Air Quality and Greenhouse Gas Technical Report

St. Anton Capital
Quarry Place – A Mixed-Use Planned Community
Rocklin, California

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1.0 INTRODUCTION

This document presents results of an air quality analysis associated with the Quarry Place Mixed-Use Development in the City of Rocklin, California. This document provides an overview of the existing air quality conditions at the project site, the air quality regulatory framework and an analysis of potential air quality impacts that would result from implementation of the proposed project. Other issues related to air emissions covered in this document include potential health and odor impacts. Issues related to climate change and greenhouse gas (GHG) emissions are also included. The supporting information, methodology, assumptions, and detailed results used in the air quality analysis are provided in **Attachment A: CalEEMod Output Files**.

2.0 PROJECT OVERVIEW

The proposed project includes the development of up to 185 income-restricted apartment units. The apartment community also contains a one-story leasing/community building (3,000 square feet) and 324 surface parking spaces. The proposed project also includes the development of up to 45 single family residences. The proposed project also includes 9,700 square feet of commercial space (3,500 square foot restaurant with drive-thru window and 6,200 square feet of retail) with a total of 50 surface parking spaces. The project site is approximately 15.2 acres, with one of those acres set aside for an oak tree preserve.

The site is currently occupied by an 84,000 square foot Kmart retail center with a large parking lot that would be demolished prior to construction. Demolition activities are expected to occur for one month followed by grading and site preparation, which would consist of land clearing and grading the project site. Approximately 9,500 cubic yards of fill would be imported during the grading. The demolition, site preparation and grading would use equipment such as backhoes, graders, dozers, loaders and haul trucks. Building construction, paving and architectural coating would follow and construction activities are expected to be completed over approximately 15 months.

3.0 ANALYSIS METHODOLGY

Intermittent (short-term construction emissions that occur from activities, such as removal of existing structures, site-grading, and building construction) and long-term air quality impacts related to the operation of the proposed project were evaluated. The analysis focuses on daily emissions from these construction and operational (mobile, area, stationary, and fugitive sources) activities. This air quality analysis is consistent with the methods described in the Placer County Air Pollution Control District (PCAPCD)'s *Air Quality Handbook* (dated October 2012).[1]

[1] Placer County Air Pollution Control District, CEQA Air Quality Handbook, October 2012. http://www.placer.ca.gov/departments/air/landuseceqa

The air quality analysis includes a review of criteria pollutant[2] emissions such as carbon monoxide (CO)[3], nitrogen oxides (NO_x), sulfur dioxide (SO_2), volatile organic compounds (VOC) as reactive organic gases (ROG)[4], particulate matter less than 10 micrometers (coarse or PM_{10}), particulate matter less than 2.5 micrometers (fine or $PM_{2.5}$).[5]

Regulatory models used to estimate air quality impacts include:

- California Air Resources Board's (CARB) EMFAC2014[6]emissions inventory model. EMFAC2014 is the latest emission inventory model that calculates emission inventories and emission rates for motor vehicles operating on roads in California. This model reflects CARB's current understanding of how vehicles travel and how much they emit. EMFAC2014 can be used to show how California motor vehicle emissions have changed over time and are projected to change in the future.
- CARB OFFROAD[7] emissions inventory model. OFFROAD is the latest emission inventory model that calculates emission inventories and emission rates for off-road equipment such as loaders, excavators, and off-road haul trucks operating in California. This model reflects CARB's current understanding of how equipment operates and how much they emit. OFFROAD can be used to show how California off-road equipment emissions have changed over time and are projected to change in the future.
- CalEEMod (California Emissions Estimator Model Version 2016.3.1)[8] land use emissions model estimates construction emissions due to demolition and construction activities and operations.

4.0 EXISTING CONDITIONS

The City of Rocklin is located within the Sacramento Valley Air Basin (SVAB), which includes all of Sacramento, Yolo, Yuba, Sutter, Colusa, Glenn, Butte, Tehama, and Shasta Counties and portions of Solano and Placer Counties. The SVAB is the northern half of California's Great Valley and is bordered on three sides (west, north, and east) by mountain ranges, with peaks in the eastern

[2] Criteria air pollutants refer to those air pollutants for which the United States Environmental Protection Agency (USEPA) and California Air Resources Board (CARB) has established National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) under the Federal Clean Air Act (CAA).
[3] CO is a non–reactive pollutant that is a product of incomplete combustion of organic material, and is mostly associated with motor vehicle traffic, and in wintertime, with wood–burning stoves and fireplaces.
[4] VOC means any compound of carbon, excluding CO, carbon dioxide (CO_2), carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions and thus, a precursor of ozone formation. ROG are any reactive compounds of carbon, excluding methane, CO, CO_2 carbonic acid, metallic carbides or carbonates, ammonium carbonate, and other exempt compounds. The terms VOC and ROG are often used interchangeably.
[5] PM_{10} and $PM_{2.5}$ consists of airborne particles that measure 10 microns or less in diameter and 2.5 microns or less in diameter, respectively. PM_{10} and $PM_{2.5}$ represent fractions of particulate matter that can be inhaled into the air passages and the lungs, causing adverse health effects.
[6] California Air Resources Board, *EMFAC2014 User's Guide*, April 30, 2014, http://www.arb.ca.gov/msei/downloads/emfac2014/emfac2014-vol1-users-guide-052015.pdf
[7] California Air Resources Board, *OFFROAD Instructions*, http://www.arb.ca.gov/msprog/ordiesel/info_1085/oei_write_up.pdf
[8] California Air Resources Board, *California Emissions Estimator Model User's Guide*, September 2016. http://www.aqmd.gov/docs/default-source/caleemod/upgrades/2016.3/01_user-39-s-guide2016-3-1.pdf?sfvrsn=2

range above 9,000 feet. The SVAB is approximately 13,700 square miles and essentially a smooth valley floor with elevations ranging from 40 to 500 feet. The rolling valley is interrupted by the Sutter Buttes, an area of 80 square miles in northern Sutter County, which rise abruptly to more than 2,100 feet above the valley floor.

Regional Meteorology

Air quality is affected by the rate, amount, and location of pollutant emissions and the associated meteorological and geographical conditions that influence pollutant movement and dispersal. Atmospheric conditions, including wind speed, wind direction, stability, and air temperature, in combination with local surface topography (i.e., geographic features such as mountains, valleys, and large bodies of water), determine the effect of air pollutant emissions on local air quality.

The climate in the project area is considered Mediterranean, which is characterized by hot, dry summers and cool, wet winters. Within the project area, temperatures range from an average January low of approximately 36 degrees Fahrenheit (ºF) to an average July high of approximately 96°F. Between mid-April and mid-October, significant precipitation is unlikely and high temperatures often peak at over 100ºF with lows in the high 50s and low 60s.

Winters are fairly mild, with the most rainfall coming in January. Rainfall in the project area averages approximately 26 inches annually and occurs predominantly from October to May. During the winter, highs are typically in the 60s with lows in the 30s. “Tule fog” (thick ground fog) is often present during the autumn and winter months. The typical seasonal pattern is for North Pacific cyclonic storms to periodically move into the area from October through April and for high pressure to dominate over the area and to deflect storms from May to October.

The regional climate is dominated by the strength and location of a semi-permanent, subtropical high-pressure cell over the northeastern Pacific Ocean. The regional climate is also affected by the temperature moderating effects of the nearby Pacific Ocean. In summer, when the high-pressure cell is strongest, temperatures are very warm and humidity is low. The daily incursion of the sea breeze into the Central Valley, however, creates persistent breezes that moderate the summer heat. In winter, when the high-pressure cell is weakest, conditions are characterized by occasional rainstorms interspersed with stagnant conditions and sometimes heavy fog.

Hourly meteorological data from 2010 through 2014 at Sacramento International Airport shows wind directions are predominately from the south and southeast with seasonal winds from the northwest and a high frequency of calm and low wind conditions dominating the winter months. The regional average annual wind speed is 7.8 miles per hour.[9]

Inversions occur in the Air Basin with great frequency in all seasons. The most stable inversions occur in late summer and fall. The summertime inversions are often the result of marine air pushing under an overlying warm air mass and are generally accompanied by brisk afternoon winds, which provide good air circulation.

[9] Sacramento Metropolitan Air Quality Management District, *CEQA Meteorological Data*, http://www.airquality.org/ceqa/

In contrast, many autumn inversions are the result of warm air subsiding in a high-pressure cell where accompanying light winds do not provide adequate dispersion. Autumn inversions limit vertical mixing, creating a very stable layer of air with very light or calm winds. These inversions are usually present on clear cold nights during late fall and winter. In the morning, these ground based inversions are weakened and eventually eliminated by solar heating. As a result, they are strongest in the late night and early morning, when ground-level temperatures are coldest and solar radiation is low.

Criteria Air Pollutants

The United States Environmental Protection Agency (USEPA) has established the National Ambient Air Quality Standards (NAAQS) under the Clean Air Act (CAA) for six common air pollutants known as "criteria pollutants".[10] These air pollutants consist of CO, nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM_{10} and $PM_{2.5}$), SO_2, and lead (Pb). An ambient air quality standard establishes the concentration above which the pollutant is known to cause adverse health effects to sensitive groups within the population such as children and the elderly. The goal is for localized project effects not to cause or contribute to an exceedance of the standards. Ambient air quality standards are classified as either "primary" or "secondary" standards. Primary standards define levels of air quality, including an adequate margin of safety, necessary to protect the public health. Secondary ambient air quality standards define levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

The CARB manages air quality, regulates mobile emissions sources, and oversees the activities of county and regional Air Pollution Control Districts and Air Quality Management Districts. CARB regulates local air quality indirectly by establishing State ambient air quality standards and vehicle emissions and fuel standards; and by conducting research, planning and coordinating activities. California has adopted ambient standards (known as California Ambient Air Quality Standards or CAAQS) that are more stringent than the federal standards for some criteria air pollutants. These ambient air standards are shown in **Table 1.**

[10] U.S. Environmental Protection Agency, *Six Common Air Pollutants*, http://www.epa.gov/airquality/urbanair/

Table 1: State and National Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time	State Standard	National Standard	Pollutant Health and Atmospheric Effects	Major Pollutant Sources
Ozone	1 Hour 8 Hour	0.09 ppm 0.07 ppm	– 0.075 ppm	High concentrations can directly affect lungs, causing irritation. Long–term exposure may cause damage to lung tissue.	Formed when reactive organic gases and nitrogen oxides react in the presence of sunlight. Major sources include on–road motor vehicles, solvent evaporation, and commercial / industrial mobile equipment.
Carbon Monoxide (CO)	1 Hour 8 Hour	20 ppm 9.0 ppm	35 ppm 9.0 ppm	Classified as a chemical asphyxiant, carbon monoxide interferes with the transfer of fresh oxygen to the blood and deprives sensitive tissues of oxygen.	Internal combustion engines, primarily gasoline–powered motor vehicles.
Nitrogen Dioxide (NO_2)	1 Hour Annual	0.18 ppm 0.03 ppm	0.10 ppm 0.053 ppm	Irritating to eyes and respiratory tract. Colors atmosphere reddish–brown.	Motor vehicles, petroleum–refining operations, industrial sources, aircraft, ships, and railroads.
Sulfur Dioxide (SO_2)	1 Hour 3 Hour 24 Hour Annual	0.25 ppm – 0.04 ppm –	– 0.5 ppm 0.14 ppm 0.03 ppm	Irritates upper respiratory tract; injurious to lung tissue. Can yellow the leaves of plants, destructive to marble, iron, and steel. Limits visibility and reduces sunlight.	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
Respirable Particulate Matter (PM10)	24 Hour Annual	50 µg/m^3 20 µg/m^3	150 µg/m^3 –	May irritate eyes and respiratory tract, decreases in lung capacity, cancer and increased mortality. Produces haze and limits visibility.	Dust and fume–producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind–raised dust and ocean sprays).
Fine Particulate Matter (PM2.5)	24 Hour Annual	– 12 µg/m^3	35 µg/m^3 15 µg/m^3	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and results in surface soiling.	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning; Also, formed from photochemical reactions of other pollutants, including nitrogen oxides, sulfur oxides, and organics.
Lead (Pb)	Month Rolling 3 Month	1.5 µg/m^3 –	– 0.15 µg/m^3	Disturbs gastrointestinal system, and causes anemia, kidney disease, and neuromuscular and neurological dysfunction.	Present sources: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.

SOURCE: California Air Resource Board, Ambient Air Quality Standards, http://www.arb.ca.gov/research/aaqs/aaqs2.pdf, May 4, 2016. ppm = parts per million; µg/m3 = micrograms per cubic meter

Local Air Quality

CARB maintain a network of monitoring stations within the Air Basin that monitor air quality and compliance with applicable ambient standards. The monitoring station closest to the project site is in Roseville (at 151 North Sunrise Boulevard), approximately 2.8 miles to the southwest of the project site; where levels of ozone, PM_{10}, and $PM_{2.5}$ are recorded. **Table 2** summarizes the most recent three years of data (2013 through 2015) from the Roseville air monitoring station. The western Placer County portion of the SVAB is designated as a non-attainment area for State standards for ozone and PM_{10}, and for federal standards for ozone and $PM_{2.5}$.[11] Placer County is designated either attainment or unclassified for State and federal standards for all other criteria pollutants. Eight-hour ozone measurements show eight exceedances of the CAAQS in 2013, 21 exceedances in 2014, and six exceedances in 2015. Eight-hour ozone measurements also show two exceedances of the NAAQS in 2013, ten exceedance in 2014, and three exceedances in 2015. One-hour ozone measurements show two exceedances of the CAAQS in 2013, four exceedances in 2014, and once exceedance in 2015. PM_{10} measurements show one exceedance of the CAAQS in 2013 and zero in 2014 and 2015.[12] No exceedances of the $PM_{2.5}$ CAAQS were recorded in 2013 through 2015.

Table 2: Air Quality Data Summary (2013 through 2015)

Pollutant	Standard[a]	Monitoring Data by Year 2013	2014	2015
Ozone				
Highest 1 Hour Average (ppm)	0.09	**0.111**	**0.097**	**0.098**
Days over State Standard		2	4	1
Highest 8 Hour Average (ppm)	0.075	**0.084**	**0.097**	**0.085**
Days over State Standard		8	21	6
Coarse Particulate Matter (PM_{10})				
Highest 24 Hour Average ($\mu g/m^3$)	50	**54.1**	31.8	43.1
Days over State Standard		1	0	0
State Annual Average ($\mu g/m^3$)	20	18.4	17.9	13.0
Fine Particulate Matter ($PM_{2.5}$)				
Highest 24 Hour Average ($\mu g/m^3$)	35	23.7	22.2	29.1
Days over National Standard		0	0	0
State Annual Average ($\mu g/m^3$)	12	7.5	10.5	8.1

*NOTES: Values in **bold** are in excess of at least one applicable standard.*
Generally, state standards and national standards are not to be exceeded more than once per year.
ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter.

SOURCE: California Air Resource Board, *Air Quality Data Statistics 2013 - 2015*, http://www.arb.ca.gov/adam/welcome.html.

[11] California Air Resources Board, *Area Designation Maps/State and National*, http://www.arb.ca.gov/desig/adm/adm.htm
[12] California Air Resources Board, *Air Quality Data Statistics*, http://www.arb.ca.gov/adam/topfour/topfourdisplay.php

5.0 IMPACT ANALYSIS AND MITIGATION

The air quality analysis includes a review of pollutant emissions such as CO, NO_x, SO_2, VOC as ROG, PM_{10}, and $PM_{2.5}$.

Thresholds of Significance

The significance of potential impacts was determined based on State CEQA Guidelines, Appendix G, PCAPCD *CEQA Handbook* and the PCAPCD *Policy Review of Land Use Projects under CEQA*[13]. Using Appendix G evaluation criteria, the proposed project would be considered to have significant air quality impacts if it were to:

A. Conflict with or obstruct implementation of the applicable air quality plan;

B. Violate any air quality standard or contribute substantially to an existing or projected air quality violation;

C. Expose sensitive receptors to substantial pollutant concentrations;

D. Create objectionable odors affecting a substantial number of people; or

E. Result in a cumulatively considerable net increase of any nonattainment pollutant, and/or health impacts (including releasing emissions that exceed quantitative thresholds for ozone precursors).

This air quality analysis follows the methodology presented in the PCAPCD *CEQA Air Quality Handbook* and the thresholds of significance in the PCAPCD *Review of Land Use Projects under CEQA Policy.* Significance thresholds applied to assess project-level air quality impacts are:

- Maximum daily construction emissions of 82 pounds per day of ROG, NO_x, or PM_{10};
- Maximum daily operational emissions of 55 pounds per day of ROG and NO_x, and 82 pounds per day of PM_{10};
- Cumulative maximum daily operational emissions of 55 pounds per day of ROG and NO_x, and 82 pounds per day of PM_{10}; and
- Frequently and for a substantial duration, create or expose sensitive receptors to substantial pollutant concentrations or substantial objectionable odors affecting a substantial number of people.

GHG emissions and their thresholds of significance are discussed in **Section 6**.

