263		2,966.9586	2,966.9586	0.1609		2,970.9812
<b>Total</b>	<b>0.9830</b>	<b>5.9401</b>	<b>9.0616</b>	<b>0.0292</b>	<b>2.2378</b>	<b>0.0287</b>	<b>2.2665</b>	<b>0.5996</b>	<b>0.0270</b>	<b>0.6266</b>		<b>2,971.1147</b>	<b>2,971.1147</b>	<b>0.1610</b>	<b>8.0000e-005</b>	<b>2,975.1623</b>

**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	0.0751	2.0000e-005	2.1400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.5700e-003	4.5700e-003	1.0000e-005		4.8800e-003
Energy	3.8000e-004	3.4600e-003	2.9100e-003	2.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		4.1515	4.1515	8.0000e-005	8.0000e-005	4.1762
Mobile	0.9076	5.9366	9.0566	0.0292	2.2378	0.0285	2.2662	0.5996	0.0267	0.6263		2,966.9586	2,966.9586	0.1609		2,970.9812
<b>Total</b>	<b>0.9830</b>	<b>5.9401</b>	<b>9.0616</b>	<b>0.0292</b>	<b>2.2378</b>	<b>0.0287</b>	<b>2.2665</b>	<b>0.5996</b>	<b>0.0270</b>	<b>0.6266</b>		<b>2,971.1147</b>	<b>2,971.1147</b>	<b>0.1610</b>	<b>8.0000e-005</b>	<b>2,975.1623</b>

## CUC-01 1998 Whipple Road 7-Eleven - Alameda 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

### 3.0 Construction Detail

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#### Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/4/2021	1/8/2021	5	5	
2	Grading/Excavation	Grading	1/9/2021	1/29/2021	5	15	
3	Underground Utilities	Trenching	1/9/2021	1/15/2021	5	5	
4	Building Construction	Building Construction	1/30/2021	10/1/2021	5	175	
5	Paving	Paving	10/2/2021	10/8/2021	5	5	
6	Architectural Coating	Architectural Coating	10/9/2021	10/15/2021	5	5	

**Acres of Grading (Site Preparation Phase): 1.25**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0.34**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 4,200; Non-Residential Outdoor: 1,400; Striped Parking Area: 894 (Architectural Coating – sqft)**

#### OffRoad Equipment

## CUC-01 1998 Whipple Road 7-Eleven - Alameda County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	4.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading/Excavation	Concrete/Industrial Saws	1	2.00	81	0.73
Grading/Excavation	Excavators	1	4.00	158	0.38
Grading/Excavation	Rubber Tired Dozers	1	1.00	247	0.40
Grading/Excavation	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	1.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48
Underground Utilities	Cranes	1	2.00	231	0.29
Underground Utilities	Bore/Drill Rigs	2	4.00	221	0.50
Underground Utilities	Concrete/Industrial Saws	1	1.00	81	0.73
Underground Utilities	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Underground Utilities	Off-Highway Trucks	1	2.00	402	0.38

Trips and VMT

## CUC-01 1998 Whipple Road 7-Eleven - Alameda County, Winter

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	2	5.00	0.00	27.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading/Excavation	5	13.00	0.00	79.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	7.00	3.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	1.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Underground Utilities	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

**3.2 Site Preparation - 2021****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2651	0.0000	0.2651	0.0286	0.0000	0.0286			0.0000			0.0000
Off-Road	0.4138	4.8581	3.1438	6.4200e-003		0.2056	0.2056		0.1892	0.1892		621.7421	621.7421	0.2011		626.7692
<b>Total</b>	<b>0.4138</b>	<b>4.8581</b>	<b>3.1438</b>	<b>6.4200e-003</b>	<b>0.2651</b>	<b>0.2056</b>	<b>0.4708</b>	<b>0.0286</b>	<b>0.1892</b>	<b>0.2178</b>		<b>621.7421</b>	<b>621.7421</b>	<b>0.2011</b>		<b>626.7692</b>

## CUC-01 1998 Whipple Road 7-Eleven - Alameda County, Winter

**3.2 Site Preparation - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0440	1.4606	0.2833	4.1900e-003	0.0945	4.4900e-003	0.0990	0.0259	4.3000e-003	0.0302		445.1600	445.1600	0.0232		445.7403
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	0.0176	0.0125	0.1226	3.7000e-004	0.0411	2.7000e-004	0.0413	0.0109	2.4000e-004	0.0111		37.1021	37.1021	9.0000e-004		37.1245
<b>Total</b>	<b>0.0616</b>	<b>1.4731</b>	<b>0.4059</b>	<b>4.5600e-003</b>	<b>0.1356</b>	<b>4.7600e-003</b>	<b>0.1404</b>	<b>0.0368</b>	<b>4.5400e-003</b>	<b>0.0414</b>		<b>482.2621</b>	<b>482.2621</b>	<b>0.0241</b>		<b>482.8647</b>

**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					0.1193	0.0000	0.1193	0.0129	0.0000	0.0129			0.0000			0.0000
Off-Road	0.4138	4.8581	3.1438	6.4200e-003		0.2056	0.2056		0.1892	0.1892	0.0000	621.7421	621.7421	0.2011		626.7692
<b>Total</b>	<b>0.4138</b>	<b>4.8581</b>	<b>3.1438</b>	<b>6.4200e-003</b>	<b>0.1193</b>	<b>0.2056</b>	<b>0.3249</b>	<b>0.0129</b>	<b>0.1892</b>	<b>0.2021</b>	<b>0.0000</b>	<b>621.7421</b>	<b>621.7421</b>	<b>0.2011</b>		<b>626.7692</b>

## CUC-01 1998 Whipple Road 7-Eleven - Alameda County, Winter

**3.2 Site Preparation - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0440	1.4606	0.2833	4.1900e-003	0.0945	4.4900e-003	0.0990	0.0259	4.3000e-003	0.0302		445.1600	445.1600	0.0232		445.7403
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	0.0176	0.0125	0.1226	3.7000e-004	0.0411	2.7000e-004	0.0413	0.0109	2.4000e-004	0.0111		37.1021	37.1021	9.0000e-004		37.1245
<b>Total</b>	<b>0.0616</b>	<b>1.4731</b>	<b>0.4059</b>	<b>4.5600e-003</b>	<b>0.1356</b>	<b>4.7600e-003</b>	<b>0.1404</b>	<b>0.0368</b>	<b>4.5400e-003</b>	<b>0.0414</b>		<b>482.2621</b>	<b>482.2621</b>	<b>0.0241</b>		<b>482.8647</b>

**3.3 Grading/Excavation - 2021****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	0.6225	6.0513	6.4495	9.8700e-003		0.3297	0.3297		0.3068	0.3068		953.0313	953.0313	0.2689		959.7541
<b>Total</b>	<b>0.6225</b>	<b>6.0513</b>	<b>6.4495</b>	<b>9.8700e-003</b>	<b>0.7528</b>	<b>0.3297</b>	<b>1.0825</b>	<b>0.4138</b>	<b>0.3068</b>	<b>0.7206</b>		<b>953.0313</b>	<b>953.0313</b>	<b>0.2689</b>		<b>959.7541</b>

## CUC-01 1998 Whipple Road 7-Eleven - Alameda County, Winter

**3.3 Grading/Excavation - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0429	1.4245	0.2763	4.0800e-003	0.0922	4.3800e-003	0.0966	0.0253	4.1900e-003	0.0295		434.1684	434.1684	0.0226		434.7343
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	0.0458	0.0325	0.3186	9.7000e-004	0.1068	6.9000e-004	0.1075	0.0283	6.4000e-004	0.0290		96.4654	96.4654	2.3300e-003		96.5236
<b>Total</b>	<b>0.0887</b>	<b>1.4570</b>	<b>0.5949</b>	<b>5.0500e-003</b>	<b>0.1990</b>	<b>5.0700e-003</b>	<b>0.2041</b>	<b>0.0536</b>	<b>4.8300e-003</b>	<b>0.0584</b>		<b>530.6338</b>	<b>530.6338</b>	<b>0.0250</b>		<b>531.2580</b>

**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					0.3387	0.0000	0.3387	0.1862	0.0000	0.1862			0.0000			0.0000
Off-Road	0.6225	6.0513	6.4495	9.8700e-003		0.3297	0.3297		0.3068	0.3068	0.0000	953.0313	953.0313	0.2689		959.7541
<b>Total</b>	<b>0.6225</b>	<b>6.0513</b>	<b>6.4495</b>	<b>9.8700e-003</b>	<b>0.3387</b>	<b>0.3297</b>	<b>0.6685</b>	<b>0.1862</b>	<b>0.3068</b>	<b>0.4930</b>	<b>0.0000</b>	<b>953.0313</b>	<b>953.0313</b>	<b>0.2689</b>		<b>959.7541</b>

## CUC-01 1998 Whipple Road 7-Eleven - Alameda County, Winter

**3.3 Grading/Excavation - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0429	1.4245	0.2763	4.0800e-003	0.0922	4.3800e-003	0.0966	0.0253	4.1900e-003	0.0295		434.1684	434.1684	0.0226		434.7343
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	0.0458	0.0325	0.3186	9.7000e-004	0.1068	6.9000e-004	0.1075	0.0283	6.4000e-004	0.0290		96.4654	96.4654	2.3300e-003		96.5236
<b>Total</b>	<b>0.0887</b>	<b>1.4570</b>	<b>0.5949</b>	<b>5.0500e-003</b>	<b>0.1990</b>	<b>5.0700e-003</b>	<b>0.2041</b>	<b>0.0536</b>	<b>4.8300e-003</b>	<b>0.0584</b>		<b>530.6338</b>	<b>530.6338</b>	<b>0.0250</b>		<b>531.2580</b>

**3.4 Underground Utilities - 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	0.7255	7.5965	5.9113	0.0177		0.3085	0.3085		0.2856	0.2856		1,712.9244	1,712.9244	0.5343		1,726.2828
<b>Total</b>	<b>0.7255</b>	<b>7.5965</b>	<b>5.9113</b>	<b>0.0177</b>		<b>0.3085</b>	<b>0.3085</b>		<b>0.2856</b>	<b>0.2856</b>		<b>1,712.9244</b>	<b>1,712.9244</b>	<b>0.5343</b>		<b>1,726.2828</b>

## CUC-01 1998 Whipple Road 7-Eleven - Alameda County, Winter

**3.4 Underground Utilities - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0529	0.0375	0.3676	1.1200e-003	0.1232	8.0000e-004	0.1240	0.0327	7.3000e-004	0.0334		111.3063	111.3063	2.6900e-003		111.3734
<b>Total</b>	<b>0.0529</b>	<b>0.0375</b>	<b>0.3676</b>	<b>1.1200e-003</b>	<b>0.1232</b>	<b>8.0000e-004</b>	<b>0.1240</b>	<b>0.0327</b>	<b>7.3000e-004</b>	<b>0.0334</b>		<b>111.3063</b>	<b>111.3063</b>	<b>2.6900e-003</b>		<b>111.3734</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7255	7.5965	5.9113	0.0177		0.3085	0.3085		0.2856	0.2856	0.0000	1,712.9244	1,712.9244	0.5343		1,726.2828
<b>Total</b>	<b>0.7255</b>	<b>7.5965</b>	<b>5.9113</b>	<b>0.0177</b>		<b>0.3085</b>	<b>0.3085</b>		<b>0.2856</b>	<b>0.2856</b>	<b>0.0000</b>	<b>1,712.9244</b>	<b>1,712.9244</b>	<b>0.5343</b>		<b>1,726.2828</b>

## CUC-01 1998 Whipple Road 7-Eleven - Alameda County, Winter

**3.4 Underground Utilities - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0529	0.0375	0.3676	1.1200e-003	0.1232	8.0000e-004	0.1240	0.0327	7.3000e-004	0.0334		111.3063	111.3063	2.6900e-003		111.3734
<b>Total</b>	<b>0.0529</b>	<b>0.0375</b>	<b>0.3676</b>	<b>1.1200e-003</b>	<b>0.1232</b>	<b>8.0000e-004</b>	<b>0.1240</b>	<b>0.0327</b>	<b>7.3000e-004</b>	<b>0.0334</b>		<b>111.3063</b>	<b>111.3063</b>	<b>2.6900e-003</b>		<b>111.3734</b>

**3.5 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	0.6202	6.1665	6.5201	9.2300e-003		0.3737	0.3737		0.3438	0.3438		893.6887	893.6887	0.2890		900.9147
<b>Total</b>	<b>0.6202</b>	<b>6.1665</b>	<b>6.5201</b>	<b>9.2300e-003</b>		<b>0.3737</b>	<b>0.3737</b>		<b>0.3438</b>	<b>0.3438</b>		<b>893.6887</b>	<b>893.6887</b>	<b>0.2890</b>		<b>900.9147</b>

## CUC-01 1998 Whipple Road 7-Eleven - Alameda County, Winter

**3.5 Building Construction - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	9.6000e-003	0.3201	0.0735	8.1000e-004	0.0203	6.8000e-004	0.0210	5.8500e-003	6.5000e-004	6.5000e-003		85.2338	85.2338	5.0200e-003		85.3593
Worker	0.0247	0.0175	0.1716	5.2000e-004	0.0575	3.7000e-004	0.0579	0.0153	3.4000e-004	0.0156		51.9429	51.9429	1.2500e-003		51.9743
<b>Total</b>	<b>0.0343</b>	<b>0.3376</b>	<b>0.2451</b>	<b>1.3300e-003</b>	<b>0.0778</b>	<b>1.0500e-003</b>	<b>0.0789</b>	<b>0.0211</b>	<b>9.9000e-004</b>	<b>0.0221</b>		<b>137.1767</b>	<b>137.1767</b>	<b>6.2700e-003</b>		<b>137.3336</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6202	6.1665	6.5201	9.2300e-003		0.3737	0.3737		0.3438	0.3438	0.0000	893.6887	893.6887	0.2890		900.9147
<b>Total</b>	<b>0.6202</b>	<b>6.1665</b>	<b>6.5201</b>	<b>9.2300e-003</b>		<b>0.3737</b>	<b>0.3737</b>		<b>0.3438</b>	<b>0.3438</b>	<b>0.0000</b>	<b>893.6887</b>	<b>893.6887</b>	<b>0.2890</b>		<b>900.9147</b>

## CUC-01 1998 Whipple Road 7-Eleven - Alameda County, Winter

**3.5 Building Construction - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	9.6000e-003	0.3201	0.0735	8.1000e-004	0.0203	6.8000e-004	0.0210	5.8500e-003	6.5000e-004	6.5000e-003		85.2338	85.2338	5.0200e-003		85.3593
Worker	0.0247	0.0175	0.1716	5.2000e-004	0.0575	3.7000e-004	0.0579	0.0153	3.4000e-004	0.0156		51.9429	51.9429	1.2500e-003		51.9743
<b>Total</b>	<b>0.0343</b>	<b>0.3376</b>	<b>0.2451</b>	<b>1.3300e-003</b>	<b>0.0778</b>	<b>1.0500e-003</b>	<b>0.0789</b>	<b>0.0211</b>	<b>9.9000e-004</b>	<b>0.0221</b>		<b>137.1767</b>	<b>137.1767</b>	<b>6.2700e-003</b>		<b>137.3336</b>

**3.6 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	0.7214	6.7178	7.0899	0.0113		0.3534	0.3534		0.3286	0.3286		1,035.3425	1,035.3425	0.3016		1,042.8818
Paving	0.1782					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.8996</b>	<b>6.7178</b>	<b>7.0899</b>	<b>0.0113</b>		<b>0.3534</b>	<b>0.3534</b>		<b>0.3286</b>	<b>0.3286</b>		<b>1,035.3425</b>	<b>1,035.3425</b>	<b>0.3016</b>		<b>1,042.8818</b>

## CUC-01 1998 Whipple Road 7-Eleven - Alameda County, Winter

**3.6 Paving - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0634	0.0450	0.4412	1.3400e-003	0.1479	9.6000e-004	0.1488	0.0392	8.8000e-004	0.0401		133.5675	133.5675	3.2200e-003		133.6481
<b>Total</b>	<b>0.0634</b>	<b>0.0450</b>	<b>0.4412</b>	<b>1.3400e-003</b>	<b>0.1479</b>	<b>9.6000e-004</b>	<b>0.1488</b>	<b>0.0392</b>	<b>8.8000e-004</b>	<b>0.0401</b>		<b>133.5675</b>	<b>133.5675</b>	<b>3.2200e-003</b>		<b>133.6481</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7214	6.7178	7.0899	0.0113		0.3534	0.3534		0.3286	0.3286	0.0000	1,035.3425	1,035.3425	0.3016		1,042.8818
Paving	0.1782					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.8996</b>	<b>6.7178</b>	<b>7.0899</b>	<b>0.0113</b>		<b>0.3534</b>	<b>0.3534</b>		<b>0.3286</b>	<b>0.3286</b>	<b>0.0000</b>	<b>1,035.3425</b>	<b>1,035.3425</b>	<b>0.3016</b>		<b>1,042.8818</b>

## CUC-01 1998 Whipple Road 7-Eleven - Alameda County, Winter

**3.6 Paving - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0634	0.0450	0.4412	1.3400e-003	0.1479	9.6000e-004	0.1488	0.0392	8.8000e-004	0.0401		133.5675	133.5675	3.2200e-003		133.6481
<b>Total</b>	<b>0.0634</b>	<b>0.0450</b>	<b>0.4412</b>	<b>1.3400e-003</b>	<b>0.1479</b>	<b>9.6000e-004</b>	<b>0.1488</b>	<b>0.0392</b>	<b>8.8000e-004</b>	<b>0.0401</b>		<b>133.5675</b>	<b>133.5675</b>	<b>3.2200e-003</b>		<b>133.6481</b>

**3.7 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	7.0832					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
<b>Total</b>	<b>7.3021</b>	<b>1.5268</b>	<b>1.8176</b>	<b>2.9700e-003</b>		<b>0.0941</b>	<b>0.0941</b>		<b>0.0941</b>	<b>0.0941</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0193</b>		<b>281.9309</b>

## CUC-01 1998 Whipple Road 7-Eleven - Alameda County, Winter

**3.7 Architectural Coating - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	3.5200e-003	2.5000e-003	0.0245	7.0000e-005	8.2100e-003	5.0000e-005	8.2700e-003	2.1800e-003	5.0000e-005	2.2300e-003		7.4204	7.4204	1.8000e-004		7.4249
<b>Total</b>	<b>3.5200e-003</b>	<b>2.5000e-003</b>	<b>0.0245</b>	<b>7.0000e-005</b>	<b>8.2100e-003</b>	<b>5.0000e-005</b>	<b>8.2700e-003</b>	<b>2.1800e-003</b>	<b>5.0000e-005</b>	<b>2.2300e-003</b>		<b>7.4204</b>	<b>7.4204</b>	<b>1.8000e-004</b>		<b>7.4249</b>

**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	7.0832					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
<b>Total</b>	<b>7.3021</b>	<b>1.5268</b>	<b>1.8176</b>	<b>2.9700e-003</b>		<b>0.0941</b>	<b>0.0941</b>		<b>0.0941</b>	<b>0.0941</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0193</b>		<b>281.9309</b>

## CUC-01 1998 Whipple Road 7-Eleven - Alameda County, Winter

**3.7 Architectural Coating - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	3.5200e-003	2.5000e-003	0.0245	7.0000e-005	8.2100e-003	5.0000e-005	8.2700e-003	2.1800e-003	5.0000e-005	2.2300e-003		7.4204	7.4204	1.8000e-004		7.4249
<b>Total</b>	<b>3.5200e-003</b>	<b>2.5000e-003</b>	<b>0.0245</b>	<b>7.0000e-005</b>	<b>8.2100e-003</b>	<b>5.0000e-005</b>	<b>8.2700e-003</b>	<b>2.1800e-003</b>	<b>5.0000e-005</b>	<b>2.2300e-003</b>		<b>7.4204</b>	<b>7.4204</b>	<b>1.8000e-004</b>		<b>7.4249</b>

**4.0 Operational Detail - Mobile****4.1 Mitigation Measures Mobile**

## CUC-01 1998 Whipple Road 7-Eleven - Alameda 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	0.9076	5.9366	9.0566	0.0292	2.2378	0.0285	2.2662	0.5996	0.0267	0.6263		2,966.9586	2,966.9586	0.1609		2,970.9812
Unmitigated	0.9076	5.9366	9.0566	0.0292	2.2378	0.0285	2.2662	0.5996	0.0267	0.6263		2,966.9586	2,966.9586	0.1609		2,970.9812

## 4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Convenience Market With Gas Pumps	715.98	715.98	715.98	1,048,899	1,048,899
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	715.98	715.98	715.98	1,048,899	1,048,899

## 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 With Gas	9.50	7.30	7.30	0.80	80.20	19.00	40	60	0
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