[13] Placer County Air Pollution Control District. Review of Land Use Projects under CEQA Policy, October 13, 2016. https://www.placer.ca.gov/departments/air/landusecega/cegathresholds

PCAPCD Rules and Regulations

All projects are subject to rules and regulations adopted by the PCAPCD in effect at the time of construction. Specific rules applicable to future construction resulting from the implementation of the City of Rocklin General Plan may include, but are not limited to:

- Rule 202 – Visible Emissions. A person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three minutes in any one hour which is as dark or darker in shade as that designated as number 1 on the Ringelmann Chart, as published by the United States Bureau of Mines.
- Rule 205 – Nuisances. A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause to have a natural tendency to cause injury or damage to business or property.
- Rule 207 – Particulate Matter. For the Sacramento Valley Air Basin and the Mountain Counties Air Basin portions of the PCAPCD, a person shall not release or discharge into the atmosphere from any source or single processing unit, exclusive of sources emitting combustion contaminants only, particulate matter emissions in excess of: 0.1 grains per cubic foot of gas at District standard conditions.
- Rule 217 – Cutback and Emulsified Asphalt Paving Materials. A person shall not manufacture for sale nor use for paving, road construction, or road maintenance any rapid cure cutback asphalt; slow cure cutback asphalt containing organic compounds which evaporate at 500°F or lower as determined by current American Society for Testing and Materials (ASTM) Method D402; medium cure cutback asphalt except as provided in Section 1.2.; or emulsified asphalt containing organic compounds which evaporate at 500°F or lower as determined by current ASTM Method D244, in excess of 3 percent by volume.
- Rule 218 – Application of Architectural Coatings. No person shall manufacture, blend, or repackage for sale within the PCAPCD; supply, sell, or offer for sale within the PCAPCD; or solicit for application or apply within the PCAPCD, any architectural coating with a VOC content in excess of the corresponding specified manufacturer's maximum recommendation.
- Rule 225 – Woodburning Appliances. The general purpose of this rule is to limit emissions of particulate matter entering the atmosphere from the operation of a wood burning appliance. This rule applies to any person who manufactures, sells, advertises, offers for sale, supplies, or operates a permanently installed, indoor or outdoor, wood burning

appliance in Placer County, and any person who installs a wood-burning appliance in any single or multiple residential development or commercial development in Placer County.

- Rule 228 – Fugitive Dust
  - Visible Emissions Not Allowed Beyond the Boundary Line: A person shall not cause or allow the emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area (including disturbance as a result of the raising and/or keeping of animals or by vehicle use), such that the presence of such dust remains visible in the atmosphere beyond the boundary line of the emission source.
  - Visible Emissions from Active Operations: In addition to the requirements of Rule 202, Visible Emissions, a person shall not cause or allow fugitive dust generated by active operations, an open storage pile, or a disturbed surface area, such that the fugitive dust is of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke as dark or darker in shade as that designated as number 2 on the Ringelmann Chart, as published by the United States Bureau of Mines.
  - Concentration Limit: A person shall not cause or allow PM_{10} levels to exceed 50 micrograms per cubic meter ($\mu g/m^3$) (24-hour average) when determined, by simultaneous sampling, as the difference between upwind and downwind samples collected on high-volume particulate matter samplers or other USEPA-approved equivalent method for PM_{10} monitoring.
  - Track-Out onto Paved Public Roadways: Visible roadway dust as a result of active operations, spillage from transport trucks, and the track-out of bulk material onto public paved roadways shall be minimized and removed.
    - The track-out of bulk material onto public paved roadways as a result of operations, or erosion, shall be minimized by the use of track-out and erosion control, minimization, and preventative measures, and removed within one hour from adjacent streets such material anytime track-out extends for a cumulative distance of greater than 50 feet onto any paved public road during active operations.
    - All visible roadway dust tracked out upon public paved roadways as a result of active operations shall be removed at the conclusion of each work day when active operations cease, or every 24 hours for continuous operations. Wet sweeping or a High Efficiency Particulate Air filter-equipped vacuum device shall be used for roadway dust removal.
    - Any material tracked out, or carried by erosion, and cleanup water shall be prevented from entering waterways or stormwater inlets as required to comply water quality control requirements.
  - Minimum Dust Control Requirements. The following dust control measures are to be initiated at the start and maintained throughout the duration of any construction or

grading activity, including any construction or grading for road construction or maintenance.

- Unpaved areas subject to vehicle traffic must be stabilized by being kept wet, treated with a chemical dust suppressant, or covered.
- The speed of any vehicles and equipment traveling across unpaved areas must be no more than 15 miles per hour unless the road surface and surrounding area is sufficiently stabilized to prevent vehicles and equipment traveling more than 15 miles per hour from emitting dust exceeding Ringelmann 2 or visible emissions from crossing the project boundary line.
- Storage piles and disturbed areas not subject to vehicular traffic must be stabilized by being kept wet, treated with a chemical dust suppressant, or covered when material is not being added to or removed from the pile.
- Prior to any ground disturbance, including grading, excavating, and land clearing, sufficient water must be applied to the area to be disturbed to prevent emitting dust exceeding Ringelmann 2 and to minimize visible emissions from crossing the boundary line.
- Construction vehicles leaving the site shall be cleaned to prevent dust, silt, mud, and dirt, from being released or tracked offsite.
- When wind speeds are high enough to result in dust emissions crossing the boundary line, despite the application of dust control measures, grading and earthmoving operations shall be suspended.
- No trucks are allowed to transport excavated material off-site unless the trucks are maintained such that no spillage can occur from holes or other openings in cargo compartments, and loads are either covered with tarps; or wetted and loaded such that the material does not touch the front, back, or sides of the cargo compartment at any point less than six inches from the top and that no point of the load extends above the top of the cargo compartment.

o Wind-Driven Fugitive Dust Control. A person shall take action(s), such as surface stabilization, establishment of a vegetative cover, or paving, to minimize wind-driven dust from inactive disturbed surface areas.

- Rule 246 – Natural-Gas-Fired Water Heaters. The general purpose of this rule is to limit the emission of NO_x from natural-gas-fired water heaters. The provisions of this rule apply to all of Placer County, and this rule applies to any person who manufactures, distributes, offers for sale, sells, or installs any natural gas-fired water heater with a rated heat input capacity less than 75,000 British Thermal Units per hour, for use in the Air District.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c) 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

IMPACT AQ-A: *Would the proposed project conflict with or obstruct implementation of the applicable air quality plan?* **Less-than-Significant Impact**

The PCAPCD along with other local air districts in the Sacramento region are required to comply and implement the State Implementation Plan (SIP) to demonstrate how and when the region can attain the federal ozone standards. Accordingly, the Sacramento Metropolitan Air Quality Management District (SMAQMD) prepared the *Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan* in December 2008, with input from the other air districts in the region. The PCAPCD adopted the plan on February 19, 2009. The CARB determined that the Plan meets Clean Air Act requirements and approved the Plan on March 26, 2009 as revision to the SIP. An update to the Plan, the *Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan (2013 SIP Revisions)*[14], has been prepared and was approved and adopted on September 26, 2013. The *2013 SIP Revisions Plan* is the applicable air quality plan for the proposed project.

A conflict with, or obstruction of, implementation of the 2013 Plan could occur if a project generates greater emissions than what has been projected for the site in the emissions inventory of

[14] Sacramento Metropolitan Air Quality Management District, *2013 Update to the 8-Hour Ozone Attainment and Reasonable Further Progress Plan*, January 29, 2015, https://www.arb.ca.gov/planning/sip/planarea/sacsip/sacmetsip.htm#2013update

the 2013 Plan. Emissions inventories are developed based on projected increases in population, employment, regional vehicle miles traveled (VMT), and associated area sources within the region, which are based on regional projections that are, in turn, based on the City's General Plan and zoning designations for the region. The project site was zoned Retail Commercial (C-2) and was rezoned to High Density Residential (R-3), Medium High Density Residential (R-1.5) and Retail Commercial (C-2) in December 2016. The emissions inventory of the *2013 SIP Revisions Plan* included the existing retail land use, which was a Kmart. According to CalEEMod, the existing 84,000 square-foot discount retail store would generate approximately 7,739,488 VMT per year and the proposed project would generate approximately 4,812,913 VMT per year. Therefore the proposed project would generate less emissions than what has been projected for the site in the emissions inventory of the *2013 SIP Revisions Plan*, thus the proposed project would have a less-than-significant impact on the applicable air quality plan.

The proposed project would support the primary goals of the *2013 SIP Revisions Plan*, it would be consistent with all applicable *2013 SIP Revisions Plan* control measures, and would not disrupt or hinder implementation of any *2013 SIP Revisions Plan* control measures. Therefore, there would be a less-than-significant impact associated with, conflicting with, or obstructing implementation of the applicable air quality plan.

IMPACT AQ-B: *Would proposed project construction activities or operations contribute substantially to an existing or projected air quality violation?* **Less-than-Significant Impact**

Intermittent (short-term construction emissions that occur from activities, such as removal of existing structures, site-grading, and building construction) and long-term air quality impacts related to the operation of the proposed project were evaluated.

Construction

The project site is currently occupied by an 84,000 square foot Kmart retail center with a large parking lot that would be demolished prior to construction. Demolition activities were estimated to occur for one month followed by grading and site preparation, which would consist of land clearing and grading the project site. Approximately 9,500 cubic yards of fill is expected to be imported during the grading. The demolition, site preparation and grading was estimated to occur sequentially for a period of approximately 60 days using equipment such as backhoes, graders, dozers, loaders, and haul trucks. Building construction, paving and architectural coating would follow and construction activities are expected to be completed over approximately 15 months. Architectural coating is expected to be phased for the different land use types and the applicant estimates it would occur over approximately six months. **Table 3** provides the estimated construction schedule for each phase: demolition, site preparation, grading, building construction, paving, and architectural coating.

Table 3: Estimated Project Construction Schedule

Phase	Description	Start	End	Working Days
1	Demolition	1/2/2018	1/31/2018	20
2	Site Preparation	2/1/2018	2/14/2018	10
3	Grading	2/15/2018	3/28/2018	30
4	Building Construction	4/5/2018	4/15/2019	268
5	Paving	4/16/2019	5/13/2019	20
6	Architectural Coating	11/27/2018	5/13/2019	120

SOURCE: CalEEMod Version 2016.3.1.

Project construction would generate short-term emissions of air pollutants, including fugitive dust and equipment exhaust emissions. The PCAPCD *CEQA Air Quality Handbook* recommends quantification of construction-related emissions and comparison of those emissions to significance thresholds. The CalEEMod was used to quantify construction-related pollutant emissions. CalEEMod output worksheets are also included in **Attachment A**.

Based on CalEEMod, the estimated construction equipment associated with the proposed project along with the number of pieces of equipment, daily hours of operation, horsepower (hp), and load factor (i.e., percent of full throttle) are shown in **Table 4**.

Table 4: Estimated Project Construction Equipment Usage

Phase	Equipment	Amount	Daily Hours	HP	Load Factor
Demolition	Concrete/Industrial Saws	1	8	81	0.73
Demolition	Excavators	3	8	158	0.38
Demolition	Rubber Tired Dozers	2	8	247	0.40
Site Preparation	Rubber Tired Dozers	3	8	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8	97	0.37
Grading	Excavators	2	8	158	0.38
Grading	Graders	1	8	187	0.41
Grading	Rubber Tired Dozers	1	8	247	0.40
Grading	Scrapers	2	8	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8	97	0.37
Building Construction	Cranes	1	7	231	0.29
Building Construction	Forklifts	3	8	89	0.20
Building Construction	Generator Sets	1	8	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7	97	0.37
Building Construction	Welders	1	8	46	0.45
Paving	Pavers	2	8	130	0.42
Paving	Paving Equipment	2	8	132	0.36
Paving	Rollers	2	8	80	0.38
Architectural Coating	Air Compressors	1	6	78	0.48

SOURCE: CalEEMod Version 2016.3.1.

Based on CalEEMod, a total of approximately 382 haul trucks were estimated during demolition and a total of approximately 1,188 haul trucks were estimated during grading/excavation. An average daily construction crew of 108 employees would be present on-site during building construction with less workers during other construction phases. **Table 5** provides a list of the expected trips and trip lengths by construction phase of haul trucks, vendors, and construction workers.

Table 5: Estimated Construction Trips and Trip Lengths

Phase	Worker Trips	Vendor Trips	Haul Truck Trips	Worker Trip Length (mile)	Vendor Trip Length (mile)	Haul Trip Length (mile)
Demolition	15	0	382	10.8	7.3	20.0
Site Preparation	18	0	0	10.8	7.3	20.0
Grading	20	0	1,188	10.8	7.3	20.0
Building Construction	216	50	0	10.8	7.3	20.0
Paving	15	0	0	10.8	7.3	20.0
Architectural Coating	43	0	0	10.8	7.3	20.0

SOURCE: CalEEMod Version 2016.3.1.

The emissions generated from these construction activities include:

- Dust (including PM_{10} and $PM_{2.5}$) primarily from "fugitive" sources (i.e., emissions released through means other than through a stack or tailpipe) such as material handling and travel on unpaved surfaces; and
- Combustion emissions of criteria air pollutants (ROG, NO_x, CO, PM_{10}, and $PM_{2.5}$) primarily from operation of heavy off-road construction equipment, haul trucks, (primarily diesel-operated), and construction worker automobile trips (primarily gasoline-operated).

Construction-related fugitive dust emissions would vary from day to day, depending on the level and type of activity, silt content of the soil, and the weather. High winds (greater than 10 miles per hour) occur infrequently in the area, less than two percent of the time. In the absence of dust control practices, construction activities may result in significant quantities of dust, and as a result, local visibility and PM_{10} concentrations may be adversely affected on a temporary and intermittent basis during construction. In addition, the fugitive dust generated by construction would include not only PM_{10}, but also larger particles, which would fall out of the atmosphere within several hundred feet of the site and could result in nuisance-type impacts.

Poor construction practices could result in substantial emissions of fugitive dust that would be a nuisance and could create localized health impacts. Placer County requires construction projects to comply with District Rules & Regulations for Construction. Compliance with the District Rules & Regulations for construction would prevent and control fugitive dust emissions.

Erosion control measures and water programs are typically undertaken to minimize these fugitive dust and particulate emissions. A dust control efficiency of over 50 percent due to daily watering

and other measures (e.g., limiting vehicle speed to 15 mph, management of stockpiles, screening process controls, etc.) was estimated. Based on CalEEMod, one water application per day reduces fugitive dust by 34 percent, two water applications per day reduces fugitive dust by 55 percent, and three water applications per day reduces fugitive dust by 61 percent.

Estimated maximum daily emissions of criteria pollutants emissions that would be generated by construction of the proposed project are shown in **Table 6**. Construction emissions were estimated using the California Emission Estimator Model (CalEEMod) Version 2016.3.1. As shown in **Table 6**, criteria pollutant emissions from construction would be below the PCAPCD's maximum daily significance thresholds for ROG, NO_x, and PM_{10}. There is no significance threshold for CO or $PM_{2.5}$. **Table 6** provides the estimated short-term construction emissions that would be associated with the proposed project and compares those emissions to the PCAPCD's significance thresholds for construction exhaust emissions. The construction emissions inventory is based on conservative (overestimating) assumptions associated with the construction duration, intensity of equipment usage, and type/amount of equipment. Therefore, actual construction emissions are likely to be less than the estimated values. The proposed project would comply with all PCAPCD Rules & Regulations. Therefore, air quality impacts from construction would be less than significant

Table 6: Estimated Maximum Daily Construction Emissions (pounds)

Condition	ROG	NOx	PM10
2018 Maximum Daily Construction Emissions	33.3	72.3	11.6
2019 Maximum Daily Construction Emissions	32.8	30.2	3.9
Maximum Daily Emissions	**33.3**	**72.3**	**11.6**
Significance Threshold	82	82	82
Potentially Significant (Yes or No)?	No	No	No

SOURCE: CalEEMod Version 2016.3.1.

Operations

CalEEMod was used to estimate emissions that would be associated with motor vehicle use, space and water heating, and landscape maintenance emissions expected to occur after construction is complete and the proposed project is operational. The proposed project land use types and size and other project-specific information were used to make the calculations. Unless otherwise noted, the CalEEMod model defaults for Placer County were used. CalEEMod provides emissions for transportation, areas sources,[15] electricity consumption, natural gas combustion, electricity usage associated with water usage and wastewater discharge, and solid waste land filling and transport. CalEEMod provides emissions for transportation, areas sources, electricity consumption, natural gas combustion, electricity usage associated with water usage and wastewater discharge, and solid

[15] Operational emissions associated with hearths (natural gas/propane fireplaces), consumer products (various solvents used in non-industrial applications, which typically include cleaning supplies, kitchen aerosols, and toiletries), area architectural coatings, and landscaping equipment.

waste land filling and transport. CalEEMod output worksheets are included in **Attachment A: CalEEMod Output Files**.

CalEEMod was adjusted according to trip rates used by K.D. Anderson, the maximum daily trip rates used in the air quality analysis to determine the maximum daily emissions were 2,693 daily trips.[16]

Operational emissions were estimated using CalEEMod. The proposed project land use types, size, and other project-specific information were input into the model. Unless otherwise noted, the CalEEMod defaults for Placer County were used. Estimated daily emissions of criteria pollutants that would be generated by operation of the proposed project are shown in **Table 7**. Estimated daily (summer and winter) operational emissions that would be associated with the proposed project are presented in **Table 7** and are compared to PCAPCD's thresholds of significance. As indicated in **Table 7**, the estimated proposed project operational emissions would be below the PCAPCD's significance thresholds and would be less than significant.

Table 7: Estimated Maximum Daily Operational Emissions (pounds)

Condition	ROG	NOx	PM10
Winter Daily Emissions	11.9	30.6	10.6
Summer Daily Emissions	13.0	29.7	10.6
Maximum Daily Emissions	**13.0**	**30.6**	**10.6**
Significance Threshold	55	55	82
Potentially Significant (Yes or No)?	No	No	No

SOURCE: CalEEMod Version 2016.3.1.

IMPACT AQ-C: *Would the proposed project 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 (including ozone precursors)?* **Less-than-Significant Impact**

The PCAPCD cumulative significance thresholds are the same as the project-level significance thresholds. Therefore, a project would have a significant cumulative impact if the project exceeds the project-level significance thresholds. As disclosed in this air quality analysis, the proposed project would not exceed project-level air quality significance thresholds, therefore, the proposed project would not generate cumulatively considerable air emissions and the cumulative impact would be less than significant.

IMPACT AQ-D: *Would the proposed project expose sensitive receptors to substantial concentrations of toxic air contaminants (TAC)?* **Less-than-Significant Impact**

Land uses such as schools, children's daycare centers, hospitals, and convalescent homes are considered to be more sensitive than the general public to poor air quality because the population

[16] K.D. Anderson, Traffic Impact Analysis for Quarry Place Mixed Use Project. July, 6 2017.

groups associated with these uses have increased susceptibility to respiratory distress. Persons engaged in strenuous work or exercise also have increased sensitivity to poor air quality. The CARB has identified the following people as most likely to be affected by air pollution: children less than 14 years of age, the elderly over 65 years of age, athletes, and those with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive population groups.

Residential areas are considered more sensitive to air quality conditions than commercial and industrial areas, because people generally spend longer periods of time at their residences, resulting in greater exposure to ambient air quality conditions. Recreational uses are also considered sensitive, due to the greater exposure to ambient air quality conditions and because the presence of pollution detracts from the recreational experience.

The adjacent properties within 1,000 feet consist of a Wal-Mart to the north, residential units to the southeast, commercial land uses to the west, and undeveloped land designated for residential uses to the east. Interstate 80 is over 1,500 feet to the east of the project site. Sunset Boulevard and Pacific Street are located adjacent and within 1,000 feet of the project site. There are no schools or daycare facilities within 1,000 feet of the project site.

A toxic air contaminant (TAC) is defined as an air pollutant that may cause or contribute to an increase in mortality or in serious illness, or that may pose a hazard to human health. TAC are usually present in minute quantities in the ambient air. However, their high toxicity or health risk may pose a threat to public health even at very low concentrations. In general, for those TAC that may cause cancer, there is no concentration that does not present some risk. This contrasts with the criteria pollutants for which acceptable levels of exposure can be determined and for which the state and federal governments have set ambient air quality standards.

The proposed project would constitute a new emission source of DPM[17] due to construction activities. Studies have demonstrated that DPM from diesel-fueled engines is a human carcinogen and that chronic (long-term) inhalation exposure to DPM poses a chronic health risk. The proposed project is a short-term construction activity that would not generate substantial emissions, therefore the proposed project would have a less-than-significant impact relative to health impacts during construction.

[17] In August of 1998, CARB identified particulate emissions from diesel-fueled engines as a toxic air contaminant. CARB developed the *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. The document represents a proposal to reduce diesel particulate emissions, with the goal to reduce emissions and the associated health risk by 75 percent in 2010 and by 85 percent in 2020. The program aims to require the use of state-of-the-art catalyzed diesel particulate filters and ultra-low sulfur diesel fuel on diesel-fueled engines.

Diesel particulate matter (DPM) is the most complex of diesel emissions. Diesel particulates, as defined by most emission standards, are sampled from diluted and cooled exhaust gases. This definition includes both solid and liquid material that condenses during the dilution process. The basic fractions of DPM are elemental carbon; heavy hydrocarbons derived from the fuel and lubricating oil and hydrated sulfuric acid derived from the fuel sulfur. DPM contains a large portion of the polycyclic aromatic hydrocarbons found in diesel exhaust. Diesel particulates include small nuclei particles of diameters below 0.04 micrometers (μm) and their agglomerates of diameters up to 1 μm.

CARB published the *Air Quality and Land Use Handbook: A Community Health Perspective* to provide information to local planners and decision-makers about land use compatibility issues associated with emissions from industrial, commercial and mobile sources of air pollution. The CARB Handbook indicates that mobile sources continue to be the largest overall contributors to the State's air pollution problems, representing the greatest air pollution health risk to most Californians. The most serious pollutants on a statewide basis include DPM, benzene, and 1,3-butadiene, all of which are emitted by motor vehicles. These mobile source air toxics are largely associated with freeways and high traffic roads. Non-mobile source air toxics are largely associated with industrial and commercial uses such as dry cleaners and gasoline stations.

Based on guidance from the PCAPCD and the CARB, when siting sensitive land uses (residential, schools, hospitals, playgrounds, etc.) within 500 feet of a high volume roadway (such as I-80 in the vicinity of the proposed project), additional analysis through a health risk assessment should be conducted. Research findings indicate that roadways generally influence air quality within a few hundred feet – about 500 to 600 feet downwind from the vicinity of heavily traveled roadways or along corridors with significant truck traffic. This distance will vary by location and time of day or year, prevailing meteorology, topography, nearby land use, traffic patterns, as well as the individual pollutant.[18] The distance between the project site and I-80 is approximately 1,500 feet, well beyond that 500 foot screening distance so there is no need for the proposed project to conduct a health risk assessment.

According to daily traffic volumes provided by K.D. Anderson, the roadway with the greatest traffic volumes adjacent to the proposed project is Pacific Street (west of the project site), which has a 2016 daily traffic volume of 25,418 trips/day. The proposed project would increase existing daily traffic volumes on Pacific Street by 1,150 trips/day (or 4.5%) and would decrease future cumulative daily traffic volumes by approximately 755 daily trips (or 1.5%) compared to the no project alternative.[19] The additional traffic from the proposed project is a small increase which would not expose sensitive receptors to substantial pollutant concentrations and future traffic levels would decrease with the proposed project. Implementation of the proposed project would not result in an increased exposure of sensitive receptors to localized concentrations of TAC. The proposed project would be less than significant relative to health impacts.

IMPACT AQ-E: *Would the proposed project create objectionable odors affecting a substantial amount of people?* **Less-than-Significant Impact**

Any project with the potential to frequently expose members of the public to objectionable odors will be deemed to have a significant impact. As a general matter, the types of development that pose potential odor problems include agriculture, food processing, dairies, rendering, refineries, chemical plants, wastewater treatment plants, landfills, composting facilities, and transfer stations.

[18] US Environmental Protection Agency. *Near Roadway Air Pollution and Health: Frequently Asked Questions.* August 2014. http://www3.epa.gov/otaq/documents/nearroadway/420f14044.pdf
[19] K.D. Anderson, Daily Traffic Volumes, June 2017

The proposed project is not located in proximity to odiferous uses listed above and no such odiferous uses would be a part of the proposed project. The proposed project is a mixed-use residential/commercial project and these types of projects do not generate odor problems. Therefore, odor impacts associated with the location of the proposed project would be less than significant.

6.0 GREENHOUSE GAS ANALYSIS

"Global warming" and "global climate change" are the terms used to describe the increase in the average temperature of the earth's near-surface air and oceans since the mid-20th century and its projected continuation. Warming of the climate system is now considered to be unequivocal, with global surface temperature increasing approximately 1.33 degrees Fahrenheit (°F) over the last 100 years. Continued warming is projected to increase global average temperature between 2 and 11°F over the next 100 years.

Natural processes and human actions have been identified as the causes of this warming. The International Panel on Climate Change (IPCC) concludes that variations in natural phenomena such as solar radiation and volcanoes produced most of the warming from pre-industrial times to 1950 and had a small cooling effect afterward. After 1950, however, increasing GHG concentrations resulting from human activity such as fossil fuel burning and deforestation have been responsible for most of the observed temperature increase. These basic conclusions have been endorsed by more than 45 scientific societies and academies of science, including all of the national academies of science of the major industrialized countries. Since 2007, no scientific body of national or international standing has maintained a dissenting opinion.

Increases in GHG concentrations in the earth's atmosphere are thought to be the main cause of human-induced climate change. GHG naturally trap heat by impeding the exit of solar radiation that has hit the earth and is reflected back into space. Some GHG occur naturally and are necessary for keeping the earth's surface inhabitable. However, increases in the concentrations of these gases in the atmosphere during the last 100 years have decreased the amount of solar radiation that is reflected back into space, intensifying the natural greenhouse effect and resulting in the increase of global average temperature.

Gases that trap heat in the atmosphere are referred to as GHG because they capture heat radiated from the sun as it is reflected back into the atmosphere, much like a greenhouse does. The accumulation of GHG has been implicated as the driving force for global climate change. The primary GHG are carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O), ozone, and water vapor.

While the presence of the primary GHGs in the atmosphere are naturally occurring, CO_2, CH_4, and N_2O are also emitted from human activities, accelerating the rate at which these compounds occur within earth's atmosphere. Emissions of CO_2 are largely by-products of fossil fuel combustion, whereas methane results from off-gassing associated with agricultural practices and landfills.

Other GHG include hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, and are generated in certain industrial processes.

CO_2 is the reference gas for climate change because it is the predominant GHG emitted. The effect that each of the aforementioned gases can have on global warming is a combination of the mass of their emissions and their global warming potential (GWP). GWP indicates, on a pound-for-pound basis, how much a gas is predicted to contribute to global warming relative to how much warming would be predicted to be caused by the same mass of CO_2, CH_4, and N_2O are substantially more potent GHG than CO_2, with GWP of 25 and 310 times that of CO_2, respectively.

In emissions inventories, GHG emissions are typically reported in terms of pounds or metric tons (MT) of CO_2 equivalents (CO_2e). CO_2e are calculated as the product of the mass emitted of a given GHG and its specific GWP. While CH_4 and N_2O have much higher GWP than CO_2, CO_2 is emitted in such vastly higher quantities that it accounts for the majority of GHG emissions in CO_2e.

Fossil fuel combustion, especially for the generation of electricity and powering of motor vehicles, has led to substantial increases in CO_2 emissions (and thus substantial increases in atmospheric concentrations of CO_2). In pre-industrial times (c. 1860), concentrations of atmospheric CO_2 were approximately 280 parts per million (ppm). By August 2013, atmospheric CO_2 concentrations had increased to 395 ppm, by over 40 percent above pre-industrial concentrations.[20] There is international scientific consensus that human-caused increases in GHG have contributed and will continue to contribute to global warming.

There is international scientific consensus that human-caused increases in GHG have and will continue to contribute to global warming. Potential global warming impacts in California may include, but are not limited to, loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years. Secondary effects are likely to include a global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity.[21]

City of Rocklin General Plan

The City of Rocklin General Plan was published in October of 2012.[22] The General Plan Conservation Element addresses the conservation, development, and utilization of natural resources including air quality. The goals and policies reflect an increased emphasis on protection of valued natural resources as the community continues to develop, and provide specific direction as to how that protection should occur.

[20] Earth System Research Laboratory, *Recent Monthly Mean CO2 at Mauna Lora*, www.esrl.noaa.gov/gmd/ccgg/trends/
[21] California Environmental Protection Agency, *2006 Final Climate Action Team Report to the Governor and Legislature*, March 2006. http://www.climatechange.ca.gov/climate_action_team/reports/2006report/2006-04-03_FINAL_CAT_REPORT.PDF.
[22] City of Rocklin, *General Plan*, October 2012, https://www.rocklin.ca.us/depts/develop/planning/publications_n_maps/rocklin_general_plan.asp

The General Plan is designed to conserve and protect natural resources (such as air quality) while permitting their managed use, consistent with City, State and Federal requirements through implementation of policies such as the following:

- Adopt and implement land use strategies that utilize existing infrastructure, reduce the need for new roads, utilities and other public works in newly developing areas, and enhance nonautomotive transportation.
- Encourage high-density, mixed-use, infill development and creative use of brownfield and under-utilized properties.
- Increase densities in core areas to support public transit.
- Add bicycle facilities to City streets and public spaces.
- Promote infill, mixed-use, higher density development and the creation of affordable housing in mixed use zones.
- Identify sites suitable for mixed-use development within existing service areas and establish appropriate site-specific standards to accommodate the mixed uses.
- Promote greater linkage between land uses and transit, as well as other modes of transportation.
- Promote development and preservation of neighborhood characteristics that encourage walking and bicycle riding in lieu of automobile-based travel.
- Encourage energy conservation in new developments.
- Encourage urban design and form that conserves land and other resources.
- Require development projects to incorporate stationary and mobile source control measures recommended by the Placer County Air Pollution Control District (PCAPCD) and approved by the City for protection of air quality during construction and subsequent operations.
- Continue to consult with the PCAPCD in the development of stationary and mobile source control measures affecting the City of Rocklin.
- Reduce the exposure of sensitive receptors to potential health risks from toxic air contaminants.

California Air Pollution Control Officers Association

The California Air Pollution Control Officers Association (CAPCOA), representing California's 35 local air districts, launched the CAPCOA *Greenhouse Gas Reduction Exchange (GHG Rx)*.[23]

[23] CAPCOA *Greenhouse Gas Exchange*, http://xappprod.aqmd.gov/ghgrx.

The *Exchange* provides a reliable, low-cost, secure platform to encourage locally generated, high quality GHG emission reduction credits that can be used to meet CEQA or other compliance requirements. The GHG Rx features locally generated and properly validated GHG emission reduction credits from voluntary projects within California and allow interaction between those who create the credits, potential buyers and funding organizations.

Assembly Bill 32 (California Global Warming Solutions Act of 2006)

California passed the California Global Warming Solutions Act of 2006 (AB 32; California Health and Safety Code Division 25.5, Sections 38500 - 38599). AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and establishes a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. This reduction will be accomplished by enforcing a statewide cap on GHG emissions that will be phased in starting in 2012. To effectively implement the cap, AB 32 directs CARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then CARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

AB 32 requires CARB to adopt a quantified cap on GHG emissions representing 1990 emissions levels and disclose how it arrived at the cap; institute a schedule to meet the emissions cap; and develop tracking, reporting, and enforcement mechanisms to ensure that the state reduces GHG emissions enough to meet the cap. AB 32 also includes guidance on instituting emissions reductions in an economically efficient manner, along with conditions to ensure that businesses and consumers are not unfairly affected by the reductions. Using these criteria to reduce statewide GHG emissions to 1990 levels by 2020 would represent an approximate 25 to 30 percent reduction in current emissions levels. However, CARB has discretionary authority to seek greater reductions in more significant and growing GHG sectors, such as transportation, as compared to other sectors that are not anticipated to significantly increase emissions. Under AB 32, CARB must adopt regulations to achieve reductions in GHG to meet the 1990 emissions cap by 2020. In September of 2016, AB 32 was extended to achieve reductions in GHG of 40 percent below 1990 levels by 2030. The new plan, outlined in SB 32, involves increasing renewable energy use, putting more electric cars on the road, improving energy efficiency, and curbing emissions from key industries.

Climate Change Scoping Plan

In October of 2013, the CARB submitted the First Update to the Climate Change Scoping Plan for public review and comment. The First Update to the Scoping Plan was approved by the CARB on May 22, 2014, and builds upon the initial Scoping Plan with new strategies and recommendations. The First Update identifies opportunities to leverage existing and new funds to further drive GHG emission reductions through strategic planning and targeted low carbon investments. The First Update defines CARB's climate change priorities for the next five years, and also sets the

groundwork to reach long-term goals set forth in Executive Orders S-3-05 and B-16-2012. The Update highlights California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the initial Scoping Plan. It also evaluates how to align the State's "longer-term" GHG reduction strategies with other State policy priorities for water, waste, natural resources, clean energy, transportation, and land use.

In the First Update to the Climate Change Scoping Plan, nine key focus areas were identified (energy, transportation, agriculture, water, waste management, and natural and working lands), along with short-lived climate pollutants, green buildings, and the cap-and-trade program. These key focus areas have overlapping and complementary interests that will require careful coordination in California's future climate and energy policies. These focus areas were selected to address issues that underlie multiple sectors of the economy. As such, each focus area is not contained to a single economic sector, but has far-reaching impacts within many economic sectors.

California Green Building Standard Code

On January 12, 2010, the State Building Standards Commission unanimously adopted updates to the California Green Building Standards Code, which went into effect on January 1, 2011. CALGreen is a comprehensive and uniform regulatory code for all residential, commercial and school buildings.

CALGreen does not prevent a local jurisdiction from adopting a more stringent code as state law provides methods for local enhancements. CALGreen recognizes that many jurisdictions have developed existing construction and demolition ordinances, and defers to them as the ruling guidance provided they provide a minimum 50-percent diversion requirement. CALGreen also provides exemptions for areas not served by construction and demolition recycling infrastructure. State building code provides the minimum standard, which buildings need to meet in order to be certified for occupancy. Enforcement is generally through the local building official.