## 4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Convenience Market With Gas Pumps	0.560371	0.039285	0.190378	0.108244	0.016023	0.005202	0.023981	0.045200	0.002184	0.002561	0.005524	0.000326	0.000721
Other Asphalt Surfaces	0.560371	0.039285	0.190378	0.108244	0.016023	0.005202	0.023981	0.045200	0.002184	0.002561	0.005524	0.000326	0.000721

## CUC-01 1998 Whipple Road 7-Eleven - Alameda County, Winter

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	3.8000e-004	3.4600e-003	2.9100e-003	2.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		4.1515	4.1515	8.0000e-005	8.0000e-005	4.1762
NaturalGas Unmitigated	3.8000e-004	3.4600e-003	2.9100e-003	2.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		4.1515	4.1515	8.0000e-005	8.0000e-005	4.1762

## CUC-01 1998 Whipple Road 7-Eleven - Alameda 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 With Gas Pumps	35.2877	3.8000e-004	3.4600e-003	2.9100e-003	2.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		4.1515	4.1515	8.0000e-005	8.0000e-005	4.1762
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
<b>Total</b>		<b>3.8000e-004</b>	<b>3.4600e-003</b>	<b>2.9100e-003</b>	<b>2.0000e-005</b>		<b>2.6000e-004</b>	<b>2.6000e-004</b>		<b>2.6000e-004</b>	<b>2.6000e-004</b>		<b>4.1515</b>	<b>4.1515</b>	<b>8.0000e-005</b>	<b>8.0000e-005</b>	<b>4.1762</b>

**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 With Gas Pumps	0.0352877	3.8000e-004	3.4600e-003	2.9100e-003	2.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		4.1515	4.1515	8.0000e-005	8.0000e-005	4.1762
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
<b>Total</b>		<b>3.8000e-004</b>	<b>3.4600e-003</b>	<b>2.9100e-003</b>	<b>2.0000e-005</b>		<b>2.6000e-004</b>	<b>2.6000e-004</b>		<b>2.6000e-004</b>	<b>2.6000e-004</b>		<b>4.1515</b>	<b>4.1515</b>	<b>8.0000e-005</b>	<b>8.0000e-005</b>	<b>4.1762</b>

**6.0 Area Detail****6.1 Mitigation Measures Area**

## CUC-01 1998 Whipple Road 7-Eleven - Alameda 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	0.0751	2.0000e-005	2.1400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.5700e-003	4.5700e-003	1.0000e-005		4.8800e-003
Unmitigated	0.0751	2.0000e-005	2.1400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.5700e-003	4.5700e-003	1.0000e-005		4.8800e-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	lb/day										lb/day					
Architectural Coating	9.7000e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0652					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-004	2.0000e-005	2.1400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.5700e-003	4.5700e-003	1.0000e-005		4.8800e-003
<b>Total</b>	<b>0.0751</b>	<b>2.0000e-005</b>	<b>2.1400e-003</b>	<b>0.0000</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>4.5700e-003</b>	<b>4.5700e-003</b>	<b>1.0000e-005</b>		<b>4.8800e-003</b>

## CUC-01 1998 Whipple Road 7-Eleven - Alameda 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	9.7000e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0652					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-004	2.0000e-005	2.1400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.5700e-003	4.5700e-003	1.0000e-005		4.8800e-003
<b>Total</b>	<b>0.0751</b>	<b>2.0000e-005</b>	<b>2.1400e-003</b>	<b>0.0000</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>4.5700e-003</b>	<b>4.5700e-003</b>	<b>1.0000e-005</b>		<b>4.8800e-003</b>

**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**

## CUC-01 1998 Whipple Road 7-Eleven - Alameda 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**

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CUC-01 1998 Whipple Road 7-Eleven - Alameda County, Summer

## CUC-01 1998 Whipple Road 7-Eleven

### Alameda County, Summer

## 1.0 Project Characteristics

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### 1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	14.90	1000sqft	0.34	14,898.00	0
Convenience Market With Gas Pumps	6.00	Pump	0.06	2,800.00	0

### 1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	63
Climate Zone	5			Operational Year	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

### 1.3 User Entered Comments & Non-Default Data

## CUC-01 1998 Whipple Road 7-Eleven - Alameda County, Summer

## Project Characteristics -

Land Use - Parking = parking lot and all paved surfaces.

Construction Phase - Grading/excavation includes excavation for underground tanks.

Underground utilities assumed concurrent with grading.

Building construction includes tank installation, fuel islands and canopy.

Site prep and grading/excavation extended for anticipated soil export.

## Off-road Equipment -

Off-road Equipment - 1-story building, limited use of cranes anticipated.

Off-road Equipment - Excavator added for underground tanks and utilities.

## Off-road Equipment -

Off-road Equipment - Grader use adjusted for extended schedule.

## Trips and VMT -

Grading - 275 CY soil/vegetation exported during site prep.

800 CY soil exported during excavation for underground tanks/utilities.

Vehicle Trips - Trip generation rate per preliminary traffic study trip table (KDA 2020), includes passby reductions.

Construction Off-road Equipment Mitigation - Fugitive dust mitigation per BAAQMD Basic Construction Mitigation Measures.

Off-road Equipment - Bore/drill rig for trenchless installation of underground utilities.

Off-highway truck - boom mounted auger for utility pole installation.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	1.00	5.00
tblConstructionPhase	NumDays	2.00	15.00
tblConstructionPhase	NumDays	100.00	175.00
tblGrading	MaterialExported	0.00	800.00
tblGrading	MaterialExported	0.00	275.00
tblLandUse	LandUseSquareFeet	14,900.00	14,898.00
tblLandUse	LandUseSquareFeet	847.05	2,800.00
tblLandUse	LotAcreage	0.02	0.06
tblOffRoadEquipment	LoadFactor	0.29	0.29

## CUC-01 1998 Whipple Road 7-Eleven - Alameda County, Summer

tblOffRoadEquipment	LoadFactor	0.50	0.50
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType		Concrete/Industrial Saws
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	4.00	1.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblVehicleTrips	DV_TP	21.00	60.00
tblVehicleTrips	PB_TP	65.00	0.00
tblVehicleTrips	PR_TP	14.00	40.00
tblVehicleTrips	ST_TR	204.47	119.33
tblVehicleTrips	SU_TR	166.88	119.33
tblVehicleTrips	WD_TR	542.60	119.33

## 2.0 Emissions Summary

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## CUC-01 1998 Whipple Road 7-Eleven - Alameda 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					
2021	7.3055	15.0974	13.3445	0.0340	1.0750	0.6441	1.7190	0.5001	0.5979	1.0980	0.0000	3,334.1026	3,334.1026	0.8297	0.0000	3,354.8452
Maximum	7.3055	15.0974	13.3445	0.0340	1.0750	0.6441	1.7190	0.5001	0.5979	1.0980	0.0000	3,334.1026	3,334.1026	0.8297	0.0000	3,354.8452

**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	7.3055	15.0974	13.3445	0.0340	0.6610	0.6441	1.3050	0.2725	0.5979	0.8704	0.0000	3,334.1026	3,334.1026	0.8297	0.0000	3,354.8452
Maximum	7.3055	15.0974	13.3445	0.0340	0.6610	0.6441	1.3050	0.2725	0.5979	0.8704	0.0000	3,334.1026	3,334.1026	0.8297	0.0000	3,354.8452

	ROG	NOx	CO	SO2	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	0.00	0.00	0.00	0.00	38.51	0.00	24.08	45.51	0.00	20.73	0.00	0.00	0.00	0.00	0.00	0.00

## CUC-01 1998 Whipple Road 7-Eleven - Alameda 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	0.0751	2.0000e-005	2.1400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.5700e-003	4.5700e-003	1.0000e-005		4.8800e-003
Energy	3.8000e-004	3.4600e-003	2.9100e-003	2.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		4.1515	4.1515	8.0000e-005	8.0000e-005	4.1762
Mobile	1.0708	5.8102	8.4677	0.0312	2.2378	0.0281	2.2658	0.5996	0.0263	0.6259		3,170.7553	3,170.7553	0.1502		3,174.5094
<b>Total</b>	<b>1.1463</b>	<b>5.8137</b>	<b>8.4727</b>	<b>0.0312</b>	<b>2.2378</b>	<b>0.0283</b>	<b>2.2661</b>	<b>0.5996</b>	<b>0.0266</b>	<b>0.6262</b>		<b>3,174.9113</b>	<b>3,174.9113</b>	<b>0.1503</b>	<b>8.0000e-005</b>	<b>3,178.6905</b>

**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	0.0751	2.0000e-005	2.1400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.5700e-003	4.5700e-003	1.0000e-005		4.8800e-003
Energy	3.8000e-004	3.4600e-003	2.9100e-003	2.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		4.1515	4.1515	8.0000e-005	8.0000e-005	4.1762
Mobile	1.0708	5.8102	8.4677	0.0312	2.2378	0.0281	2.2658	0.5996	0.0263	0.6259		3,170.7553	3,170.7553	0.1502		3,174.5094
<b>Total</b>	<b>1.1463</b>	<b>5.8137</b>	<b>8.4727</b>	<b>0.0312</b>	<b>2.2378</b>	<b>0.0283</b>	<b>2.2661</b>	<b>0.5996</b>	<b>0.0266</b>	<b>0.6262</b>		<b>3,174.9113</b>	<b>3,174.9113</b>	<b>0.1503</b>	<b>8.0000e-005</b>	<b>3,178.6905</b>

## CUC-01 1998 Whipple Road 7-Eleven - Alameda 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

### 3.0 Construction Detail

#### Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/4/2021	1/8/2021	5	5	
2	Grading/Excavation	Grading	1/9/2021	1/29/2021	5	15	
3	Underground Utilities	Trenching	1/9/2021	1/15/2021	5	5	
4	Building Construction	Building Construction	1/30/2021	10/1/2021	5	175	
5	Paving	Paving	10/2/2021	10/8/2021	5	5	
6	Architectural Coating	Architectural Coating	10/9/2021	10/15/2021	5	5	

Acres of Grading (Site Preparation Phase): 1.25

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.34

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 4,200; Non-Residential Outdoor: 1,400; Striped Parking Area: 894 (Architectural Coating – sqft)