The development of CALGreen is intended to (1) cause a reduction in GHG emissions from buildings; (2) promote environmentally responsible, cost-effective, healthier places to live and work; (3) reduce energy and water consumption; and (4) respond to the directives by the Governor. In short, CALGreen is established to reduce construction waste; make buildings more efficient in the use of materials and energy; and reduce environmental impacts during and after construction.

CALGreen contains requirements for construction site selection, storm water control during construction, construction waste reduction, indoor water use reduction, material selection, natural resource conservation, site irrigation conservation, and more. CALGreen provides for design options allowing the designer to determine how best to achieve compliance for a given site or building condition. CALGreen also requires building commissioning, which is a process for verifying that all building systems, like heating and cooling equipment and lighting systems, are functioning at their maximum efficiency. The following provides examples of CALGreen requirements:

- Designated parking. Provide designated parking in commercial projects for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles.
- Recycling by Occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of nonhazardous materials for recycling.
- Construction waste. A minimum 50-percent diversion of construction and demolition waste from landfills, increasing voluntarily to 65 and-75 percent for new homes and 80-percent for commercial projects. All (100 percent) of trees, stumps, rocks and associated vegetation and soils resulting from land clearing shall be reused or recycled.
- Wastewater reduction. Each building shall reduce the generation of wastewater by installation of water-conserving fixtures or using nonpotable water systems.
- Water use savings. 20-percent mandatory reduction in indoor water use with voluntary goal standards for 30, 35, and 40-percent reductions.
- Water meters. Separate water meters for buildings in excess of 50,000 square feet or buildings projected to consume more than 1,000 gallons per day.
- Irrigation efficiency. Moisture-sensing irrigation systems for larger landscaped areas.
- Materials pollution control. Low-pollutant emitting interior finish materials such as paints, carpet, vinyl flooring, and particleboard.
- Building commissioning. Mandatory inspections of energy systems (i.e. heat furnace, air conditioner, mechanical equipment) for nonresidential buildings over 10,000 square feet to ensure that all are working at their maximum capacity according to their design efficiencies.

Greenhouse Gas Emission Estimates

Worldwide emissions of GHG in 2011 were 45 billion tons of CO_2e per year.[24] This value includes ongoing emissions from industrial and agricultural sources, but excludes emissions from land use changes. In 2014, the United States emitted about 6.87 billion tons of CO2e per year or about 21.5 tons per person per year. Of the five major sectors nationwide — residential and commercial, industrial, agriculture, transportation, and electricity — electricity accounts for the highest fraction of GHG emissions (approximately 30 percent), closely followed by transportation (approximately 26 percent); these emissions from energy are primarily generated from the combustion of fossil fuels (approximately 82 percent), and emissions from transportation are entirely generated from direct fossil fuel combustion.[25] United States emissions increased by three percent from 2013 to

[24] Climate Analysis Indicator Tool (CAIT), 2014, www.cait.wri.org
[25] United States Environmental Protections Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2014*, April 2016, www.epa.gov/ghgemissions/us-greenhouse-gas-inventory-report-1990-2014

2014. Recent trends can be attributed to multiple factors including increased emissions from electricity generation, an increase in miles traveled by on-road vehicles, an increase in industrial production and emissions in multiple sectors, and year-to-year changes in the prevailing weather.

In 2014, California emitted approximately 441.5 million tons of CO2e. This represents about 6.4 percent of total U.S. emissions. This large number is due primarily to the sheer size of California compared to other states. California's gross emissions of GHG decreased by 5.3 percent from 466.3 million metric tons of CO_2e in 2000 to 441.5 million metric tons in 2014, with a maximum of 492.7 million metric tons in 2004.

By contrast, at 11.4 tons per person per year, California has one of the lowest per capita GHG emission rates in the country.[26] This is in part due to the success of the state's energy efficiency and renewable energy programs and commitments that have lowered the GHG emissions rate of growth by more than half of what it would have been otherwise.[27] Another factor that has reduced California's fuel use and GHG emissions is its mild climate compared to that of many other states.

The latest CARB inventory also reports that the composition of gross climate change pollutant emissions in California in 2016 (expressed as CO_2e) were as follows:

- CO_2 accounted for 84.3 percent;
- CH_4 accounted for 9.0 percent;
- N_2O accounted for 3.8 percent; and
- Fluorinated gases (HFCs, PFC, and SF_6) accounted for 3.9 percent.

Of these gases, CARB found that transportation is the source of approximately 37 percent of the state's GHG emissions, followed by industrial sources at 24 percent and electricity generation (both in-state and out-of-state) at 20 percent. Agriculture is the source of approximately 8 percent, and residential activity is the source of about 6 percent, followed by commercial activities at 5 percent.[28]

The City of Rocklin published a community-wide GHG emissions inventory for the year of 2008. The transportation sector was responsible for the majority (54.7 percent) of the emissions. Electricity and natural gas consumption in residential and commercial/industrial sources contribute 44.9 percent of the communitywide emissions. The City of Rocklin emitted approximately 6,200 metric tons of CO_2e in 2008.

[26] California Air Resources Board, *Emissions Trends Report*, June 2016, www.arb.ca.gov/cc/inventory/data/data.htm
[27] California Energy Commission, *Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004*, December 2006, www.energy.ca.gov/2006publications/CEC-600- 2006-013/CEC-600-2006-013-SF.PDF
[28] California Air Resources Board, *Emissions Trends Report*, June 2016, www.arb.ca.gov/cc/inventory/data/data.htm

Thresholds of Significance

Per Appendix G of the CEQA Guidelines, climate change-related impacts are considered significant if implementation of the proposed project under consideration would do 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 PCAPCD has adopted the following GHG significance thresholds for construction and operational GHG emissions:

- For Construction and Operations – Bright-line Threshold of 10,000 metric tons of CO_2e per year (i.e., emissions above this level would be considered significant and would be deemed to have a cumulatively considerable contribution to global climate change); and
- For Operations – De Minimis Level of 1,100 metric tons of CO_2e per year (i.e., emissions equal to or below this level would be considered less than significant and would be considered less than cumulatively considerable and be excluded from future GHG impact analysis); and
- For Operations – Efficiency Threshold of 4.5 metric tons of CO_2e per year (for urban areas) and 5.5 metric tons CO_2e per year (for rural areas) per capita (i.e., the number of residents associated with a new development). Operational emissions greater than 1,100 metric tons of CO_2e per year but less than 10,000 metric tons of CO_2e per year would be considered less than significant and would be deemed less than cumulatively considerable if emissions per capita are equal to or below the efficiency thresholds.

For quantifying a project's GHG emissions, PCAPCD recommends that all GHG emissions from a project be estimated, including a project's direct and indirect GHG emissions from operations. Direct emissions refer to emissions produced from onsite combustion of energy, such as natural gas used in furnaces and boilers, emissions from industrial processes, and fuel combustion from mobile sources. Indirect emissions are emissions produced offsite from energy production and water conveyance due to a project's energy use and water consumption.

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

IMPACT GHG-1: *Would the proposed project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?* **Less-than-Significant Impact**

CalEEMod was used to quantify GHG emissions associated with proposed project construction activities, as well as long-term operational emissions produced by motor vehicles, natural gas combustion for space and water heating, electricity use, water use, solid waste and landscape maintenance equipment. CalEEMod incorporates GHG emission factors for the central electric utility serving the project area and mitigation measures based on the California Air Pollution Control Officer's Association (CAPCOA) *Quantifying Greenhouse Gas Mitigation Measures* and the *California Climate Action Registry General Reporting Protocol*.[29]

CalEEMod is sensitive to the year selected, since vehicle emissions have and continue to be reduced due to fuel efficiency standards and low carbon fuels. The operational year of 2020 was analyzed since it is the first full year that the proposed project could conceivably be occupied.

Default rates for energy consumption were assumed in the model. Emissions rates associated with electricity consumption were adjusted to account for Pacific Gas & Electric utility's projected 2020 CO_2 intensity rate. This 2020 CO_2 intensity rate is based, in part, on the requirement of a renewable energy portfolio standard of 33 percent by the year 2020. CalEEMod uses a default rate of 641 pounds of CO_2 per megawatt of electricity produced. The projected CO_2 intensity rate of 290 pounds of CO_2 per megawatt of electricity produced was used.[30] With regard to emissions associated with electrical consumption, the 2016 Building Energy Efficiency Standard is 28 percent more efficient than 2013 Building Energy Efficiency Standard (default within CalEEMod) for residential construction, therefore a 28 percent reduction of 2013 Building Energy Efficiency

[29] California Air Pollution Control Officer's Association, *Quantifying Greenhouse Gas Mitigation Measures* and the *California Climate Action Registry General Reporting Protocol*, August, 2010, http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf

[30] Greenhouse Gas Emission Factors: Guidance for PG&E Customers, November 2015, http://www.pge.com/includes/docs/pdfs/shared/environment/calculator/pge_ghg_emission_factor_info_sheet.pdf

Standards was entered into CalEEMod since the proposed project would be required to meet 2016 Building Efficiency Standards.[31]

The proposed project includes design features from CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures* that are incorporated into CalEEMod. These design features reduce GHG emissions from motor vehicle trips because they reduce vehicle miles traveled. The proposed project increases housing density, integrates below market housing, and is within one half mile of public transit (i.e., Amtrak and Placer County Transit Bus Stop), which all have the potential to reduce motor vehicle trips and emissions. CalEEMod output worksheets are included in **Attachment A**.

The proposed project's estimated construction and operational GHG emissions are presented in **Table 8**. The estimated annual construction GHG emissions are approximately 737 metric tons of CO_2e in 2018 and approximately 247 metric tons of CO_2e in 2019, which are less than the PCAPCD Bright-Line significance threshold of 10,000 metric tons of CO_2e per year. Construction GHG emissions are a one-time release and are, therefore, not typically expected to generate a significant contribution to global climate change in the long-term. Due to the size of the proposed project, the project's estimated construction-related GHG contribution to global climate change would be considered negligible on the overall global emissions scale. Thus, the construction emissions from the proposed project would have a less than significant impact on climate change.

As shown in **Table 8**, the estimated operational GHG emissions are approximately 2,933 metric tons of CO_2e, which is above the PCAPCD De Minimis Level of 1,100 metric tons of CO_2e per year. A large majority of the GHG emissions (over 80 percent) is related to motor vehicle usage. Therefore, the proposed project is potentially significant with regard to GHG emissions. Since the proposed project's operational emissions are above 1,100 metric tons of CO_2e per year but below 10,000 metric tons of CO_2e per year, the PCAPCD's efficiency significance thresholds are used to evaluate significance. The proposed project is located in an urban area, therefore the proposed project's operational emissions divided by the proposed project's total residential population is compared to the PCAPCD's residential urban efficiency threshold of 4.5 metrics tons of CO_2e per year. CalEEMod estimates the population associated with the residential portion of the proposed project to be 658 residents.

[31] Placer County Air Pollution Control District. Appendix C: Development of Efficiency Matrix, 2016. https://www.placer.ca.gov/departments/air/landuseceqa/ceqathresholds

Table 8: Estimated Greenhouse Gas Emissions – Proposed Project (metric tons)

Source	Annual CO_2e Metric Tons
2018 Construction Emissions	**737**
2019 Construction Emissions	**247**
Significance Threshold	10,000
Potentially Significant (Yes or No)?	No
Operations	
Area Sources	2.9
Energy	379.8
Mobile	2,421.9
Solid Waste	89.7
Water	38.9
Total Operational Emissions	**2,933**
PCAPCD De Minimis Level	1,100
Potentially Significant (Yes or No)?	**Yes**
Population	658 Residents
Total Operations Emissions Per Population	**4.46**
PCAPCD Residential Urban Efficiency Threshold	4.5
Potentially Significant (Yes or No)?	No

SOURCE: CalEEMod Version 2016.3.1.
NOTE: Total values are rounded to the nearest metric ton of CO_2e

As shown in **Table 8**, the estimated operational emissions of 4.45 metric tons of CO_2e per resident would be below the PCAPCD residential urban efficiency threshold of 4.5 metric tons of CO_2e per resident. Therefore, GHG emissions associated with the proposed project would be less than significant and the proposed project would have a less than cumulatively considerable contribution to global climate change. Thus, this impact would be less than significant.

IMPACT GHG-2: *Would the proposed project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG emissions?* **Less-than-Significant Impact**

The City of Rocklin does not have an adopted Climate Action Plan or GHG Reduction Plan. The proposed project would result in a significant impact if it would be in conflict with State plans, policies and regulations adopted for the purpose of reducing GHG emissions, such as AB 32. The assumption is that projects that do not exceed the GHG significance thresholds adopted by the PCAPCD would not conflict with State policies, plans and regulations. As disclosed in this GHG emissions analysis, the proposed project would not exceed PCAPCD GHG significance thresholds, therefore, the proposed project would not conflict with plans, policies or regulations adopted for the purpose of reducing GHG emissions. Thus, this impact would be less than significant.

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Attachment A

CalEEMod Output Files

Construction and Operational Emissions

- Annual Emissions (38 pages)
- Summer Daily Emissions (32 pages)
- Winter Daily Emissions (32 pages)

Quarry Place Mixed Use Project

Placer-Sacramento County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	374.00	Space	3.37	149,600.00	0
Fast Food Restaurant with Drive Thru	3.50	1000sqft	0.08	3,500.00	0
Apartments Mid Rise	185.00	Dwelling Unit	6.23	185,000.00	529
Single Family Housing	45.00	Dwelling Unit	5.40	81,000.00	129
Regional Shopping Center	6.20	1000sqft	0.14	6,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	74
Climate Zone	2			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Quarry Place Mixed Use Project - Placer-Sacramento County, Annual

Project Characteristics - PG&E, November 2015

Land Use - Approximately 15.22-acre site. 324 apartment parking spaces and 50 retail parking spaces.

Construction Phase - Approximately one month demolition followed by 64 weeks of construction. Architectural coating would be phased out between the different uses and the applicant estimates it would occur over a span of approximately 6 months.

Demolition -

Grading - 15.22 acre site, 9,500 cy of import

Vehicle Trips - K.D. Anderson, July 6, 2017. Fast Food Restauraunt trips reduced by 50% to account for 50% pass-by trips.

Woodstoves - no fireplaces or hearths

Energy Use - PG&E, November 2015

Water And Wastewater - A

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation - - Urban Center as project setting after discussion with Yushuo Change at PCAPCD, project is redeveloping an abandoned site
-Increase diversity: 230 dwelling units/ 15.22 acre site = 15.1 DU/acre
-Increase Transit Accessibility: project is a half mile from amtrak station
-Integrate Below Market Housing: 185 multi family units would be affordable housing, 185 DU/ 230 Total DUs = 80.4% of DUs below market rate

Energy Mitigation - 2016 Title 24 would be 28% more efficient than 2013. Per PCAPCD, Appendix D: Development of Efficiency Matrix, 2016

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	20.00	120.00
tblConstructionPhase	NumDays	300.00	268.00
tblConstructionPhase	PhaseEndDate	10/23/2019	5/13/2019
tblConstructionPhase	PhaseEndDate	4/8/2019	4/15/2019
tblConstructionPhase	PhaseEndDate	4/4/2018	3/28/2018
tblConstructionPhase	PhaseEndDate	5/6/2019	5/13/2019
tblConstructionPhase	PhaseStartDate	5/7/2019	11/27/2018
tblConstructionPhase	PhaseStartDate	4/9/2019	4/16/2019
tblFireplaces	NumberGas	101.75	0.00
tblFireplaces	NumberGas	24.75	0.00

tblFireplaces	NumberNoFireplace	18.50	0.00
tblFireplaces	NumberNoFireplace	4.50	0.00
tblFireplaces	NumberWood	64.75	0.00
tblFireplaces	NumberWood	15.75	0.00
tblGrading	AcresOfGrading	75.00	15.22
tblGrading	AcresOfGrading	0.00	15.22
tblGrading	MaterialImported	0.00	9,500.00
tblLandUse	LotAcreage	4.87	6.23
tblLandUse	LotAcreage	14.61	5.40
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	OperationalYear	2018	2020
tblVehicleTrips	ST_TR	6.39	6.50
tblVehicleTrips	ST_TR	722.03	248.00
tblVehicleTrips	ST_TR	49.97	35.00
tblVehicleTrips	ST_TR	9.91	9.00
tblVehicleTrips	SU_TR	5.86	6.50
tblVehicleTrips	SU_TR	542.72	248.00
tblVehicleTrips	SU_TR	25.24	35.00
tblVehicleTrips	SU_TR	8.62	9.00
tblVehicleTrips	WD_TR	6.65	6.50
tblVehicleTrips	WD_TR	496.12	248.00
tblVehicleTrips	WD_TR	42.70	35.00
tblVehicleTrips	WD_TR	9.52	9.00
tblWoodstoves	NumberCatalytic	9.25	0.00
tblWoodstoves	NumberCatalytic	2.25	0.00
tblWoodstoves	NumberNoncatalytic	9.25	0.00
tblWoodstoves	NumberNoncatalytic	2.25	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.8872	4.8359	3.5043	8.0600e-003	0.4605	0.2275	0.6880	0.1668	0.2128	0.3796	0.0000	734.0257	734.0257	0.1137	0.0000	736.8687
2019	1.5373	1.3047	1.2271	2.7400e-003	0.0933	0.0648	0.1581	0.0251	0.0611	0.0862	0.0000	246.0415	246.0415	0.0338	0.0000	246.8854
Maximum	**1.5373**	**4.8359**	**3.5043**	**8.0600e-003**	**0.4605**	**0.2275**	**0.6880**	**0.1668**	**0.2128**	**0.3796**	**0.0000**	**734.0257**	**734.0257**	**0.1137**	**0.0000**	**736.8687**