#### OffRoad Equipment

## CUC-01 1998 Whipple Road 7-Eleven - Alameda County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	4.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading/Excavation	Concrete/Industrial Saws	1	2.00	81	0.73
Grading/Excavation	Excavators	1	4.00	158	0.38
Grading/Excavation	Rubber Tired Dozers	1	1.00	247	0.40
Grading/Excavation	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	1.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48
Underground Utilities	Cranes	1	2.00	231	0.29
Underground Utilities	Bore/Drill Rigs	2	4.00	221	0.50
Underground Utilities	Concrete/Industrial Saws	1	1.00	81	0.73
Underground Utilities	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Underground Utilities	Off-Highway Trucks	1	2.00	402	0.38

Trips and VMT

## CUC-01 1998 Whipple Road 7-Eleven - Alameda County, Summer

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	2	5.00	0.00	27.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading/Excavation	5	13.00	0.00	79.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	7.00	3.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	1.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Underground Utilities	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

**3.2 Site Preparation - 2021****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2651	0.0000	0.2651	0.0286	0.0000	0.0286			0.0000			0.0000
Off-Road	0.4138	4.8581	3.1438	6.4200e-003		0.2056	0.2056		0.1892	0.1892		621.7421	621.7421	0.2011		626.7692
<b>Total</b>	<b>0.4138</b>	<b>4.8581</b>	<b>3.1438</b>	<b>6.4200e-003</b>	<b>0.2651</b>	<b>0.2056</b>	<b>0.4708</b>	<b>0.0286</b>	<b>0.1892</b>	<b>0.2178</b>		<b>621.7421</b>	<b>621.7421</b>	<b>0.2011</b>		<b>626.7692</b>

## CUC-01 1998 Whipple Road 7-Eleven - Alameda County, Summer

**3.2 Site Preparation - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0428	1.4286	0.2607	4.2700e-003	0.0945	4.4200e-003	0.0990	0.0259	4.2300e-003	0.0302		453.5602	453.5602	0.0216		454.1009
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	0.0169	0.0100	0.1303	4.0000e-004	0.0411	2.7000e-004	0.0413	0.0109	2.4000e-004	0.0111		40.3189	40.3189	9.6000e-004		40.3428
<b>Total</b>	<b>0.0597</b>	<b>1.4387</b>	<b>0.3910</b>	<b>4.6700e-003</b>	<b>0.1356</b>	<b>4.6900e-003</b>	<b>0.1403</b>	<b>0.0368</b>	<b>4.4700e-003</b>	<b>0.0413</b>		<b>493.8791</b>	<b>493.8791</b>	<b>0.0226</b>		<b>494.4437</b>

**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					0.1193	0.0000	0.1193	0.0129	0.0000	0.0129			0.0000			0.0000
Off-Road	0.4138	4.8581	3.1438	6.4200e-003		0.2056	0.2056		0.1892	0.1892	0.0000	621.7421	621.7421	0.2011		626.7692
<b>Total</b>	<b>0.4138</b>	<b>4.8581</b>	<b>3.1438</b>	<b>6.4200e-003</b>	<b>0.1193</b>	<b>0.2056</b>	<b>0.3249</b>	<b>0.0129</b>	<b>0.1892</b>	<b>0.2021</b>	<b>0.0000</b>	<b>621.7421</b>	<b>621.7421</b>	<b>0.2011</b>		<b>626.7692</b>

## CUC-01 1998 Whipple Road 7-Eleven - Alameda County, Summer

**3.2 Site Preparation - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0428	1.4286	0.2607	4.2700e-003	0.0945	4.4200e-003	0.0990	0.0259	4.2300e-003	0.0302		453.5602	453.5602	0.0216		454.1009
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	0.0169	0.0100	0.1303	4.0000e-004	0.0411	2.7000e-004	0.0413	0.0109	2.4000e-004	0.0111		40.3189	40.3189	9.6000e-004		40.3428
<b>Total</b>	<b>0.0597</b>	<b>1.4387</b>	<b>0.3910</b>	<b>4.6700e-003</b>	<b>0.1356</b>	<b>4.6900e-003</b>	<b>0.1403</b>	<b>0.0368</b>	<b>4.4700e-003</b>	<b>0.0413</b>		<b>493.8791</b>	<b>493.8791</b>	<b>0.0226</b>		<b>494.4437</b>

**3.3 Grading/Excavation - 2021****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	0.6225	6.0513	6.4495	9.8700e-003		0.3297	0.3297		0.3068	0.3068		953.0313	953.0313	0.2689		959.7541
<b>Total</b>	<b>0.6225</b>	<b>6.0513</b>	<b>6.4495</b>	<b>9.8700e-003</b>	<b>0.7528</b>	<b>0.3297</b>	<b>1.0825</b>	<b>0.4138</b>	<b>0.3068</b>	<b>0.7206</b>		<b>953.0313</b>	<b>953.0313</b>	<b>0.2689</b>		<b>959.7541</b>

## CUC-01 1998 Whipple Road 7-Eleven - Alameda County, Summer

**3.3 Grading/Excavation - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0417	1.3934	0.2543	4.1600e-003	0.0922	4.3100e-003	0.0965	0.0253	4.1200e-003	0.0294		442.3612	442.3612	0.0211		442.8885
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	0.0439	0.0261	0.3386	1.0500e-003	0.1068	6.9000e-004	0.1075	0.0283	6.4000e-004	0.0290		104.8291	104.8291	2.4900e-003		104.8913
<b>Total</b>	<b>0.0856</b>	<b>1.4195</b>	<b>0.5929</b>	<b>5.2100e-003</b>	<b>0.1990</b>	<b>5.0000e-003</b>	<b>0.2040</b>	<b>0.0536</b>	<b>4.7600e-003</b>	<b>0.0584</b>		<b>547.1903</b>	<b>547.1903</b>	<b>0.0236</b>		<b>547.7799</b>

**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					0.3387	0.0000	0.3387	0.1862	0.0000	0.1862			0.0000			0.0000
Off-Road	0.6225	6.0513	6.4495	9.8700e-003		0.3297	0.3297		0.3068	0.3068	0.0000	953.0313	953.0313	0.2689		959.7541
<b>Total</b>	<b>0.6225</b>	<b>6.0513</b>	<b>6.4495</b>	<b>9.8700e-003</b>	<b>0.3387</b>	<b>0.3297</b>	<b>0.6685</b>	<b>0.1862</b>	<b>0.3068</b>	<b>0.4930</b>	<b>0.0000</b>	<b>953.0313</b>	<b>953.0313</b>	<b>0.2689</b>		<b>959.7541</b>

## CUC-01 1998 Whipple Road 7-Eleven - Alameda County, Summer

**3.3 Grading/Excavation - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0417	1.3934	0.2543	4.1600e-003	0.0922	4.3100e-003	0.0965	0.0253	4.1200e-003	0.0294		442.3612	442.3612	0.0211		442.8885
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	0.0439	0.0261	0.3386	1.0500e-003	0.1068	6.9000e-004	0.1075	0.0283	6.4000e-004	0.0290		104.8291	104.8291	2.4900e-003		104.8913
<b>Total</b>	<b>0.0856</b>	<b>1.4195</b>	<b>0.5929</b>	<b>5.2100e-003</b>	<b>0.1990</b>	<b>5.0000e-003</b>	<b>0.2040</b>	<b>0.0536</b>	<b>4.7600e-003</b>	<b>0.0584</b>		<b>547.1903</b>	<b>547.1903</b>	<b>0.0236</b>		<b>547.7799</b>

**3.4 Underground Utilities - 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	0.7255	7.5965	5.9113	0.0177		0.3085	0.3085		0.2856	0.2856		1,712.9244	1,712.9244	0.5343		1,726.2828
<b>Total</b>	<b>0.7255</b>	<b>7.5965</b>	<b>5.9113</b>	<b>0.0177</b>		<b>0.3085</b>	<b>0.3085</b>		<b>0.2856</b>	<b>0.2856</b>		<b>1,712.9244</b>	<b>1,712.9244</b>	<b>0.5343</b>		<b>1,726.2828</b>

## CUC-01 1998 Whipple Road 7-Eleven - Alameda County, Summer

**3.4 Underground Utilities - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0507	0.0301	0.3907	1.2100e-003	0.1232	8.0000e-004	0.1240	0.0327	7.3000e-004	0.0334		120.9566	120.9566	2.8700e-003		121.0285
<b>Total</b>	<b>0.0507</b>	<b>0.0301</b>	<b>0.3907</b>	<b>1.2100e-003</b>	<b>0.1232</b>	<b>8.0000e-004</b>	<b>0.1240</b>	<b>0.0327</b>	<b>7.3000e-004</b>	<b>0.0334</b>		<b>120.9566</b>	<b>120.9566</b>	<b>2.8700e-003</b>		<b>121.0285</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7255	7.5965	5.9113	0.0177		0.3085	0.3085		0.2856	0.2856	0.0000	1,712.9244	1,712.9244	0.5343		1,726.2828
<b>Total</b>	<b>0.7255</b>	<b>7.5965</b>	<b>5.9113</b>	<b>0.0177</b>		<b>0.3085</b>	<b>0.3085</b>		<b>0.2856</b>	<b>0.2856</b>	<b>0.0000</b>	<b>1,712.9244</b>	<b>1,712.9244</b>	<b>0.5343</b>		<b>1,726.2828</b>

## CUC-01 1998 Whipple Road 7-Eleven - Alameda County, Summer

**3.4 Underground Utilities - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0507	0.0301	0.3907	1.2100e-003	0.1232	8.0000e-004	0.1240	0.0327	7.3000e-004	0.0334		120.9566	120.9566	2.8700e-003		121.0285
<b>Total</b>	<b>0.0507</b>	<b>0.0301</b>	<b>0.3907</b>	<b>1.2100e-003</b>	<b>0.1232</b>	<b>8.0000e-004</b>	<b>0.1240</b>	<b>0.0327</b>	<b>7.3000e-004</b>	<b>0.0334</b>		<b>120.9566</b>	<b>120.9566</b>	<b>2.8700e-003</b>		<b>121.0285</b>

**3.5 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	0.6202	6.1665	6.5201	9.2300e-003		0.3737	0.3737		0.3438	0.3438		893.6887	893.6887	0.2890		900.9147
<b>Total</b>	<b>0.6202</b>	<b>6.1665</b>	<b>6.5201</b>	<b>9.2300e-003</b>		<b>0.3737</b>	<b>0.3737</b>		<b>0.3438</b>	<b>0.3438</b>		<b>893.6887</b>	<b>893.6887</b>	<b>0.2890</b>		<b>900.9147</b>

## CUC-01 1998 Whipple Road 7-Eleven - Alameda County, Summer

**3.5 Building Construction - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	9.0700e-003	0.3178	0.0631	8.3000e-004	0.0203	6.6000e-004	0.0210	5.8500e-003	6.3000e-004	6.4800e-003		87.6451	87.6451	4.5500e-003		87.7589
Worker	0.0237	0.0141	0.1824	5.7000e-004	0.0575	3.7000e-004	0.0579	0.0153	3.4000e-004	0.0156		56.4464	56.4464	1.3400e-003		56.4799
<b>Total</b>	<b>0.0327</b>	<b>0.3318</b>	<b>0.2455</b>	<b>1.4000e-003</b>	<b>0.0778</b>	<b>1.0300e-003</b>	<b>0.0789</b>	<b>0.0211</b>	<b>9.7000e-004</b>	<b>0.0221</b>		<b>144.0916</b>	<b>144.0916</b>	<b>5.8900e-003</b>		<b>144.2389</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.6202	6.1665	6.5201	9.2300e-003		0.3737	0.3737		0.3438	0.3438	0.0000	893.6887	893.6887	0.2890		900.9147
<b>Total</b>	<b>0.6202</b>	<b>6.1665</b>	<b>6.5201</b>	<b>9.2300e-003</b>		<b>0.3737</b>	<b>0.3737</b>		<b>0.3438</b>	<b>0.3438</b>	<b>0.0000</b>	<b>893.6887</b>	<b>893.6887</b>	<b>0.2890</b>		<b>900.9147</b>

## CUC-01 1998 Whipple Road 7-Eleven - Alameda County, Summer

**3.5 Building Construction - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	9.0700e-003	0.3178	0.0631	8.3000e-004	0.0203	6.6000e-004	0.0210	5.8500e-003	6.3000e-004	6.4800e-003		87.6451	87.6451	4.5500e-003		87.7589
Worker	0.0237	0.0141	0.1824	5.7000e-004	0.0575	3.7000e-004	0.0579	0.0153	3.4000e-004	0.0156		56.4464	56.4464	1.3400e-003		56.4799
<b>Total</b>	<b>0.0327</b>	<b>0.3318</b>	<b>0.2455</b>	<b>1.4000e-003</b>	<b>0.0778</b>	<b>1.0300e-003</b>	<b>0.0789</b>	<b>0.0211</b>	<b>9.7000e-004</b>	<b>0.0221</b>		<b>144.0916</b>	<b>144.0916</b>	<b>5.8900e-003</b>		<b>144.2389</b>

**3.6 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	0.7214	6.7178	7.0899	0.0113		0.3534	0.3534		0.3286	0.3286		1,035.3425	1,035.3425	0.3016		1,042.8818
Paving	0.1782					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.8996</b>	<b>6.7178</b>	<b>7.0899</b>	<b>0.0113</b>		<b>0.3534</b>	<b>0.3534</b>		<b>0.3286</b>	<b>0.3286</b>		<b>1,035.3425</b>	<b>1,035.3425</b>	<b>0.3016</b>		<b>1,042.8818</b>

## CUC-01 1998 Whipple Road 7-Eleven - Alameda County, Summer

**3.6 Paving - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0608	0.0362	0.4689	1.4600e-003	0.1479	9.6000e-004	0.1488	0.0392	8.8000e-004	0.0401		145.1480	145.1480	3.4500e-003		145.2341
<b>Total</b>	<b>0.0608</b>	<b>0.0362</b>	<b>0.4689</b>	<b>1.4600e-003</b>	<b>0.1479</b>	<b>9.6000e-004</b>	<b>0.1488</b>	<b>0.0392</b>	<b>8.8000e-004</b>	<b>0.0401</b>		<b>145.1480</b>	<b>145.1480</b>	<b>3.4500e-003</b>		<b>145.2341</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7214	6.7178	7.0899	0.0113		0.3534	0.3534		0.3286	0.3286	0.0000	1,035.3425	1,035.3425	0.3016		1,042.8818
Paving	0.1782					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>0.8996</b>	<b>6.7178</b>	<b>7.0899</b>	<b>0.0113</b>		<b>0.3534</b>	<b>0.3534</b>		<b>0.3286</b>	<b>0.3286</b>	<b>0.0000</b>	<b>1,035.3425</b>	<b>1,035.3425</b>	<b>0.3016</b>		<b>1,042.8818</b>

## CUC-01 1998 Whipple Road 7-Eleven - Alameda County, Summer

**3.6 Paving - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0608	0.0362	0.4689	1.4600e-003	0.1479	9.6000e-004	0.1488	0.0392	8.8000e-004	0.0401		145.1480	145.1480	3.4500e-003		145.2341
<b>Total</b>	<b>0.0608</b>	<b>0.0362</b>	<b>0.4689</b>	<b>1.4600e-003</b>	<b>0.1479</b>	<b>9.6000e-004</b>	<b>0.1488</b>	<b>0.0392</b>	<b>8.8000e-004</b>	<b>0.0401</b>		<b>145.1480</b>	<b>145.1480</b>	<b>3.4500e-003</b>		<b>145.2341</b>

**3.7 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	7.0832					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
<b>Total</b>	<b>7.3021</b>	<b>1.5268</b>	<b>1.8176</b>	<b>2.9700e-003</b>		<b>0.0941</b>	<b>0.0941</b>		<b>0.0941</b>	<b>0.0941</b>		<b>281.4481</b>	<b>281.4481</b>	<b>0.0193</b>		<b>281.9309</b>

## CUC-01 1998 Whipple Road 7-Eleven - Alameda County, Summer

**3.7 Architectural Coating - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	3.3800e-003	2.0100e-003	0.0261	8.0000e-005	8.2100e-003	5.0000e-005	8.2700e-003	2.1800e-003	5.0000e-005	2.2300e-003		8.0638	8.0638	1.9000e-004		8.0686
<b>Total</b>	<b>3.3800e-003</b>	<b>2.0100e-003</b>	<b>0.0261</b>	<b>8.0000e-005</b>	<b>8.2100e-003</b>	<b>5.0000e-005</b>	<b>8.2700e-003</b>	<b>2.1800e-003</b>	<b>5.0000e-005</b>	<b>2.2300e-003</b>		<b>8.0638</b>	<b>8.0638</b>	<b>1.9000e-004</b>		<b>8.0686</b>

**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	7.0832					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
<b>Total</b>	<b>7.3021</b>	<b>1.5268</b>	<b>1.8176</b>	<b>2.9700e-003</b>		<b>0.0941</b>	<b>0.0941</b>		<b>0.0941</b>	<b>0.0941</b>	<b>0.0000</b>	<b>281.4481</b>	<b>281.4481</b>	<b>0.0193</b>		<b>281.9309</b>

## CUC-01 1998 Whipple Road 7-Eleven - Alameda County, Summer

**3.7 Architectural Coating - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	3.3800e-003	2.0100e-003	0.0261	8.0000e-005	8.2100e-003	5.0000e-005	8.2700e-003	2.1800e-003	5.0000e-005	2.2300e-003		8.0638	8.0638	1.9000e-004		8.0686
<b>Total</b>	<b>3.3800e-003</b>	<b>2.0100e-003</b>	<b>0.0261</b>	<b>8.0000e-005</b>	<b>8.2100e-003</b>	<b>5.0000e-005</b>	<b>8.2700e-003</b>	<b>2.1800e-003</b>	<b>5.0000e-005</b>	<b>2.2300e-003</b>		<b>8.0638</b>	<b>8.0638</b>	<b>1.9000e-004</b>		<b>8.0686</b>

**4.0 Operational Detail - Mobile****4.1 Mitigation Measures Mobile**

## CUC-01 1998 Whipple Road 7-Eleven - Alameda 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	1.0708	5.8102	8.4677	0.0312	2.2378	0.0281	2.2658	0.5996	0.0263	0.6259		3,170.755 3	3,170.755 3	0.1502		3,174.509 4
Unmitigated	1.0708	5.8102	8.4677	0.0312	2.2378	0.0281	2.2658	0.5996	0.0263	0.6259		3,170.755 3	3,170.755 3	0.1502		3,174.509 4

## 4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Convenience Market With Gas Pumps	715.98	715.98	715.98	1,048,899	1,048,899
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	715.98	715.98	715.98	1,048,899	1,048,899

## 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 With Gas	9.50	7.30	7.30	0.80	80.20	19.00	40	60	0
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

## 4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Convenience Market With Gas Pumps	0.560371	0.039285	0.190378	0.108244	0.016023	0.005202	0.023981	0.045200	0.002184	0.002561	0.005524	0.000326	0.000721
Other Asphalt Surfaces	0.560371	0.039285	0.190378	0.108244	0.016023	0.005202	0.023981	0.045200	0.002184	0.002561	0.005524	0.000326	0.000721

## CUC-01 1998 Whipple Road 7-Eleven - Alameda County, Summer

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	3.8000e-004	3.4600e-003	2.9100e-003	2.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		4.1515	4.1515	8.0000e-005	8.0000e-005	4.1762
NaturalGas Unmitigated	3.8000e-004	3.4600e-003	2.9100e-003	2.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		4.1515	4.1515	8.0000e-005	8.0000e-005	4.1762

## CUC-01 1998 Whipple Road 7-Eleven - Alameda 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 With Gas Pumps	35.2877	3.8000e-004	3.4600e-003	2.9100e-003	2.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		4.1515	4.1515	8.0000e-005	8.0000e-005	4.1762
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
<b>Total</b>		<b>3.8000e-004</b>	<b>3.4600e-003</b>	<b>2.9100e-003</b>	<b>2.0000e-005</b>		<b>2.6000e-004</b>	<b>2.6000e-004</b>		<b>2.6000e-004</b>	<b>2.6000e-004</b>		<b>4.1515</b>	<b>4.1515</b>	<b>8.0000e-005</b>	<b>8.0000e-005</b>	<b>4.1762</b>

**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 With Gas Pumps	0.0352877	3.8000e-004	3.4600e-003	2.9100e-003	2.0000e-005		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004		4.1515	4.1515	8.0000e-005	8.0000e-005	4.1762
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
<b>Total</b>		<b>3.8000e-004</b>	<b>3.4600e-003</b>	<b>2.9100e-003</b>	<b>2.0000e-005</b>		<b>2.6000e-004</b>	<b>2.6000e-004</b>		<b>2.6000e-004</b>	<b>2.6000e-004</b>		<b>4.1515</b>	<b>4.1515</b>	<b>8.0000e-005</b>	<b>8.0000e-005</b>	<b>4.1762</b>