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					
2018	0.8872	4.8359	3.5043	8.0600e-003	0.3270	0.2275	0.5544	0.1074	0.2128	0.3202	0.0000	734.0252	734.0252	0.1137	0.0000	736.8682
2019	1.5373	1.3047	1.2271	2.7400e-003	0.0933	0.0648	0.1581	0.0251	0.0611	0.0862	0.0000	246.0413	246.0413	0.0338	0.0000	246.8852
Maximum	**1.5373**	**4.8359**	**3.5043**	**8.0600e-003**	**0.3270**	**0.2275**	**0.5544**	**0.1074**	**0.2128**	**0.3202**	**0.0000**	**734.0252**	**734.0252**	**0.1137**	**0.0000**	**736.8682**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**24.11**	**0.00**	**15.78**	**30.95**	**0.00**	**12.75**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-2-2018**	**4-1-2018**	1.9517	1.9517
2	**4-2-2018**	**7-1-2018**	1.0925	1.0925
3	**7-2-2018**	**10-1-2018**	1.1423	1.1423
4	**10-2-2018**	**1-1-2019**	1.5535	1.5535
5	**1-2-2019**	**4-1-2019**	2.0250	2.0250
6	**4-2-2019**	**7-1-2019**	0.7985	0.7985
		Highest	2.0250	2.0250

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	1.3120	0.0199	1.7170	9.0000e-005		9.4300e-003	9.4300e-003		9.4300e-003	9.4300e-003	0.0000	2.7965	2.7965	2.7400e-003	0.0000	2.8649
Energy	0.0231	0.1985	0.0937	1.2600e-003		0.0159	0.0159		0.0159	0.0159	0.0000	434.8220	434.8220	0.0250	8.4600e-003	437.9683
Mobile	0.8549	5.7896	9.0918	0.0309	2.1546	0.0340	2.1886	0.5796	0.0321	0.6117	0.0000	2,838.0010	2,838.0010	0.1292	0.0000	2,841.2316
Waste						0.0000	0.0000		0.0000	0.0000	36.2075	0.0000	36.2075	2.1398	0.0000	89.7025
Water						0.0000	0.0000		0.0000	0.0000	5.2369	16.2596	21.4965	0.5395	0.0130	38.8692
Total	**2.1899**	**6.0079**	**10.9025**	**0.0322**	**2.1546**	**0.0594**	**2.2139**	**0.5796**	**0.0574**	**0.6370**	**41.4444**	**3,291.8791**	**3,333.3235**	**2.8363**	**0.0215**	**3,410.6367**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3120	0.0199	1.7170	9.0000e-005		9.4300e-003	9.4300e-003		9.4300e-003	9.4300e-003	0.0000	2.7965	2.7965	2.7400e-003	0.0000	2.8649
Energy	0.0179	0.1542	0.0737	9.8000e-004		0.0124	0.0124		0.0124	0.0124	0.0000	377.0385	377.0385	0.0234	7.3800e-003	379.8231
Mobile	0.8055	5.3333	8.0213	0.0263	1.7891	0.0290	1.8180	0.4813	0.0273	0.5086	0.0000	2,418.9652	2,418.9652	0.1186	0.0000	2,421.9292
Waste						0.0000	0.0000		0.0000	0.0000	36.2075	0.0000	36.2075	2.1398	0.0000	89.7025
Water						0.0000	0.0000		0.0000	0.0000	5.2369	16.2596	21.4965	0.5395	0.0130	38.8692
Total	**2.1354**	**5.5074**	**9.8120**	**0.0274**	**1.7891**	**0.0508**	**1.8398**	**0.4813**	**0.0491**	**0.5304**	**41.4444**	**2,815.0597**	**2,856.5042**	**2.8240**	**0.0204**	**2,933.1890**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**2.49**	**8.33**	**10.00**	**15.03**	**16.96**	**14.45**	**16.90**	**16.97**	**14.45**	**16.74**	**0.00**	**14.48**	**14.30**	**0.43**	**5.02**	**14.00**

3.0 Construction Detail

Construction Phase

Quarry Place Mixed Use Project - Placer-Sacramento County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/2/2018	1/31/2018	5	20	
2	Site Preparation	Site Preparation	2/1/2018	2/14/2018	5	10	
3	Grading	Grading	2/15/2018	3/28/2018	5	30	
4	Building Construction	Building Construction	4/5/2018	4/15/2019	5	268	
5	Paving	Paving	4/16/2019	5/13/2019	5	20	
6	Architectural Coating	Architectural Coating	11/27/2018	5/13/2019	5	120	

Acres of Grading (Site Preparation Phase): 15.22

Acres of Grading (Grading Phase): 15.22

Acres of Paving: 3.37

Residential Indoor: 538,650; Residential Outdoor: 179,550; Non-Residential Indoor: 14,550; Non-Residential Outdoor: 4,850; Striped Parking Area: 8,976 (Architectural Coating – sqft)

OffRoad Equipment

Quarry Place Mixed Use Project - Placer-Sacramento County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	382.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	1,188.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	216.00	51.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	43.00	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 Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0455	0.0000	0.0455	6.8900e-003	0.0000	6.8900e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0409	0.4216	0.2453	4.3000e-004		0.0213	0.0213		0.0199	0.0199	0.0000	38.6365	38.6365	0.0106	0.0000	38.9026
Total	**0.0409**	**0.4216**	**0.2453**	**4.3000e-004**	**0.0455**	**0.0213**	**0.0668**	**6.8900e-003**	**0.0199**	**0.0267**	**0.0000**	**38.6365**	**38.6365**	**0.0106**	**0.0000**	**38.9026**

3.2 Demolition - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0600e-003	0.0673	0.0109	1.8000e-004	3.3000e-003	3.2000e-004	3.6100e-003	9.1000e-004	3.0000e-004	1.2200e-003	0.0000	16.7122	16.7122	6.1000e-004	0.0000	16.7275
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.9000e-004	5.1000e-004	5.3500e-003	1.0000e-005	1.3000e-003	1.0000e-005	1.3000e-003	3.4000e-004	1.0000e-005	3.5000e-004	0.0000	1.1910	1.1910	4.0000e-005	0.0000	1.1919
Total	**2.7500e-003**	**0.0678**	**0.0163**	**1.9000e-004**	**4.6000e-003**	**3.3000e-004**	**4.9100e-003**	**1.2500e-003**	**3.1000e-004**	**1.5700e-003**	**0.0000**	**17.9032**	**17.9032**	**6.5000e-004**	**0.0000**	**17.9194**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0205	0.0000	0.0205	3.1000e-003	0.0000	3.1000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0409	0.4216	0.2453	4.3000e-004		0.0213	0.0213		0.0199	0.0199	0.0000	38.6364	38.6364	0.0106	0.0000	38.9026
Total	**0.0409**	**0.4216**	**0.2453**	**4.3000e-004**	**0.0205**	**0.0213**	**0.0418**	**3.1000e-003**	**0.0199**	**0.0230**	**0.0000**	**38.6364**	**38.6364**	**0.0106**	**0.0000**	**38.9026**

3.2 Demolition - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0600e-003	0.0673	0.0109	1.8000e-004	3.3000e-003	3.2000e-004	3.6100e-003	9.1000e-004	3.0000e-004	1.2200e-003	0.0000	16.7122	16.7122	6.1000e-004	0.0000	16.7275
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.9000e-004	5.1000e-004	5.3500e-003	1.0000e-005	1.3000e-003	1.0000e-005	1.3000e-003	3.4000e-004	1.0000e-005	3.5000e-004	0.0000	1.1910	1.1910	4.0000e-005	0.0000	1.1919
Total	**2.7500e-003**	**0.0678**	**0.0163**	**1.9000e-004**	**4.6000e-003**	**3.3000e-004**	**4.9100e-003**	**1.2500e-003**	**3.1000e-004**	**1.5700e-003**	**0.0000**	**17.9032**	**17.9032**	**6.5000e-004**	**0.0000**	**17.9194**

3.3 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0984	0.0000	0.0984	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0228	0.2410	0.1124	1.9000e-004		0.0129	0.0129		0.0119	0.0119	0.0000	17.3800	17.3800	5.4100e-003	0.0000	17.5152
Total	**0.0228**	**0.2410**	**0.1124**	**1.9000e-004**	**0.0984**	**0.0129**	**0.1113**	**0.0505**	**0.0119**	**0.0624**	**0.0000**	**17.3800**	**17.3800**	**5.4100e-003**	**0.0000**	**17.5152**

3.3 Site Preparation - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8000e-004	2.8000e-004	2.9200e-003	1.0000e-005	7.1000e-004	0.0000	7.1000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6496	0.6496	2.0000e-005	0.0000	0.6501
Total	**3.8000e-004**	**2.8000e-004**	**2.9200e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.1000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.6496**	**0.6496**	**2.0000e-005**	**0.0000**	**0.6501**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0443	0.0000	0.0443	0.0227	0.0000	0.0227	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0228	0.2410	0.1124	1.9000e-004		0.0129	0.0129		0.0119	0.0119	0.0000	17.3799	17.3799	5.4100e-003	0.0000	17.5152
Total	**0.0228**	**0.2410**	**0.1124**	**1.9000e-004**	**0.0443**	**0.0129**	**0.0572**	**0.0227**	**0.0119**	**0.0346**	**0.0000**	**17.3799**	**17.3799**	**5.4100e-003**	**0.0000**	**17.5152**

3.3 Site Preparation - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.8000e-004	2.8000e-004	2.9200e-003	1.0000e-005	7.1000e-004	0.0000	7.1000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6496	0.6496	2.0000e-005	0.0000	0.6501
Total	**3.8000e-004**	**2.8000e-004**	**2.9200e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.1000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.6496**	**0.6496**	**2.0000e-005**	**0.0000**	**0.6501**

3.4 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0989	0.0000	0.0989	0.0506	0.0000	0.0506	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0764	0.8928	0.5263	9.3000e-004		0.0395	0.0395		0.0364	0.0364	0.0000	84.9728	84.9728	0.0265	0.0000	85.6341
Total	**0.0764**	**0.8928**	**0.5263**	**9.3000e-004**	**0.0989**	**0.0395**	**0.1385**	**0.0506**	**0.0364**	**0.0870**	**0.0000**	**84.9728**	**84.9728**	**0.0265**	**0.0000**	**85.6341**

3.4 Grading - 2018

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	5.8300e-003	0.1903	0.0309	5.0000e-004	9.9900e-003	9.0000e-004	0.0109	2.7500e-003	8.6000e-004	3.6100e-003	0.0000	47.2491	47.2491	1.7400e-003	0.0000	47.2925
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	1.2500e-003	9.4000e-004	9.7300e-003	2.0000e-005	2.3600e-003	2.0000e-005	2.3700e-003	6.3000e-004	1.0000e-005	6.4000e-004	0.0000	2.1654	2.1654	6.0000e-005	0.0000	2.1670
Total	**7.0800e-003**	**0.1912**	**0.0406**	**5.2000e-004**	**0.0124**	**9.2000e-004**	**0.0133**	**3.3800e-003**	**8.7000e-004**	**4.2500e-003**	**0.0000**	**49.4145**	**49.4145**	**1.8000e-003**	**0.0000**	**49.4595**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0445	0.0000	0.0445	0.0228	0.0000	0.0228	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0764	0.8928	0.5263	9.3000e-004		0.0395	0.0395		0.0364	0.0364	0.0000	84.9727	84.9727	0.0265	0.0000	85.6340
Total	**0.0764**	**0.8928**	**0.5263**	**9.3000e-004**	**0.0445**	**0.0395**	**0.0840**	**0.0228**	**0.0364**	**0.0591**	**0.0000**	**84.9727**	**84.9727**	**0.0265**	**0.0000**	**85.6340**

3.4 Grading - 2018

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	5.8300e-003	0.1903	0.0309	5.0000e-004	9.9900e-003	9.0000e-004	0.0109	2.7500e-003	8.6000e-004	3.6100e-003	0.0000	47.2491	47.2491	1.7400e-003	0.0000	47.2925
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	1.2500e-003	9.4000e-004	9.7300e-003	2.0000e-005	2.3600e-003	2.0000e-005	2.3700e-003	6.3000e-004	1.0000e-005	6.4000e-004	0.0000	2.1654	2.1654	6.0000e-005	0.0000	2.1670
Total	**7.0800e-003**	**0.1912**	**0.0406**	**5.2000e-004**	**0.0124**	**9.2000e-004**	**0.0133**	**3.3800e-003**	**8.7000e-004**	**4.2500e-003**	**0.0000**	**49.4145**	**49.4145**	**1.8000e-003**	**0.0000**	**49.4595**

3.5 Building Construction - 2018

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	0.2586	2.2571	1.6965	2.6000e-003		0.1447	0.1447		0.1361	0.1361	0.0000	229.4454	229.4454	0.0562	0.0000	230.8507
Total	**0.2586**	**2.2571**	**1.6965**	**2.6000e-003**		**0.1447**	**0.1447**		**0.1361**	**0.1361**	**0.0000**	**229.4454**	**229.4454**	**0.0562**	**0.0000**	**230.8507**

3.5 Building Construction - 2018

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	0.0247	0.6724	0.1471	1.4600e-003	0.0321	4.7300e-003	0.0369	9.3000e-003	4.5300e-003	0.0138	0.0000	138.1005	138.1005	7.6000e-003	0.0000	138.2904
Worker	0.0872	0.0650	0.6762	1.6700e-003	0.1637	1.1200e-003	0.1648	0.0436	1.0400e-003	0.0446	0.0000	150.4521	150.4521	4.5100e-003	0.0000	150.5649
Total	**0.1119**	**0.7373**	**0.8233**	**3.1300e-003**	**0.1958**	**5.8500e-003**	**0.2017**	**0.0529**	**5.5700e-003**	**0.0584**	**0.0000**	**288.5526**	**288.5526**	**0.0121**	**0.0000**	**288.8553**

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	0.2586	2.2571	1.6965	2.6000e-003		0.1447	0.1447		0.1361	0.1361	0.0000	229.4451	229.4451	0.0562	0.0000	230.8505
Total	**0.2586**	**2.2571**	**1.6965**	**2.6000e-003**		**0.1447**	**0.1447**		**0.1361**	**0.1361**	**0.0000**	**229.4451**	**229.4451**	**0.0562**	**0.0000**	**230.8505**

3.5 Building Construction - 2018

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	0.0247	0.6724	0.1471	1.4600e-003	0.0321	4.7300e-003	0.0369	9.3000e-003	4.5300e-003	0.0138	0.0000	138.1005	138.1005	7.6000e-003	0.0000	138.2904
Worker	0.0872	0.0650	0.6762	1.6700e-003	0.1637	1.1200e-003	0.1648	0.0436	1.0400e-003	0.0446	0.0000	150.4521	150.4521	4.5100e-003	0.0000	150.5649
Total	**0.1119**	**0.7373**	**0.8233**	**3.1300e-003**	**0.1958**	**5.8500e-003**	**0.2017**	**0.0529**	**5.5700e-003**	**0.0584**	**0.0000**	**288.5526**	**288.5526**	**0.0121**	**0.0000**	**288.8553**

3.5 Building Construction - 2019

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	0.0885	0.7905	0.6436	1.0100e-003		0.0484	0.0484		0.0455	0.0455	0.0000	88.1641	88.1641	0.0215	0.0000	88.7010
Total	**0.0885**	**0.7905**	**0.6436**	**1.0100e-003**		**0.0484**	**0.0484**		**0.0455**	**0.0455**	**0.0000**	**88.1641**	**88.1641**	**0.0215**	**0.0000**	**88.7010**

3.5 Building Construction - 2019

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	8.4700e-003	0.2464	0.0510	5.6000e-004	0.0125	1.4900e-003	0.0140	3.6100e-003	1.4300e-003	5.0400e-003	0.0000	53.2089	53.2089	2.8000e-003	0.0000	53.2789
Worker	0.0307	0.0222	0.2347	6.3000e-004	0.0636	4.3000e-004	0.0640	0.0169	4.0000e-004	0.0173	0.0000	56.7141	56.7141	1.5500e-003	0.0000	56.7529
Total	**0.0391**	**0.2686**	**0.2858**	**1.1900e-003**	**0.0761**	**1.9200e-003**	**0.0780**	**0.0205**	**1.8300e-003**	**0.0224**	**0.0000**	**109.9230**	**109.9230**	**4.3500e-003**	**0.0000**	**110.0319**

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	0.0885	0.7905	0.6436	1.0100e-003		0.0484	0.0484		0.0455	0.0455	0.0000	88.1640	88.1640	0.0215	0.0000	88.7009
Total	**0.0885**	**0.7905**	**0.6436**	**1.0100e-003**		**0.0484**	**0.0484**		**0.0455**	**0.0455**	**0.0000**	**88.1640**	**88.1640**	**0.0215**	**0.0000**	**88.7009**