**6.0 Area Detail****6.1 Mitigation Measures Area**

## CUC-01 1998 Whipple Road 7-Eleven - Alameda 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	0.0751	2.0000e-005	2.1400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.5700e-003	4.5700e-003	1.0000e-005		4.8800e-003
Unmitigated	0.0751	2.0000e-005	2.1400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.5700e-003	4.5700e-003	1.0000e-005		4.8800e-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	lb/day										lb/day					
Architectural Coating	9.7000e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0652					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-004	2.0000e-005	2.1400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.5700e-003	4.5700e-003	1.0000e-005		4.8800e-003
<b>Total</b>	<b>0.0751</b>	<b>2.0000e-005</b>	<b>2.1400e-003</b>	<b>0.0000</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>4.5700e-003</b>	<b>4.5700e-003</b>	<b>1.0000e-005</b>		<b>4.8800e-003</b>

## CUC-01 1998 Whipple Road 7-Eleven - Alameda 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	9.7000e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0652					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.0000e-004	2.0000e-005	2.1400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.5700e-003	4.5700e-003	1.0000e-005		4.8800e-003
<b>Total</b>	<b>0.0751</b>	<b>2.0000e-005</b>	<b>2.1400e-003</b>	<b>0.0000</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>1.0000e-005</b>	<b>1.0000e-005</b>		<b>4.5700e-003</b>	<b>4.5700e-003</b>	<b>1.0000e-005</b>		<b>4.8800e-003</b>

**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**

## CUC-01 1998 Whipple Road 7-Eleven - Alameda 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**

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## CUC-01 1998 Whipple Road 7-Eleven - Alameda County, Annual

## CUC-01 1998 Whipple Road 7-Eleven

### Alameda County, Annual

## 1.0 Project Characteristics

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### 1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	14.90	1000sqft	0.34	14,898.00	0
Convenience Market With Gas Pumps	6.00	Pump	0.06	2,800.00	0

### 1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	63
Climate Zone	5			Operational Year	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

### 1.3 User Entered Comments & Non-Default Data

## CUC-01 1998 Whipple Road 7-Eleven - Alameda County, Annual

## Project Characteristics -

Land Use - Parking = parking lot and all paved surfaces.

Construction Phase - Grading/excavation includes excavation for underground tanks.

Underground utilities assumed concurrent with grading.

Building construction includes tank installation, fuel islands and canopy.

Site prep and grading/excavation extended for anticipated soil export.

## Off-road Equipment -

Off-road Equipment - 1-story building, limited use of cranes anticipated.

Off-road Equipment - Excavator added for underground tanks and utilities.

## Off-road Equipment -

Off-road Equipment - Grader use adjusted for extended schedule.

## Trips and VMT -

Grading - 275 CY soil/vegetation exported during site prep.

800 CY soil exported during excavation for underground tanks/utilities.

Vehicle Trips - Trip generation rate per preliminary traffic study trip table (KDA 2020), includes passby reductions.

Construction Off-road Equipment Mitigation - Fugitive dust mitigation per BAAQMD Basic Construction Mitigation Measures.

Off-road Equipment - Bore/drill rig for trenchless installation of underground utilities.

Off-highway truck - boom mounted auger for utility pole installation.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	1.00	5.00
tblConstructionPhase	NumDays	2.00	15.00
tblConstructionPhase	NumDays	100.00	175.00
tblGrading	MaterialExported	0.00	800.00
tblGrading	MaterialExported	0.00	275.00
tblLandUse	LandUseSquareFeet	14,900.00	14,898.00
tblLandUse	LandUseSquareFeet	847.05	2,800.00
tblLandUse	LotAcreage	0.02	0.06
tblOffRoadEquipment	LoadFactor	0.29	0.29

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tblOffRoadEquipment	LoadFactor	0.50	0.50
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType		Concrete/Industrial Saws
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	4.00	1.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblVehicleTrips	DV_TP	21.00	60.00
tblVehicleTrips	PB_TP	65.00	0.00
tblVehicleTrips	PR_TP	14.00	40.00
tblVehicleTrips	ST_TR	204.47	119.33
tblVehicleTrips	SU_TR	166.88	119.33
tblVehicleTrips	WD_TR	542.60	119.33

## 2.0 Emissions Summary

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## CUC-01 1998 Whipple Road 7-Eleven - Alameda 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					
2021	0.0861	0.6809	0.6916	1.1500e-003	0.0153	0.0377	0.0530	5.6200e-003	0.0348	0.0404	0.0000	102.0679	102.0679	0.0279	0.0000	102.7648
Maximum	0.0861	0.6809	0.6916	1.1500e-003	0.0153	0.0377	0.0530	5.6200e-003	0.0348	0.0404	0.0000	102.0679	102.0679	0.0279	0.0000	102.7648

**Mitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0861	0.6809	0.6916	1.1500e-003	0.0119	0.0377	0.0496	3.8700e-003	0.0348	0.0386	0.0000	102.0678	102.0678	0.0279	0.0000	102.7647
Maximum	0.0861	0.6809	0.6916	1.1500e-003	0.0119	0.0377	0.0496	3.8700e-003	0.0348	0.0386	0.0000	102.0678	102.0678	0.0279	0.0000	102.7647

	ROG	NOx	CO	SO2	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	0.00	0.00	0.00	0.00	22.60	0.00	6.54	31.14	0.00	4.31	0.00	0.00	0.00	0.00	0.00	0.00

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-2-2021	4-1-2021	0.2533	0.2533
2	4-2-2021	7-1-2021	0.2324	0.2324
3	7-2-2021	9-30-2021	0.2324	0.2324
		Highest	0.2533	0.2533

## 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	0.0137	0.0000	1.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.7000e-004	3.7000e-004	0.0000	0.0000	4.0000e-004
Energy	7.0000e-005	6.3000e-004	5.3000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	9.2238	9.2238	4.0000e-004	9.0000e-005	9.2614
Mobile	0.1672	1.0744	1.5425	5.3800e-003	0.3923	5.1300e-003	0.3974	0.1055	4.8200e-003	0.1103	0.0000	496.4596	496.4596	0.0254	0.0000	497.0935
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0199	0.1379	0.1578	2.0500e-003	5.0000e-005	0.2239
<b>Total</b>	<b>0.1809</b>	<b>1.0750</b>	<b>1.5432</b>	<b>5.3800e-003</b>	<b>0.3923</b>	<b>5.1800e-003</b>	<b>0.3975</b>	<b>0.1055</b>	<b>4.8700e-003</b>	<b>0.1103</b>	<b>0.0199</b>	<b>505.8217</b>	<b>505.8416</b>	<b>0.0278</b>	<b>1.4000e-004</b>	<b>506.5791</b>

## CUC-01 1998 Whipple Road 7-Eleven - Alameda County, Annual

**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	0.0137	0.0000	1.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.7000e-004	3.7000e-004	0.0000	0.0000	4.0000e-004
Energy	7.0000e-005	6.3000e-004	5.3000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	9.2238	9.2238	4.0000e-004	9.0000e-005	9.2614
Mobile	0.1672	1.0744	1.5425	5.3800e-003	0.3923	5.1300e-003	0.3974	0.1055	4.8200e-003	0.1103	0.0000	496.4596	496.4596	0.0254	0.0000	497.0935
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0199	0.1379	0.1578	2.0500e-003	5.0000e-005	0.2239
<b>Total</b>	<b>0.1809</b>	<b>1.0750</b>	<b>1.5432</b>	<b>5.3800e-003</b>	<b>0.3923</b>	<b>5.1800e-003</b>	<b>0.3975</b>	<b>0.1055</b>	<b>4.8700e-003</b>	<b>0.1103</b>	<b>0.0199</b>	<b>505.8217</b>	<b>505.8416</b>	<b>0.0278</b>	<b>1.4000e-004</b>	<b>506.5791</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
<b>Percent Reduction</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

**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	1/4/2021	1/8/2021	5	5	
2	Grading/Excavation	Grading	1/9/2021	1/29/2021	5	15	
3	Underground Utilities	Trenching	1/9/2021	1/15/2021	5	5	
4	Building Construction	Building Construction	1/30/2021	10/1/2021	5	175	
5	Paving	Paving	10/2/2021	10/8/2021	5	5	
6	Architectural Coating	Architectural Coating	10/9/2021	10/15/2021	5	5	

**Acres of Grading (Site Preparation Phase): 1.25**

**Acres of Grading (Grading Phase): 0**

**Acres of Paving: 0.34**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 4,200; Non-Residential Outdoor: 1,400; Striped Parking Area: 894 (Architectural Coating – sqft)**

**OffRoad Equipment**

## CUC-01 1998 Whipple Road 7-Eleven - Alameda County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	4.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading/Excavation	Concrete/Industrial Saws	1	2.00	81	0.73
Grading/Excavation	Excavators	1	4.00	158	0.38
Grading/Excavation	Rubber Tired Dozers	1	1.00	247	0.40
Grading/Excavation	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Cranes	1	1.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48
Underground Utilities	Cranes	1	2.00	231	0.29
Underground Utilities	Bore/Drill Rigs	2	4.00	221	0.50
Underground Utilities	Concrete/Industrial Saws	1	1.00	81	0.73
Underground Utilities	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Underground Utilities	Off-Highway Trucks	1	2.00	402	0.38

Trips and VMT

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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	2	5.00	0.00	27.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading/Excavation	5	13.00	0.00	79.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	7.00	3.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	1.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Underground Utilities	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

**3.2 Site Preparation - 2021****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.6000e-004	0.0000	6.6000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0300e-003	0.0122	7.8600e-003	2.0000e-005		5.1000e-004	5.1000e-004		4.7000e-004	4.7000e-004	0.0000	1.4101	1.4101	4.6000e-004	0.0000	1.4215
<b>Total</b>	<b>1.0300e-003</b>	<b>0.0122</b>	<b>7.8600e-003</b>	<b>2.0000e-005</b>	<b>6.6000e-004</b>	<b>5.1000e-004</b>	<b>1.1700e-003</b>	<b>7.0000e-005</b>	<b>4.7000e-004</b>	<b>5.4000e-004</b>	<b>0.0000</b>	<b>1.4101</b>	<b>1.4101</b>	<b>4.6000e-004</b>	<b>0.0000</b>	<b>1.4215</b>