3.5 Building Construction - 2019

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	8.4700e-003	0.2464	0.0510	5.6000e-004	0.0125	1.4900e-003	0.0140	3.6100e-003	1.4300e-003	5.0400e-003	0.0000	53.2089	53.2089	2.8000e-003	0.0000	53.2789
Worker	0.0307	0.0222	0.2347	6.3000e-004	0.0636	4.3000e-004	0.0640	0.0169	4.0000e-004	0.0173	0.0000	56.7141	56.7141	1.5500e-003	0.0000	56.7529
Total	**0.0391**	**0.2686**	**0.2858**	**1.1900e-003**	**0.0761**	**1.9200e-003**	**0.0780**	**0.0205**	**1.8300e-003**	**0.0224**	**0.0000**	**109.9230**	**109.9230**	**4.3500e-003**	**0.0000**	**110.0319**

3.6 Paving - 2019

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	0.0145	0.1524	0.1467	2.3000e-004		8.2500e-003	8.2500e-003		7.5900e-003	7.5900e-003	0.0000	20.4752	20.4752	6.4800e-003	0.0000	20.6371
Paving	4.4100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0190**	**0.1524**	**0.1467**	**2.3000e-004**		**8.2500e-003**	**8.2500e-003**		**7.5900e-003**	**7.5900e-003**	**0.0000**	**20.4752**	**20.4752**	**6.4800e-003**	**0.0000**	**20.6371**

3.6 Paving - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.7000e-004	4.1000e-004	4.3500e-003	1.0000e-005	1.1800e-003	1.0000e-005	1.1900e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	1.0503	1.0503	3.0000e-005	0.0000	1.0510
Total	**5.7000e-004**	**4.1000e-004**	**4.3500e-003**	**1.0000e-005**	**1.1800e-003**	**1.0000e-005**	**1.1900e-003**	**3.1000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0503**	**1.0503**	**3.0000e-005**	**0.0000**	**1.0510**

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	0.0145	0.1524	0.1467	2.3000e-004		8.2500e-003	8.2500e-003		7.5900e-003	7.5900e-003	0.0000	20.4752	20.4752	6.4800e-003	0.0000	20.6371
Paving	4.4100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0190**	**0.1524**	**0.1467**	**2.3000e-004**		**8.2500e-003**	**8.2500e-003**		**7.5900e-003**	**7.5900e-003**	**0.0000**	**20.4752**	**20.4752**	**6.4800e-003**	**0.0000**	**20.6371**

3.6 Paving - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.7000e-004	4.1000e-004	4.3500e-003	1.0000e-005	1.1800e-003	1.0000e-005	1.1900e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	1.0503	1.0503	3.0000e-005	0.0000	1.0510
Total	**5.7000e-004**	**4.1000e-004**	**4.3500e-003**	**1.0000e-005**	**1.1800e-003**	**1.0000e-005**	**1.1900e-003**	**3.1000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0503**	**1.0503**	**3.0000e-005**	**0.0000**	**1.0510**

3.7 Architectural Coating - 2018

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	0.3605					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.7300e-003	0.0251	0.0232	4.0000e-005		1.8800e-003	1.8800e-003		1.8800e-003	1.8800e-003	0.0000	3.1916	3.1916	3.0000e-004	0.0000	3.1992
Total	**0.3642**	**0.0251**	**0.0232**	**4.0000e-005**		**1.8800e-003**	**1.8800e-003**		**1.8800e-003**	**1.8800e-003**	**0.0000**	**3.1916**	**3.1916**	**3.0000e-004**	**0.0000**	**3.1992**

3.7 Architectural Coating - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2500e-003	1.6800e-003	0.0174	4.0000e-005	4.2200e-003	3.0000e-005	4.2500e-003	1.1200e-003	3.0000e-005	1.1500e-003	0.0000	3.8797	3.8797	1.2000e-004	0.0000	3.8826
Total	**2.2500e-003**	**1.6800e-003**	**0.0174**	**4.0000e-005**	**4.2200e-003**	**3.0000e-005**	**4.2500e-003**	**1.1200e-003**	**3.0000e-005**	**1.1500e-003**	**0.0000**	**3.8797**	**3.8797**	**1.2000e-004**	**0.0000**	**3.8826**

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	0.3605					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.7300e-003	0.0251	0.0232	4.0000e-005		1.8800e-003	1.8800e-003		1.8800e-003	1.8800e-003	0.0000	3.1916	3.1916	3.0000e-004	0.0000	3.1992
Total	**0.3642**	**0.0251**	**0.0232**	**4.0000e-005**		**1.8800e-003**	**1.8800e-003**		**1.8800e-003**	**1.8800e-003**	**0.0000**	**3.1916**	**3.1916**	**3.0000e-004**	**0.0000**	**3.1992**

3.7 Architectural Coating - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2500e-003	1.6800e-003	0.0174	4.0000e-005	4.2200e-003	3.0000e-005	4.2500e-003	1.1200e-003	3.0000e-005	1.1500e-003	0.0000	3.8797	3.8797	1.2000e-004	0.0000	3.8826
Total	**2.2500e-003**	**1.6800e-003**	**0.0174**	**4.0000e-005**	**4.2200e-003**	**3.0000e-005**	**4.2500e-003**	**1.1200e-003**	**3.0000e-005**	**1.1500e-003**	**0.0000**	**3.8797**	**3.8797**	**1.2000e-004**	**0.0000**	**3.8826**

3.7 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.3697					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0127	0.0872	0.0875	1.4000e-004		6.1200e-003	6.1200e-003		6.1200e-003	6.1200e-003	0.0000	12.1280	12.1280	1.0200e-003	0.0000	12.1536
Total	**1.3824**	**0.0872**	**0.0875**	**1.4000e-004**		**6.1200e-003**	**6.1200e-003**		**6.1200e-003**	**6.1200e-003**	**0.0000**	**12.1280**	**12.1280**	**1.0200e-003**	**0.0000**	**12.1536**

3.7 Architectural Coating - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.7300e-003	5.5900e-003	0.0592	1.6000e-004	0.0160	1.1000e-004	0.0162	4.2700e-003	1.0000e-004	4.3700e-003	0.0000	14.3011	14.3011	3.9000e-004	0.0000	14.3109
Total	**7.7300e-003**	**5.5900e-003**	**0.0592**	**1.6000e-004**	**0.0160**	**1.1000e-004**	**0.0162**	**4.2700e-003**	**1.0000e-004**	**4.3700e-003**	**0.0000**	**14.3011**	**14.3011**	**3.9000e-004**	**0.0000**	**14.3109**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.3697					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0127	0.0872	0.0875	1.4000e-004		6.1200e-003	6.1200e-003		6.1200e-003	6.1200e-003	0.0000	12.1279	12.1279	1.0200e-003	0.0000	12.1536
Total	**1.3824**	**0.0872**	**0.0875**	**1.4000e-004**		**6.1200e-003**	**6.1200e-003**		**6.1200e-003**	**6.1200e-003**	**0.0000**	**12.1279**	**12.1279**	**1.0200e-003**	**0.0000**	**12.1536**

3.7 Architectural Coating - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.7300e-003	5.5900e-003	0.0592	1.6000e-004	0.0160	1.1000e-004	0.0162	4.2700e-003	1.0000e-004	4.3700e-003	0.0000	14.3011	14.3011	3.9000e-004	0.0000	14.3109
Total	**7.7300e-003**	**5.5900e-003**	**0.0592**	**1.6000e-004**	**0.0160**	**1.1000e-004**	**0.0162**	**4.2700e-003**	**1.0000e-004**	**4.3700e-003**	**0.0000**	**14.3011**	**14.3011**	**3.9000e-004**	**0.0000**	**14.3109**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Transit Accessibility

Integrate Below Market Rate Housing

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.8055	5.3333	8.0213	0.0263	1.7891	0.0290	1.8180	0.4813	0.0273	0.5086	0.0000	2,418.9652	2,418.9652	0.1186	0.0000	2,421.9292
Unmitigated	0.8549	5.7896	9.0918	0.0309	2.1546	0.0340	2.1886	0.5796	0.0321	0.6117	0.0000	2,838.0010	2,838.0010	0.1292	0.0000	2,841.2316

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	1,202.50	1,202.50	1202.50	3,444,612	2,860,250
Fast Food Restaurant with Drive Thru	868.00	868.00	868.00	810,994	673,413
Parking Lot	0.00	0.00	0.00		
Regional Shopping Center	217.00	217.00	217.00	380,467	315,923
Single Family Housing	405.00	405.00	405.00	1,160,140	963,327
Total	2,692.50	2,692.50	2,692.50	5,796,213	4,812,913

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	29	21	50
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11
Single Family Housing	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.489257	0.041257	0.220156	0.132626	0.025790	0.006586	0.027831	0.045583	0.001467	0.001229	0.006102	0.000783	0.001333
Fast Food Restaurant with Drive Thru	0.489257	0.041257	0.220156	0.132626	0.025790	0.006586	0.027831	0.045583	0.001467	0.001229	0.006102	0.000783	0.001333
Apartments Mid Rise	0.489257	0.041257	0.220156	0.132626	0.025790	0.006586	0.027831	0.045583	0.001467	0.001229	0.006102	0.000783	0.001333
Single Family Housing	0.489257	0.041257	0.220156	0.132626	0.025790	0.006586	0.027831	0.045583	0.001467	0.001229	0.006102	0.000783	0.001333
Regional Shopping Center	0.489257	0.041257	0.220156	0.132626	0.025790	0.006586	0.027831	0.045583	0.001467	0.001229	0.006102	0.000783	0.001333

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	199.7997	199.7997	0.0200	4.1300e-003	201.5311
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	206.5280	206.5280	0.0207	4.2700e-003	208.3177
NaturalGas Mitigated	0.0179	0.1542	0.0737	9.8000e-004		0.0124	0.0124		0.0124	0.0124	0.0000	177.2388	177.2388	3.4000e-003	3.2500e-003	178.2920
NaturalGas Unmitigated	0.0231	0.1985	0.0937	1.2600e-003		0.0159	0.0159		0.0159	0.0159	0.0000	228.2940	228.2940	4.3800e-003	4.1900e-003	229.6506

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					
Apartments Mid Rise	2.38209e+006	0.0128	0.1098	0.0467	7.0000e-004		8.8700e-003	8.8700e-003		8.8700e-003	8.8700e-003	0.0000	127.1176	127.1176	2.4400e-003	2.3300e-003	127.8730
Fast Food Restaurant with Drive Thru	383670	2.0700e-003	0.0188	0.0158	1.1000e-004		1.4300e-003	1.4300e-003		1.4300e-003	1.4300e-003	0.0000	20.4741	20.4741	3.9000e-004	3.8000e-004	20.5958
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	72850	3.9000e-004	3.5700e-003	3.0000e-003	2.0000e-005		2.7000e-004	2.7000e-004		2.7000e-004	2.7000e-004	0.0000	3.8876	3.8876	7.0000e-005	7.0000e-005	3.9107
Single Family Housing	1.43945e+006	7.7600e-003	0.0663	0.0282	4.2000e-004		5.3600e-003	5.3600e-003		5.3600e-003	5.3600e-003	0.0000	76.8148	76.8148	1.4700e-003	1.4100e-003	77.2712
Total		**0.0231**	**0.1985**	**0.0937**	**1.2500e-003**		**0.0159**	**0.0159**		**0.0159**	**0.0159**	**0.0000**	**228.2940**	**228.2940**	**4.3700e-003**	**4.1900e-003**	**229.6506**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	1.85429e+006	0.0100	0.0854	0.0364	5.5000e-004		6.9100e-003	6.9100e-003		6.9100e-003	6.9100e-003	0.0000	98.9522	98.9522	1.9000e-003	1.8100e-003	99.5402
Fast Food Restaurant with Drive Thru	343696	1.8500e-003	0.0169	0.0142	1.0000e-004		1.2800e-003	1.2800e-003		1.2800e-003	1.2800e-003	0.0000	18.3409	18.3409	3.5000e-004	3.4000e-004	18.4499
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	53077	2.9000e-004	2.6000e-003	2.1900e-003	2.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004	0.0000	2.8324	2.8324	5.0000e-005	5.0000e-005	2.8492
Single Family Housing	1.07026e+006	5.7700e-003	0.0493	0.0210	3.1000e-004		3.9900e-003	3.9900e-003		3.9900e-003	3.9900e-003	0.0000	57.1133	57.1133	1.0900e-003	1.0500e-003	57.4527
Total		**0.0179**	**0.1542**	**0.0737**	**9.8000e-004**		**0.0124**	**0.0124**		**0.0124**	**0.0124**	**0.0000**	**177.2388**	**177.2388**	**3.3900e-003**	**3.2500e-003**	**178.2921**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	843977	111.0183	0.0111	2.3000e-003	111.9803
Fast Food Restaurant with Drive Thru	111545	14.6728	1.4700e-003	3.0000e-004	14.8000
Parking Lot	131648	17.3172	1.7300e-003	3.6000e-004	17.4673
Regional Shopping Center	75268	9.9009	9.9000e-004	2.0000e-004	9.9867
Single Family Housing	407618	53.6188	5.3600e-003	1.1100e-003	54.0835
Total		**206.5280**	**0.0207**	**4.2700e-003**	**208.3177**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	815822	107.3147	0.0107	2.2200e-003	108.2446
Fast Food Restaurant with Drive Thru	105322	13.8542	1.3900e-003	2.9000e-004	13.9743
Parking Lot	131648	17.3172	1.7300e-003	3.6000e-004	17.4673
Regional Shopping Center	68185.1	8.9692	9.0000e-004	1.9000e-004	9.0469
Single Family Housing	397930	52.3444	5.2300e-003	1.0800e-003	52.7980
Total		**199.7997**	**0.0200**	**4.1400e-003**	**201.5311**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.3120	0.0199	1.7170	9.0000e-005		9.4300e-003	9.4300e-003		9.4300e-003	9.4300e-003	0.0000	2.7965	2.7965	2.7400e-003	0.0000	2.8649
Unmitigated	1.3120	0.0199	1.7170	9.0000e-005		9.4300e-003	9.4300e-003		9.4300e-003	9.4300e-003	0.0000	2.7965	2.7965	2.7400e-003	0.0000	2.8649

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1730					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0864					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0525	0.0199	1.7170	9.0000e-005		9.4300e-003	9.4300e-003		9.4300e-003	9.4300e-003	0.0000	2.7965	2.7965	2.7400e-003	0.0000	2.8649
Total	**1.3120**	**0.0199**	**1.7170**	**9.0000e-005**		**9.4300e-003**	**9.4300e-003**		**9.4300e-003**	**9.4300e-003**	**0.0000**	**2.7965**	**2.7965**	**2.7400e-003**	**0.0000**	**2.8649**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1730					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0864					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0525	0.0199	1.7170	9.0000e-005		9.4300e-003	9.4300e-003		9.4300e-003	9.4300e-003	0.0000	2.7965	2.7965	2.7400e-003	0.0000	2.8649
Total	**1.3120**	**0.0199**	**1.7170**	**9.0000e-005**		**9.4300e-003**	**9.4300e-003**		**9.4300e-003**	**9.4300e-003**	**0.0000**	**2.7965**	**2.7965**	**2.7400e-003**	**0.0000**	**2.8649**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	21.4965	0.5395	0.0130	38.8692
Unmitigated	21.4965	0.5395	0.0130	38.8692

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	12.0535 / 7.59894	15.9019	0.3940	9.5200e-003	28.5893
Fast Food Restaurant with Drive Thru	1.06237 / 0.0678107	1.1244	0.0347	8.3000e-004	2.2403
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0.45925 / 0.281476	0.6022	0.0150	3.6000e-004	1.0855
Single Family Housing	2.93193 / 1.84839	3.8680	0.0958	2.3200e-003	6.9542
Total		**21.4965**	**0.5395**	**0.0130**	**38.8692**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	12.0535 / 7.59894	15.9019	0.3940	9.5200e-003	28.5893
Fast Food Restaurant with Drive Thru	1.06237 / 0.0678107	1.1244	0.0347	8.3000e-004	2.2403
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0.45925 / 0.281476	0.6022	0.0150	3.6000e-004	1.0855
Single Family Housing	2.93193 / 1.84839	3.8680	0.0958	2.3200e-003	6.9542
Total		**21.4965**	**0.5395**	**0.0130**	**38.8692**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	36.2075	2.1398	0.0000	89.7025
Unmitigated	36.2075	2.1398	0.0000	89.7025

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	85.1	17.2745	1.0209	0.0000	42.7969
Fast Food Restaurant with Drive Thru	40.32	8.1846	0.4837	0.0000	20.2770
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	6.51	1.3215	0.0781	0.0000	3.2739
Single Family Housing	46.44	9.4269	0.5571	0.0000	23.3548
Total		**36.2075**	**2.1398**	**0.0000**	**89.7026**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	85.1	17.2745	1.0209	0.0000	42.7969
Fast Food Restaurant with Drive Thru	40.32	8.1846	0.4837	0.0000	20.2770
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	6.51	1.3215	0.0781	0.0000	3.2739
Single Family Housing	46.44	9.4269	0.5571	0.0000	23.3548
Total		**36.2075**	**2.1398**	**0.0000**	**89.7026**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Quarry Place Mixed Use Project

Placer-Sacramento County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	374.00	Space	3.37	149,600.00	0
Fast Food Restaurant with Drive Thru	3.50	1000sqft	0.08	3,500.00	0
Apartments Mid Rise	185.00	Dwelling Unit	6.23	185,000.00	529
Single Family Housing	45.00	Dwelling Unit	5.40	81,000.00	129
Regional Shopping Center	6.20	1000sqft	0.14	6,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	74
Climate Zone	2			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Quarry Place Mixed Use Project - Placer-Sacramento County, Summer

Project Characteristics - PG&E, November 2015

Land Use - Approximately 15.22-acre site. 324 apartment parking spaces and 50 retail parking spaces.