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**3.2 Site Preparation - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.1000e-004	3.6400e-003	6.8000e-004	1.0000e-005	2.3000e-004	1.0000e-005	2.4000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	1.0207	1.0207	5.0000e-005	0.0000	1.0219
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	3.0000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0848	0.0848	0.0000	0.0000	0.0849
<b>Total</b>	<b>1.5000e-004</b>	<b>3.6700e-003</b>	<b>9.8000e-004</b>	<b>1.0000e-005</b>	<b>3.3000e-004</b>	<b>1.0000e-005</b>	<b>3.4000e-004</b>	<b>9.0000e-005</b>	<b>1.0000e-005</b>	<b>1.0000e-004</b>	<b>0.0000</b>	<b>1.1055</b>	<b>1.1055</b>	<b>5.0000e-005</b>	<b>0.0000</b>	<b>1.1068</b>

**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					3.0000e-004	0.0000	3.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0300e-003	0.0122	7.8600e-003	2.0000e-005		5.1000e-004	5.1000e-004		4.7000e-004	4.7000e-004	0.0000	1.4101	1.4101	4.6000e-004	0.0000	1.4215
<b>Total</b>	<b>1.0300e-003</b>	<b>0.0122</b>	<b>7.8600e-003</b>	<b>2.0000e-005</b>	<b>3.0000e-004</b>	<b>5.1000e-004</b>	<b>8.1000e-004</b>	<b>3.0000e-005</b>	<b>4.7000e-004</b>	<b>5.0000e-004</b>	<b>0.0000</b>	<b>1.4101</b>	<b>1.4101</b>	<b>4.6000e-004</b>	<b>0.0000</b>	<b>1.4215</b>

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**3.2 Site Preparation - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.1000e-004	3.6400e-003	6.8000e-004	1.0000e-005	2.3000e-004	1.0000e-005	2.4000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	1.0207	1.0207	5.0000e-005	0.0000	1.0219
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.0000e-005	3.0000e-005	3.0000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0848	0.0848	0.0000	0.0000	0.0849
<b>Total</b>	<b>1.5000e-004</b>	<b>3.6700e-003</b>	<b>9.8000e-004</b>	<b>1.0000e-005</b>	<b>3.3000e-004</b>	<b>1.0000e-005</b>	<b>3.4000e-004</b>	<b>9.0000e-005</b>	<b>1.0000e-005</b>	<b>1.0000e-004</b>	<b>0.0000</b>	<b>1.1055</b>	<b>1.1055</b>	<b>5.0000e-005</b>	<b>0.0000</b>	<b>1.1068</b>

**3.3 Grading/Excavation - 2021****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.6500e-003	0.0000	5.6500e-003	3.1000e-003	0.0000	3.1000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.6700e-003	0.0454	0.0484	7.0000e-005		2.4700e-003	2.4700e-003		2.3000e-003	2.3000e-003	0.0000	6.4843	6.4843	1.8300e-003	0.0000	6.5301
<b>Total</b>	<b>4.6700e-003</b>	<b>0.0454</b>	<b>0.0484</b>	<b>7.0000e-005</b>	<b>5.6500e-003</b>	<b>2.4700e-003</b>	<b>8.1200e-003</b>	<b>3.1000e-003</b>	<b>2.3000e-003</b>	<b>5.4000e-003</b>	<b>0.0000</b>	<b>6.4843</b>	<b>6.4843</b>	<b>1.8300e-003</b>	<b>0.0000</b>	<b>6.5301</b>

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**3.3 Grading/Excavation - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.2000e-004	0.0107	1.9800e-003	3.0000e-005	6.7000e-004	3.0000e-005	7.0000e-004	1.8000e-004	3.0000e-005	2.2000e-004	0.0000	2.9864	2.9864	1.5000e-004	0.0000	2.9901
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	3.1000e-004	2.2000e-004	2.3200e-003	1.0000e-005	7.7000e-004	1.0000e-005	7.8000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.6615	0.6615	2.0000e-005	0.0000	0.6619
<b>Total</b>	<b>6.3000e-004</b>	<b>0.0109</b>	<b>4.3000e-003</b>	<b>4.0000e-005</b>	<b>1.4400e-003</b>	<b>4.0000e-005</b>	<b>1.4800e-003</b>	<b>3.9000e-004</b>	<b>3.0000e-005</b>	<b>4.3000e-004</b>	<b>0.0000</b>	<b>3.6479</b>	<b>3.6479</b>	<b>1.7000e-004</b>	<b>0.0000</b>	<b>3.6520</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.5400e-003	0.0000	2.5400e-003	1.4000e-003	0.0000	1.4000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.6700e-003	0.0454	0.0484	7.0000e-005		2.4700e-003	2.4700e-003		2.3000e-003	2.3000e-003	0.0000	6.4843	6.4843	1.8300e-003	0.0000	6.5301
<b>Total</b>	<b>4.6700e-003</b>	<b>0.0454</b>	<b>0.0484</b>	<b>7.0000e-005</b>	<b>2.5400e-003</b>	<b>2.4700e-003</b>	<b>5.0100e-003</b>	<b>1.4000e-003</b>	<b>2.3000e-003</b>	<b>3.7000e-003</b>	<b>0.0000</b>	<b>6.4843</b>	<b>6.4843</b>	<b>1.8300e-003</b>	<b>0.0000</b>	<b>6.5301</b>

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**3.3 Grading/Excavation - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.2000e-004	0.0107	1.9800e-003	3.0000e-005	6.7000e-004	3.0000e-005	7.0000e-004	1.8000e-004	3.0000e-005	2.2000e-004	0.0000	2.9864	2.9864	1.5000e-004	0.0000	2.9901
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	3.1000e-004	2.2000e-004	2.3200e-003	1.0000e-005	7.7000e-004	1.0000e-005	7.8000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.6615	0.6615	2.0000e-005	0.0000	0.6619
<b>Total</b>	<b>6.3000e-004</b>	<b>0.0109</b>	<b>4.3000e-003</b>	<b>4.0000e-005</b>	<b>1.4400e-003</b>	<b>4.0000e-005</b>	<b>1.4800e-003</b>	<b>3.9000e-004</b>	<b>3.0000e-005</b>	<b>4.3000e-004</b>	<b>0.0000</b>	<b>3.6479</b>	<b>3.6479</b>	<b>1.7000e-004</b>	<b>0.0000</b>	<b>3.6520</b>

**3.4 Underground Utilities - 2021****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.8100e-003	0.0190	0.0148	4.0000e-005		7.7000e-004	7.7000e-004		7.1000e-004	7.1000e-004	0.0000	3.8849	3.8849	1.2100e-003	0.0000	3.9151
<b>Total</b>	<b>1.8100e-003</b>	<b>0.0190</b>	<b>0.0148</b>	<b>4.0000e-005</b>		<b>7.7000e-004</b>	<b>7.7000e-004</b>		<b>7.1000e-004</b>	<b>7.1000e-004</b>	<b>0.0000</b>	<b>3.8849</b>	<b>3.8849</b>	<b>1.2100e-003</b>	<b>0.0000</b>	<b>3.9151</b>

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**3.4 Underground Utilities - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2000e-004	9.0000e-005	8.9000e-004	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2544	0.2544	1.0000e-005	0.0000	0.2546
<b>Total</b>	<b>1.2000e-004</b>	<b>9.0000e-005</b>	<b>8.9000e-004</b>	<b>0.0000</b>	<b>3.0000e-004</b>	<b>0.0000</b>	<b>3.0000e-004</b>	<b>8.0000e-005</b>	<b>0.0000</b>	<b>8.0000e-005</b>	<b>0.0000</b>	<b>0.2544</b>	<b>0.2544</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>0.2546</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.8100e-003	0.0190	0.0148	4.0000e-005		7.7000e-004	7.7000e-004		7.1000e-004	7.1000e-004	0.0000	3.8848	3.8848	1.2100e-003	0.0000	3.9151
<b>Total</b>	<b>1.8100e-003</b>	<b>0.0190</b>	<b>0.0148</b>	<b>4.0000e-005</b>		<b>7.7000e-004</b>	<b>7.7000e-004</b>		<b>7.1000e-004</b>	<b>7.1000e-004</b>	<b>0.0000</b>	<b>3.8848</b>	<b>3.8848</b>	<b>1.2100e-003</b>	<b>0.0000</b>	<b>3.9151</b>

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**3.4 Underground Utilities - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2000e-004	9.0000e-005	8.9000e-004	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2544	0.2544	1.0000e-005	0.0000	0.2546
<b>Total</b>	<b>1.2000e-004</b>	<b>9.0000e-005</b>	<b>8.9000e-004</b>	<b>0.0000</b>	<b>3.0000e-004</b>	<b>0.0000</b>	<b>3.0000e-004</b>	<b>8.0000e-005</b>	<b>0.0000</b>	<b>8.0000e-005</b>	<b>0.0000</b>	<b>0.2544</b>	<b>0.2544</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>0.2546</b>

**3.5 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	0.0543	0.5396	0.5705	8.1000e-004		0.0327	0.0327		0.0301	0.0301	0.0000	70.9398	70.9398	0.0229	0.0000	71.5134
<b>Total</b>	<b>0.0543</b>	<b>0.5396</b>	<b>0.5705</b>	<b>8.1000e-004</b>		<b>0.0327</b>	<b>0.0327</b>		<b>0.0301</b>	<b>0.0301</b>	<b>0.0000</b>	<b>70.9398</b>	<b>70.9398</b>	<b>0.0229</b>	<b>0.0000</b>	<b>71.5134</b>

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**3.5 Building Construction - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.1000e-004	0.0281	5.9500e-003	7.0000e-005	1.7200e-003	6.0000e-005	1.7800e-003	5.0000e-004	6.0000e-005	5.5000e-004	0.0000	6.8767	6.8767	3.8000e-004	0.0000	6.8862
Worker	1.9600e-003	1.3900e-003	0.0146	5.0000e-005	4.8400e-003	3.0000e-005	4.8800e-003	1.2900e-003	3.0000e-005	1.3200e-003	0.0000	4.1557	4.1557	1.0000e-004	0.0000	4.1581
<b>Total</b>	<b>2.7700e-003</b>	<b>0.0295</b>	<b>0.0206</b>	<b>1.2000e-004</b>	<b>6.5600e-003</b>	<b>9.0000e-005</b>	<b>6.6600e-003</b>	<b>1.7900e-003</b>	<b>9.0000e-005</b>	<b>1.8700e-003</b>	<b>0.0000</b>	<b>11.0324</b>	<b>11.0324</b>	<b>4.8000e-004</b>	<b>0.0000</b>	<b>11.0443</b>