Construction Phase - Approximately one month demolition followed by 64 weeks of construction. Architectural coating would be phased out between the different uses and the applicant estimates it would occur over a span of approximately 6 months.

Demolition -

Grading - 15.22 acre site, 9,500 cy of import

Vehicle Trips - K.D. Anderson, July 6, 2017. Fast Food Restauraunt trips reduced by 50% to account for 50% pass-by trips.

Woodstoves - no fireplaces or hearths

Energy Use - PG&E, November 2015

Water And Wastewater - A

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation - - Urban Center as project setting after discussion with Yushuo Change at PCAPCD, project is redeveloping an abandoned site
-Increase diversity: 230 dwelling units/ 15.22 acre site = 15.1 DU/acre
-Increase Transit Accessibility: project is a half mile from amtrak station
-Integrate Below Market Housing: 185 multi family units would be affordable housing, 185 DU/ 230 Total DUs = 80.4% of DUs below market rate

Energy Mitigation - 2016 Title 24 would be 28% more efficient than 2013. Per PCAPCD, Appendix D: Development of Efficiency Matrix, 2016

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	20.00	120.00
tblConstructionPhase	NumDays	300.00	268.00
tblConstructionPhase	PhaseEndDate	10/23/2019	5/13/2019
tblConstructionPhase	PhaseEndDate	4/8/2019	4/15/2019
tblConstructionPhase	PhaseEndDate	4/4/2018	3/28/2018
tblConstructionPhase	PhaseEndDate	5/6/2019	5/13/2019
tblConstructionPhase	PhaseStartDate	5/7/2019	11/27/2018
tblConstructionPhase	PhaseStartDate	4/9/2019	4/16/2019
tblFireplaces	NumberGas	101.75	0.00
tblFireplaces	NumberGas	24.75	0.00

tblFireplaces	NumberNoFireplace	18.50	0.00
tblFireplaces	NumberNoFireplace	4.50	0.00
tblFireplaces	NumberWood	64.75	0.00
tblFireplaces	NumberWood	15.75	0.00
tblGrading	AcresOfGrading	75.00	15.22
tblGrading	AcresOfGrading	0.00	15.22
tblGrading	MaterialImported	0.00	9,500.00
tblLandUse	LotAcreage	4.87	6.23
tblLandUse	LotAcreage	14.61	5.40
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	OperationalYear	2018	2020
tblVehicleTrips	ST_TR	6.39	6.50
tblVehicleTrips	ST_TR	722.03	248.00
tblVehicleTrips	ST_TR	49.97	35.00
tblVehicleTrips	ST_TR	9.91	9.00
tblVehicleTrips	SU_TR	5.86	6.50
tblVehicleTrips	SU_TR	542.72	248.00
tblVehicleTrips	SU_TR	25.24	35.00
tblVehicleTrips	SU_TR	8.62	9.00
tblVehicleTrips	WD_TR	6.65	6.50
tblVehicleTrips	WD_TR	496.12	248.00
tblVehicleTrips	WD_TR	42.70	35.00
tblVehicleTrips	WD_TR	9.52	9.00
tblWoodstoves	NumberCatalytic	9.25	0.00
tblWoodstoves	NumberCatalytic	2.25	0.00
tblWoodstoves	NumberNoncatalytic	9.25	0.00
tblWoodstoves	NumberNoncatalytic	2.25	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	33.2763	71.9196	37.7570	0.0972	19.8282	2.6941	22.4061	10.1442	2.4808	12.5159	0.0000	9,924.4321	9,924.4321	2.0702	0.0000	9,976.1856
2019	32.7830	29.9977	28.6865	0.0670	2.4731	1.4718	3.9449	0.6638	1.3919	2.0557	0.0000	6,649.5067	6,649.5067	0.7925	0.0000	6,669.3194
Maximum	**33.2763**	**71.9196**	**37.7570**	**0.0972**	**19.8282**	**2.6941**	**22.4061**	**10.1442**	**2.4808**	**12.5159**	**0.0000**	**9,924.4321**	**9,924.4321**	**2.0702**	**0.0000**	**9,976.1856**

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					
2018	33.2763	71.9196	37.7570	0.0972	9.0040	2.6941	11.5819	4.5865	2.4808	6.9581	0.0000	9,924.4321	9,924.4321	2.0702	0.0000	9,976.1855
2019	32.7830	29.9977	28.6865	0.0670	2.4731	1.4718	3.9449	0.6638	1.3919	2.0557	0.0000	6,649.5067	6,649.5067	0.7925	0.0000	6,669.3194
Maximum	**33.2763**	**71.9196**	**37.7570**	**0.0972**	**9.0040**	**2.6941**	**11.5819**	**4.5865**	**2.4808**	**6.9581**	**0.0000**	**9,924.4321**	**9,924.4321**	**2.0702**	**0.0000**	**9,976.1855**

Quarry Place Mixed Use Project - Placer-Sacramento County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**48.54**	**0.00**	**41.08**	**51.42**	**0.00**	**38.14**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.4845	0.2206	19.0778	1.0000e-003		0.1048	0.1048		0.1048	0.1048	0.0000	34.2510	34.2510	0.0335	0.0000	35.0896
Energy	0.1264	1.0875	0.5136	6.8900e-003		0.0873	0.0873		0.0873	0.0873		1,378.9097	1,378.9097	0.0264	0.0253	1,387.1039
Mobile	5.6820	30.9432	52.5092	0.1808	12.3718	0.1856	12.5574	3.3154	0.1751	3.4906		18,307.1321	18,307.1321	0.7749		18,326.5045
Total	**13.2928**	**32.2513**	**72.1006**	**0.1886**	**12.3718**	**0.3778**	**12.7495**	**3.3154**	**0.3673**	**3.6827**	**0.0000**	**19,720.2928**	**19,720.2928**	**0.8349**	**0.0253**	**19,748.6979**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.4845	0.2206	19.0778	1.0000e-003		0.1048	0.1048		0.1048	0.1048	0.0000	34.2510	34.2510	0.0335	0.0000	35.0896
Energy	0.0981	0.8450	0.4037	5.3500e-003		0.0678	0.0678		0.0678	0.0678		1,070.5334	1,070.5334	0.0205	0.0196	1,076.8950
Mobile	5.4042	28.6105	45.6647	0.1539	10.2729	0.1580	10.4310	2.7530	0.1491	2.9021		15,597.8703	15,597.8703	0.7058		15,615.5163
Total	**12.9868**	**29.6760**	**65.1463**	**0.1603**	**10.2729**	**0.3307**	**10.6036**	**2.7530**	**0.3217**	**3.0747**	**0.0000**	**16,702.6547**	**16,702.6547**	**0.7599**	**0.0196**	**16,727.5008**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**2.30**	**7.98**	**9.65**	**15.03**	**16.96**	**12.47**	**16.83**	**16.96**	**12.41**	**16.51**	**0.00**	**15.30**	**15.30**	**8.98**	**22.35**	**15.30**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/2/2018	1/31/2018	5	20	
2	Site Preparation	Site Preparation	2/1/2018	2/14/2018	5	10	
3	Grading	Grading	2/15/2018	3/28/2018	5	30	
4	Building Construction	Building Construction	4/5/2018	4/15/2019	5	268	
5	Paving	Paving	4/16/2019	5/13/2019	5	20	
6	Architectural Coating	Architectural Coating	11/27/2018	5/13/2019	5	120	

Acres of Grading (Site Preparation Phase): 15.22

Acres of Grading (Grading Phase): 15.22

Acres of Paving: 3.37

Residential Indoor: 538,650; Residential Outdoor: 179,550; Non-Residential Indoor: 14,550; Non-Residential Outdoor: 4,850; Striped Parking Area: 8,976 (Architectural Coating – sqft)

OffRoad Equipment

Quarry Place Mixed Use Project - Placer-Sacramento County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	382.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	1,188.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	216.00	51.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	43.00	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 Demolition - 2018

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					4.1343	0.0000	4.1343	0.6260	0.0000	0.6260			0.0000			0.0000
Off-Road	3.7190	38.3225	22.3040	0.0388		1.9386	1.9386		1.8048	1.8048		3,871.7665	3,871.7665	1.0667		3,898.4344
Total	**3.7190**	**38.3225**	**22.3040**	**0.0388**	**4.1343**	**1.9386**	**6.0728**	**0.6260**	**1.8048**	**2.4308**		**3,871.7665**	**3,871.7665**	**1.0667**		**3,898.4344**

3.2 Demolition - 2018

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	0.1844	5.9533	0.9367	0.0161	0.3112	0.0286	0.3398	0.0860	0.0274	0.1133		1,690.8606	1,690.8606	0.0584		1,692.3196
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	0.0701	0.0412	0.5442	1.3100e-003	0.1232	8.1000e-004	0.1240	0.0327	7.5000e-004	0.0334		130.7587	130.7587	3.8700e-003		130.8556
Total	**0.2545**	**5.9944**	**1.4809**	**0.0175**	**0.4344**	**0.0294**	**0.4638**	**0.1187**	**0.0281**	**0.1468**		**1,821.6194**	**1,821.6194**	**0.0622**		**1,823.1752**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.8604	0.0000	1.8604	0.2817	0.0000	0.2817			0.0000			0.0000
Off-Road	3.7190	38.3225	22.3040	0.0388		1.9386	1.9386		1.8048	1.8048	0.0000	3,871.7665	3,871.7665	1.0667		3,898.4344
Total	**3.7190**	**38.3225**	**22.3040**	**0.0388**	**1.8604**	**1.9386**	**3.7990**	**0.2817**	**1.8048**	**2.0865**	**0.0000**	**3,871.7665**	**3,871.7665**	**1.0667**		**3,898.4344**

3.2 Demolition - 2018

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	0.1844	5.9533	0.9367	0.0161	0.3112	0.0286	0.3398	0.0860	0.0274	0.1133		1,690.8606	1,690.8606	0.0584		1,692.3196
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	0.0701	0.0412	0.5442	1.3100e-003	0.1232	8.1000e-004	0.1240	0.0327	7.5000e-004	0.0334		130.7587	130.7587	3.8700e-003		130.8556
Total	**0.2545**	**5.9944**	**1.4809**	**0.0175**	**0.4344**	**0.0294**	**0.4638**	**0.1187**	**0.0281**	**0.1468**		**1,821.6194**	**1,821.6194**	**0.0622**		**1,823.1752**

3.3 Site Preparation - 2018

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					19.6803	0.0000	19.6803	10.1050	0.0000	10.1050			0.0000			0.0000
Off-Road	4.5627	48.1988	22.4763	0.0380		2.5769	2.5769		2.3708	2.3708		3,831.6239	3,831.6239	1.1928		3,861.4448
Total	**4.5627**	**48.1988**	**22.4763**	**0.0380**	**19.6803**	**2.5769**	**22.2573**	**10.1050**	**2.3708**	**12.4757**		**3,831.6239**	**3,831.6239**	**1.1928**		**3,861.4448**

3.3 Site Preparation - 2018

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	0.0842	0.0494	0.6530	1.5800e-003	0.1479	9.7000e-004	0.1488	0.0392	9.0000e-004	0.0401		156.9105	156.9105	4.6500e-003		157.0267
Total	**0.0842**	**0.0494**	**0.6530**	**1.5800e-003**	**0.1479**	**9.7000e-004**	**0.1488**	**0.0392**	**9.0000e-004**	**0.0401**		**156.9105**	**156.9105**	**4.6500e-003**		**157.0267**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.8562	0.0000	8.8562	4.5472	0.0000	4.5472			0.0000			0.0000
Off-Road	4.5627	48.1988	22.4763	0.0380		2.5769	2.5769		2.3708	2.3708	0.0000	3,831.6239	3,831.6239	1.1928		3,861.4448
Total	**4.5627**	**48.1988**	**22.4763**	**0.0380**	**8.8562**	**2.5769**	**11.4331**	**4.5472**	**2.3708**	**6.9180**	**0.0000**	**3,831.6239**	**3,831.6239**	**1.1928**		**3,861.4448**

3.3 Site Preparation - 2018

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	0.0842	0.0494	0.6530	1.5800e-003	0.1479	9.7000e-004	0.1488	0.0392	9.0000e-004	0.0401		156.9105	156.9105	4.6500e-003		157.0267
Total	**0.0842**	**0.0494**	**0.6530**	**1.5800e-003**	**0.1479**	**9.7000e-004**	**0.1488**	**0.0392**	**9.0000e-004**	**0.0401**		**156.9105**	**156.9105**	**4.6500e-003**		**157.0267**

3.4 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5959	0.0000	6.5959	3.3737	0.0000	3.3737			0.0000			0.0000
Off-Road	5.0901	59.5218	35.0894	0.0620		2.6337	2.6337		2.4230	2.4230		6,244.4284	6,244.4284	1.9440		6,293.0278
Total	**5.0901**	**59.5218**	**35.0894**	**0.0620**	**6.5959**	**2.6337**	**9.2297**	**3.3737**	**2.4230**	**5.7968**		**6,244.4284**	**6,244.4284**	**1.9440**		**6,293.0278**

3.4 Grading - 2018

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	0.3823	12.3429	1.9421	0.0335	0.6928	0.0593	0.7521	0.1899	0.0567	0.2467		3,505.6587	3,505.6587	0.1210		3,508.6837
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	0.0935	0.0549	0.7255	1.7500e-003	0.1643	1.0800e-003	0.1654	0.0436	9.9000e-004	0.0446		174.3450	174.3450	5.1700e-003		174.4741
Total	**0.4758**	**12.3978**	**2.6677**	**0.0352**	**0.8571**	**0.0604**	**0.9175**	**0.2335**	**0.0577**	**0.2912**		**3,680.0037**	**3,680.0037**	**0.1262**		**3,683.1578**

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					2.9682	0.0000	2.9682	1.5182	0.0000	1.5182			0.0000			0.0000
Off-Road	5.0901	59.5218	35.0894	0.0620		2.6337	2.6337		2.4230	2.4230	0.0000	6,244.4284	6,244.4284	1.9440		6,293.0278
Total	**5.0901**	**59.5218**	**35.0894**	**0.0620**	**2.9682**	**2.6337**	**5.6019**	**1.5182**	**2.4230**	**3.9412**	**0.0000**	**6,244.4284**	**6,244.4284**	**1.9440**		**6,293.0278**

3.4 Grading - 2018

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	0.3823	12.3429	1.9421	0.0335	0.6928	0.0593	0.7521	0.1899	0.0567	0.2467		3,505.6587	3,505.6587	0.1210		3,508.6837
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	0.0935	0.0549	0.7255	1.7500e-003	0.1643	1.0800e-003	0.1654	0.0436	9.9000e-004	0.0446		174.3450	174.3450	5.1700e-003		174.4741
Total	**0.4758**	**12.3978**	**2.6677**	**0.0352**	**0.8571**	**0.0604**	**0.9175**	**0.2335**	**0.0577**	**0.2912**		**3,680.0037**	**3,680.0037**	**0.1262**		**3,683.1578**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099		2,620.9351	2,620.9351	0.6421		2,636.9883
Total	**2.6795**	**23.3900**	**17.5804**	**0.0269**		**1.4999**	**1.4999**		**1.4099**	**1.4099**		**2,620.9351**	**2,620.9351**	**0.6421**		**2,636.9883**

3.5 Building Construction - 2018

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	0.2507	6.8394	1.3938	0.0153	0.3455	0.0486	0.3940	0.0995	0.0465	0.1459		1,599.6551	1,599.6551	0.0821		1,601.7084
Worker	1.0099	0.5926	7.8358	0.0189	1.7744	0.0116	1.7860	0.4707	0.0107	0.4814		1,882.9257	1,882.9257	0.0558		1,884.3203
Total	**1.2607**	**7.4319**	**9.2296**	**0.0342**	**2.1198**	**0.0602**	**2.1800**	**0.5701**	**0.0572**	**0.6273**		**3,482.5808**	**3,482.5808**	**0.1379**		**3,486.0288**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099	0.0000	2,620.9351	2,620.9351	0.6421		2,636.9883
Total	**2.6795**	**23.3900**	**17.5804**	**0.0269**		**1.4999**	**1.4999**		**1.4099**	**1.4099**	**0.0000**	**2,620.9351**	**2,620.9351**	**0.6421**		**2,636.9883**