**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	0.0543	0.5396	0.5705	8.1000e-004		0.0327	0.0327		0.0301	0.0301	0.0000	70.9397	70.9397	0.0229	0.0000	71.5133
<b>Total</b>	<b>0.0543</b>	<b>0.5396</b>	<b>0.5705</b>	<b>8.1000e-004</b>		<b>0.0327</b>	<b>0.0327</b>		<b>0.0301</b>	<b>0.0301</b>	<b>0.0000</b>	<b>70.9397</b>	<b>70.9397</b>	<b>0.0229</b>	<b>0.0000</b>	<b>71.5133</b>

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**3.5 Building Construction - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.1000e-004	0.0281	5.9500e-003	7.0000e-005	1.7200e-003	6.0000e-005	1.7800e-003	5.0000e-004	6.0000e-005	5.5000e-004	0.0000	6.8767	6.8767	3.8000e-004	0.0000	6.8862
Worker	1.9600e-003	1.3900e-003	0.0146	5.0000e-005	4.8400e-003	3.0000e-005	4.8800e-003	1.2900e-003	3.0000e-005	1.3200e-003	0.0000	4.1557	4.1557	1.0000e-004	0.0000	4.1581
<b>Total</b>	<b>2.7700e-003</b>	<b>0.0295</b>	<b>0.0206</b>	<b>1.2000e-004</b>	<b>6.5600e-003</b>	<b>9.0000e-005</b>	<b>6.6600e-003</b>	<b>1.7900e-003</b>	<b>9.0000e-005</b>	<b>1.8700e-003</b>	<b>0.0000</b>	<b>11.0324</b>	<b>11.0324</b>	<b>4.8000e-004</b>	<b>0.0000</b>	<b>11.0443</b>

**3.6 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	1.8000e-003	0.0168	0.0177	3.0000e-005		8.8000e-004	8.8000e-004		8.2000e-004	8.2000e-004	0.0000	2.3481	2.3481	6.8000e-004	0.0000	2.3652
Paving	4.5000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>2.2500e-003</b>	<b>0.0168</b>	<b>0.0177</b>	<b>3.0000e-005</b>		<b>8.8000e-004</b>	<b>8.8000e-004</b>		<b>8.2000e-004</b>	<b>8.2000e-004</b>	<b>0.0000</b>	<b>2.3481</b>	<b>2.3481</b>	<b>6.8000e-004</b>	<b>0.0000</b>	<b>2.3652</b>

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**3.6 Paving - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	1.0000e-004	1.0700e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3053	0.3053	1.0000e-005	0.0000	0.3055
<b>Total</b>	<b>1.4000e-004</b>	<b>1.0000e-004</b>	<b>1.0700e-003</b>	<b>0.0000</b>	<b>3.6000e-004</b>	<b>0.0000</b>	<b>3.6000e-004</b>	<b>9.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-004</b>	<b>0.0000</b>	<b>0.3053</b>	<b>0.3053</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>0.3055</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.8000e-003	0.0168	0.0177	3.0000e-005		8.8000e-004	8.8000e-004		8.2000e-004	8.2000e-004	0.0000	2.3481	2.3481	6.8000e-004	0.0000	2.3652
Paving	4.5000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>2.2500e-003</b>	<b>0.0168</b>	<b>0.0177</b>	<b>3.0000e-005</b>		<b>8.8000e-004</b>	<b>8.8000e-004</b>		<b>8.2000e-004</b>	<b>8.2000e-004</b>	<b>0.0000</b>	<b>2.3481</b>	<b>2.3481</b>	<b>6.8000e-004</b>	<b>0.0000</b>	<b>2.3652</b>

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**3.6 Paving - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4000e-004	1.0000e-004	1.0700e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3053	0.3053	1.0000e-005	0.0000	0.3055
<b>Total</b>	<b>1.4000e-004</b>	<b>1.0000e-004</b>	<b>1.0700e-003</b>	<b>0.0000</b>	<b>3.6000e-004</b>	<b>0.0000</b>	<b>3.6000e-004</b>	<b>9.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-004</b>	<b>0.0000</b>	<b>0.3053</b>	<b>0.3053</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>0.3055</b>

**3.7 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	0.0177					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.5000e-004	3.8200e-003	4.5400e-003	1.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6394
<b>Total</b>	<b>0.0183</b>	<b>3.8200e-003</b>	<b>4.5400e-003</b>	<b>1.0000e-005</b>		<b>2.4000e-004</b>	<b>2.4000e-004</b>		<b>2.4000e-004</b>	<b>2.4000e-004</b>	<b>0.0000</b>	<b>0.6383</b>	<b>0.6383</b>	<b>4.0000e-005</b>	<b>0.0000</b>	<b>0.6394</b>

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**3.7 Architectural Coating - 2021****Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	6.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0170	0.0170	0.0000	0.0000	0.0170
<b>Total</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>6.0000e-005</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>0.0170</b>	<b>0.0170</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0170</b>

**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	0.0177					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.5000e-004	3.8200e-003	4.5400e-003	1.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6394
<b>Total</b>	<b>0.0183</b>	<b>3.8200e-003</b>	<b>4.5400e-003</b>	<b>1.0000e-005</b>		<b>2.4000e-004</b>	<b>2.4000e-004</b>		<b>2.4000e-004</b>	<b>2.4000e-004</b>	<b>0.0000</b>	<b>0.6383</b>	<b>0.6383</b>	<b>4.0000e-005</b>	<b>0.0000</b>	<b>0.6394</b>

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**3.7 Architectural Coating - 2021****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	6.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0170	0.0170	0.0000	0.0000	0.0170
<b>Total</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>6.0000e-005</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>0.0170</b>	<b>0.0170</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0170</b>

**4.0 Operational Detail - Mobile****4.1 Mitigation Measures Mobile**

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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	0.1672	1.0744	1.5425	5.3800e-003	0.3923	5.1300e-003	0.3974	0.1055	4.8200e-003	0.1103	0.0000	496.4596	496.4596	0.0254	0.0000	497.0935
Unmitigated	0.1672	1.0744	1.5425	5.3800e-003	0.3923	5.1300e-003	0.3974	0.1055	4.8200e-003	0.1103	0.0000	496.4596	496.4596	0.0254	0.0000	497.0935

## 4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Convenience Market With Gas Pumps	715.98	715.98	715.98	1,048,899	1,048,899
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	715.98	715.98	715.98	1,048,899	1,048,899

## 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 With Gas	9.50	7.30	7.30	0.80	80.20	19.00	40	60	0
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

## 4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Convenience Market With Gas Pumps	0.560371	0.039285	0.190378	0.108244	0.016023	0.005202	0.023981	0.045200	0.002184	0.002561	0.005524	0.000326	0.000721
Other Asphalt Surfaces	0.560371	0.039285	0.190378	0.108244	0.016023	0.005202	0.023981	0.045200	0.002184	0.002561	0.005524	0.000326	0.000721

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**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	8.5365	8.5365	3.9000e-004	8.0000e-005	8.5700
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	8.5365	8.5365	3.9000e-004	8.0000e-005	8.5700
NaturalGas Mitigated	7.0000e-005	6.3000e-004	5.3000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.6873	0.6873	1.0000e-005	1.0000e-005	0.6914
NaturalGas Unmitigated	7.0000e-005	6.3000e-004	5.3000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.6873	0.6873	1.0000e-005	1.0000e-005	0.6914

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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 With Gas Pumps	12880	7.0000e-005	6.3000e-004	5.3000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.6873	0.6873	1.0000e-005	1.0000e-005	0.6914
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
<b>Total</b>		<b>7.0000e-005</b>	<b>6.3000e-004</b>	<b>5.3000e-004</b>	<b>0.0000</b>		<b>5.0000e-005</b>	<b>5.0000e-005</b>		<b>5.0000e-005</b>	<b>5.0000e-005</b>	<b>0.0000</b>	<b>0.6873</b>	<b>0.6873</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>0.6914</b>

**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 With Gas Pumps	12880	7.0000e-005	6.3000e-004	5.3000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.6873	0.6873	1.0000e-005	1.0000e-005	0.6914
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
<b>Total</b>		<b>7.0000e-005</b>	<b>6.3000e-004</b>	<b>5.3000e-004</b>	<b>0.0000</b>		<b>5.0000e-005</b>	<b>5.0000e-005</b>		<b>5.0000e-005</b>	<b>5.0000e-005</b>	<b>0.0000</b>	<b>0.6873</b>	<b>0.6873</b>	<b>1.0000e-005</b>	<b>1.0000e-005</b>	<b>0.6914</b>

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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 With Gas Pumps	29344	8.5365	3.9000e-004	8.0000e-005	8.5700
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>8.5365</b>	<b>3.9000e-004</b>	<b>8.0000e-005</b>	<b>8.5700</b>

**Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Convenience Market With Gas Pumps	29344	8.5365	3.9000e-004	8.0000e-005	8.5700
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>8.5365</b>	<b>3.9000e-004</b>	<b>8.0000e-005</b>	<b>8.5700</b>

**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	0.0137	0.0000	1.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.7000e-004	3.7000e-004	0.0000	0.0000	4.0000e-004
Unmitigated	0.0137	0.0000	1.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.7000e-004	3.7000e-004	0.0000	0.0000	4.0000e-004

## 6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.7700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0119					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	1.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.7000e-004	3.7000e-004	0.0000	0.0000	4.0000e-004
<b>Total</b>	<b>0.0137</b>	<b>0.0000</b>	<b>1.9000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>3.7000e-004</b>	<b>3.7000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>4.0000e-004</b>

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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	1.7700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0119					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	1.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.7000e-004	3.7000e-004	0.0000	0.0000	4.0000e-004
<b>Total</b>	<b>0.0137</b>	<b>0.0000</b>	<b>1.9000e-004</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>3.7000e-004</b>	<b>3.7000e-004</b>	<b>0.0000</b>	<b>0.0000</b>	<b>4.0000e-004</b>

**7.0 Water Detail****7.1 Mitigation Measures Water**

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	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.1578	2.0500e-003	5.0000e-005	0.2239
Unmitigated	0.1578	2.0500e-003	5.0000e-005	0.2239

## 7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Convenience Market With Gas Pumps	0.0627431 / 0.0384554	0.1578	2.0500e-003	5.0000e-005	0.2239
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.1578</b>	<b>2.0500e-003</b>	<b>5.0000e-005</b>	<b>0.2239</b>

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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 With Gas Pumps	0.0627431 / 0.0384554	0.1578	2.0500e-003	5.0000e-005	0.2239
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.1578</b>	<b>2.0500e-003</b>	<b>5.0000e-005</b>	<b>0.2239</b>

**8.0 Waste Detail****8.1 Mitigation Measures Waste****Category/Year**

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

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**8.2 Waste by Land Use****Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**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

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### 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

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