3.5 Building Construction - 2018

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	0.2507	6.8394	1.3938	0.0153	0.3455	0.0486	0.3940	0.0995	0.0465	0.1459		1,599.6551	1,599.6551	0.0821		1,601.7084
Worker	1.0099	0.5926	7.8358	0.0189	1.7744	0.0116	1.7860	0.4707	0.0107	0.4814		1,882.9257	1,882.9257	0.0558		1,884.3203
Total	**1.2607**	**7.4319**	**9.2296**	**0.0342**	**2.1198**	**0.0602**	**2.1800**	**0.5701**	**0.0572**	**0.6273**		**3,482.5808**	**3,482.5808**	**0.1379**		**3,486.0288**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635
Total	**2.3612**	**21.0788**	**17.1638**	**0.0269**		**1.2899**	**1.2899**		**1.2127**	**1.2127**		**2,591.5802**	**2,591.5802**	**0.6313**		**2,607.3635**

3.5 Building Construction - 2019

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	0.2210	6.4589	1.2407	0.0152	0.3455	0.0394	0.3848	0.0995	0.0377	0.1371		1,586.2088	1,586.2088	0.0779		1,588.1560
Worker	0.9157	0.5209	7.0394	0.0184	1.7744	0.0115	1.7859	0.4707	0.0106	0.4813		1,826.6342	1,826.6342	0.0496		1,827.8751
Total	**1.1366**	**6.9798**	**8.2801**	**0.0335**	**2.1198**	**0.0509**	**2.1707**	**0.5701**	**0.0483**	**0.6184**		**3,412.8430**	**3,412.8430**	**0.1275**		**3,416.0310**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635
Total	**2.3612**	**21.0788**	**17.1638**	**0.0269**		**1.2899**	**1.2899**		**1.2127**	**1.2127**	**0.0000**	**2,591.5802**	**2,591.5802**	**0.6313**		**2,607.3635**

3.5 Building Construction - 2019

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	0.2210	6.4589	1.2407	0.0152	0.3455	0.0394	0.3848	0.0995	0.0377	0.1371		1,586.2088	1,586.2088	0.0779		1,588.1560
Worker	0.9157	0.5209	7.0394	0.0184	1.7744	0.0115	1.7859	0.4707	0.0106	0.4813		1,826.6342	1,826.6342	0.0496		1,827.8751
Total	**1.1366**	**6.9798**	**8.2801**	**0.0335**	**2.1198**	**0.0509**	**2.1707**	**0.5701**	**0.0483**	**0.6184**		**3,412.8430**	**3,412.8430**	**0.1275**		**3,416.0310**

3.6 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586		2,257.0025	2,257.0025	0.7141		2,274.8548
Paving	0.4415					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.8959**	**15.2441**	**14.6648**	**0.0228**		**0.8246**	**0.8246**		**0.7586**	**0.7586**		**2,257.0025**	**2,257.0025**	**0.7141**		**2,274.8548**

3.6 Paving - 2019

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	0.0636	0.0362	0.4889	1.2700e-003	0.1232	8.0000e-004	0.1240	0.0327	7.4000e-004	0.0334		126.8496	126.8496	3.4500e-003		126.9358
Total	**0.0636**	**0.0362**	**0.4889**	**1.2700e-003**	**0.1232**	**8.0000e-004**	**0.1240**	**0.0327**	**7.4000e-004**	**0.0334**		**126.8496**	**126.8496**	**3.4500e-003**		**126.9358**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586	0.0000	2,257.0025	2,257.0025	0.7141		2,274.8548
Paving	0.4415					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.8959**	**15.2441**	**14.6648**	**0.0228**		**0.8246**	**0.8246**		**0.7586**	**0.7586**	**0.0000**	**2,257.0025**	**2,257.0025**	**0.7141**		**2,274.8548**

3.6 Paving - 2019

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	0.0636	0.0362	0.4889	1.2700e-003	0.1232	8.0000e-004	0.1240	0.0327	7.4000e-004	0.0334		126.8496	126.8496	3.4500e-003		126.9358
Total	**0.0636**	**0.0362**	**0.4889**	**1.2700e-003**	**0.1232**	**8.0000e-004**	**0.1240**	**0.0327**	**7.4000e-004**	**0.0334**		**126.8496**	**126.8496**	**3.4500e-003**		**126.9358**

3.7 Architectural Coating - 2018

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	28.8365					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171
Total	**29.1351**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**		**281.4485**	**281.4485**	**0.0267**		**282.1171**

3.7 Architectural Coating - 2018

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	0.2011	0.1180	1.5599	3.7700e-003	0.3532	2.3200e-003	0.3556	0.0937	2.1400e-003	0.0958		374.8417	374.8417	0.0111		375.1193
Total	**0.2011**	**0.1180**	**1.5599**	**3.7700e-003**	**0.3532**	**2.3200e-003**	**0.3556**	**0.0937**	**2.1400e-003**	**0.0958**		**374.8417**	**374.8417**	**0.0111**		**375.1193**

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	28.8365					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.1171
Total	**29.1351**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**	**0.0000**	**281.4485**	**281.4485**	**0.0267**		**282.1171**

3.7 Architectural Coating - 2018

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	0.2011	0.1180	1.5599	3.7700e-003	0.3532	2.3200e-003	0.3556	0.0937	2.1400e-003	0.0958		374.8417	374.8417	0.0111		375.1193
Total	**0.2011**	**0.1180**	**1.5599**	**3.7700e-003**	**0.3532**	**2.3200e-003**	**0.3556**	**0.0937**	**2.1400e-003**	**0.0958**		**374.8417**	**374.8417**	**0.0111**		**375.1193**

3.7 Architectural Coating - 2019

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	28.8365					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423
Total	**29.1029**	**1.8354**	**1.8413**	**2.9700e-003**		**0.1288**	**0.1288**		**0.1288**	**0.1288**		**281.4481**	**281.4481**	**0.0238**		**282.0423**

3.7 Architectural Coating - 2019

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	0.1823	0.1037	1.4014	3.6500e-003	0.3532	2.2900e-003	0.3555	0.0937	2.1100e-003	0.0958		363.6355	363.6355	9.8800e-003		363.8825
Total	**0.1823**	**0.1037**	**1.4014**	**3.6500e-003**	**0.3532**	**2.2900e-003**	**0.3555**	**0.0937**	**2.1100e-003**	**0.0958**		**363.6355**	**363.6355**	**9.8800e-003**		**363.8825**

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	28.8365					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423
Total	**29.1029**	**1.8354**	**1.8413**	**2.9700e-003**		**0.1288**	**0.1288**		**0.1288**	**0.1288**	**0.0000**	**281.4481**	**281.4481**	**0.0238**		**282.0423**

3.7 Architectural Coating - 2019

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	0.1823	0.1037	1.4014	3.6500e-003	0.3532	2.2900e-003	0.3555	0.0937	2.1100e-003	0.0958		363.6355	363.6355	9.8800e-003		363.8825
Total	**0.1823**	**0.1037**	**1.4014**	**3.6500e-003**	**0.3532**	**2.2900e-003**	**0.3555**	**0.0937**	**2.1100e-003**	**0.0958**		**363.6355**	**363.6355**	**9.8800e-003**		**363.8825**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Transit Accessibility

Integrate Below Market Rate Housing

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	5.4042	28.6105	45.6647	0.1539	10.2729	0.1580	10.4310	2.7530	0.1491	2.9021		15,597.8703	15,597.8703	0.7058		15,615.5163
Unmitigated	5.6820	30.9432	52.5092	0.1808	12.3718	0.1856	12.5574	3.3154	0.1751	3.4906		18,307.1321	18,307.1321	0.7749		18,326.5045

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	1,202.50	1,202.50	1202.50	3,444,612	2,860,250
Fast Food Restaurant with Drive Thru	868.00	868.00	868.00	810,994	673,413
Parking Lot	0.00	0.00	0.00		
Regional Shopping Center	217.00	217.00	217.00	380,467	315,923
Single Family Housing	405.00	405.00	405.00	1,160,140	963,327
Total	2,692.50	2,692.50	2,692.50	5,796,213	4,812,913

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	29	21	50
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11
Single Family Housing	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.489257	0.041257	0.220156	0.132626	0.025790	0.006586	0.027831	0.045583	0.001467	0.001229	0.006102	0.000783	0.001333
Fast Food Restaurant with Drive Thru	0.489257	0.041257	0.220156	0.132626	0.025790	0.006586	0.027831	0.045583	0.001467	0.001229	0.006102	0.000783	0.001333
Apartments Mid Rise	0.489257	0.041257	0.220156	0.132626	0.025790	0.006586	0.027831	0.045583	0.001467	0.001229	0.006102	0.000783	0.001333
Single Family Housing	0.489257	0.041257	0.220156	0.132626	0.025790	0.006586	0.027831	0.045583	0.001467	0.001229	0.006102	0.000783	0.001333
Regional Shopping Center	0.489257	0.041257	0.220156	0.132626	0.025790	0.006586	0.027831	0.045583	0.001467	0.001229	0.006102	0.000783	0.001333

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0981	0.8450	0.4037	5.3500e-003		0.0678	0.0678		0.0678	0.0678		1,070.5334	1,070.5334	0.0205	0.0196	1,076.8950
NaturalGas Unmitigated	0.1264	1.0875	0.5136	6.8900e-003		0.0873	0.0873		0.0873	0.0873		1,378.9097	1,378.9097	0.0264	0.0253	1,387.1039

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					
Apartments Mid Rise	6526.28	0.0704	0.6014	0.2559	3.8400e-003		0.0486	0.0486		0.0486	0.0486		767.7980	767.7980	0.0147	0.0141	772.3606
Fast Food Restaurant with Drive Thru	1051.15	0.0113	0.1031	0.0866	6.2000e-004		7.8300e-003	7.8300e-003		7.8300e-003	7.8300e-003		123.6648	123.6648	2.3700e-003	2.2700e-003	124.3997
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	199.589	2.1500e-003	0.0196	0.0164	1.2000e-004		1.4900e-003	1.4900e-003		1.4900e-003	1.4900e-003		23.4811	23.4811	4.5000e-004	4.3000e-004	23.6206
Single Family Housing	3943.71	0.0425	0.3634	0.1547	2.3200e-003		0.0294	0.0294		0.0294	0.0294		463.9659	463.9659	8.8900e-003	8.5100e-003	466.7230
Total		**0.1264**	**1.0875**	**0.5136**	**6.9000e-003**		**0.0873**	**0.0873**		**0.0873**	**0.0873**		**1,378.9097**	**1,378.9097**	**0.0264**	**0.0253**	**1,387.1039**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	5.08026	0.0548	0.4682	0.1992	2.9900e-003		0.0379	0.0379		0.0379	0.0379		597.6773	597.6773	0.0115	0.0110	601.2290
Fast Food Restaurant with Drive Thru	0.941632	0.0102	0.0923	0.0776	5.5000e-004		7.0200e-003	7.0200e-003		7.0200e-003	7.0200e-003		110.7803	110.7803	2.1200e-003	2.0300e-003	111.4386
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0.145416	1.5700e-003	0.0143	0.0120	9.0000e-005		1.0800e-003	1.0800e-003		1.0800e-003	1.0800e-003		17.1078	17.1078	3.3000e-004	3.1000e-004	17.2095
Single Family Housing	2.93223	0.0316	0.2702	0.1150	1.7200e-003		0.0219	0.0219		0.0219	0.0219		344.9680	344.9680	6.6100e-003	6.3200e-003	347.0180
Total		**0.0981**	**0.8450**	**0.4038**	**5.3500e-003**		**0.0678**	**0.0678**		**0.0678**	**0.0678**		**1,070.5333**	**1,070.5333**	**0.0205**	**0.0196**	**1,076.8950**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.4845	0.2206	19.0778	1.0000e-003		0.1048	0.1048		0.1048	0.1048	0.0000	34.2510	34.2510	0.0335	0.0000	35.0896
Unmitigated	7.4845	0.2206	19.0778	1.0000e-003		0.1048	0.1048		0.1048	0.1048	0.0000	34.2510	34.2510	0.0335	0.0000	35.0896

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.9481					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.9530					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.5834	0.2206	19.0778	1.0000e-003		0.1048	0.1048		0.1048	0.1048		34.2510	34.2510	0.0335		35.0896
Total	**7.4845**	**0.2206**	**19.0778**	**1.0000e-003**		**0.1048**	**0.1048**		**0.1048**	**0.1048**	**0.0000**	**34.2510**	**34.2510**	**0.0335**	**0.0000**	**35.0896**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.9481					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.9530					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.5834	0.2206	19.0778	1.0000e-003		0.1048	0.1048		0.1048	0.1048		34.2510	34.2510	0.0335		35.0896
Total	**7.4845**	**0.2206**	**19.0778**	**1.0000e-003**		**0.1048**	**0.1048**		**0.1048**	**0.1048**	**0.0000**	**34.2510**	**34.2510**	**0.0335**	**0.0000**	**35.0896**

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Quarry Place Mixed Use Project

Placer-Sacramento County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	374.00	Space	3.37	149,600.00	0
Fast Food Restaurant with Drive Thru	3.50	1000sqft	0.08	3,500.00	0
Apartments Mid Rise	185.00	Dwelling Unit	6.23	185,000.00	529
Single Family Housing	45.00	Dwelling Unit	5.40	81,000.00	129
Regional Shopping Center	6.20	1000sqft	0.14	6,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	74
Climate Zone	2			**Operational Year**	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Quarry Place Mixed Use Project - Placer-Sacramento County, Winter

Project Characteristics - PG&E, November 2015

Land Use - Approximately 15.22-acre site. 324 apartment parking spaces and 50 retail parking spaces.

Construction Phase - Approximately one month demolition followed by 64 weeks of construction. Architectural coating would be phased out between the different uses and the applicant estimates it would occur over a span of approximately 6 months.

Demolition -

Grading - 15.22 acre site, 9,500 cy of import

Vehicle Trips - K.D. Anderson, July 6, 2017. Fast Food Restauraunt trips reduced by 50% to account for 50% pass-by trips.

Woodstoves - no fireplaces or hearths

Energy Use - PG&E, November 2015

Water And Wastewater - A

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation - - Urban Center as project setting after discussion with Yushuo Change at PCAPCD, project is redeveloping an abandoned site
-Increase diversity: 230 dwelling units/ 15.22 acre site = 15.1 DU/acre
-Increase Transit Accessibility: project is a half mile from amtrak station
-Integrate Below Market Housing: 185 multi family units would be affordable housing, 185 DU/ 230 Total DUs = 80.4% of DUs below market rate

Energy Mitigation - 2016 Title 24 would be 28% more efficient than 2013. Per PCAPCD, Appendix D: Development of Efficiency Matrix, 2016

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstructionPhase	NumDays	20.00	120.00
tblConstructionPhase	NumDays	300.00	268.00
tblConstructionPhase	PhaseEndDate	10/23/2019	5/13/2019
tblConstructionPhase	PhaseEndDate	4/8/2019	4/15/2019
tblConstructionPhase	PhaseEndDate	4/4/2018	3/28/2018
tblConstructionPhase	PhaseEndDate	5/6/2019	5/13/2019
tblConstructionPhase	PhaseStartDate	5/7/2019	11/27/2018
tblConstructionPhase	PhaseStartDate	4/9/2019	4/16/2019
tblFireplaces	NumberGas	101.75	0.00
tblFireplaces	NumberGas	24.75	0.00

tblFireplaces	NumberNoFireplace	18.50	0.00
tblFireplaces	NumberNoFireplace	4.50	0.00
tblFireplaces	NumberWood	64.75	0.00
tblFireplaces	NumberWood	15.75	0.00
tblGrading	AcresOfGrading	75.00	15.22
tblGrading	AcresOfGrading	0.00	15.22
tblGrading	MaterialImported	0.00	9,500.00
tblLandUse	LotAcreage	4.87	6.23
tblLandUse	LotAcreage	14.61	5.40
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblProjectCharacteristics	OperationalYear	2018	2020
tblVehicleTrips	ST_TR	6.39	6.50
tblVehicleTrips	ST_TR	722.03	248.00
tblVehicleTrips	ST_TR	49.97	35.00
tblVehicleTrips	ST_TR	9.91	9.00
tblVehicleTrips	SU_TR	5.86	6.50
tblVehicleTrips	SU_TR	542.72	248.00
tblVehicleTrips	SU_TR	25.24	35.00
tblVehicleTrips	SU_TR	8.62	9.00
tblVehicleTrips	WD_TR	6.65	6.50
tblVehicleTrips	WD_TR	496.12	248.00
tblVehicleTrips	WD_TR	42.70	35.00
tblVehicleTrips	WD_TR	9.52	9.00
tblWoodstoves	NumberCatalytic	9.25	0.00
tblWoodstoves	NumberCatalytic	2.25	0.00
tblWoodstoves	NumberNoncatalytic	9.25	0.00
tblWoodstoves	NumberNoncatalytic	2.25	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	33.2529	72.2790	37.9610	0.0963	19.8282	2.6955	22.4061	10.1442	2.4821	12.5159	0.0000	9,825.6945	9,825.6945	2.0843	0.0000	9,877.8006
2019	32.7596	30.2418	28.1254	0.0641	2.4731	1.4728	3.9459	0.6638	1.3928	2.0566	0.0000	6,356.5720	6,356.5720	0.7975	0.0000	6,376.5094
Maximum	**33.2529**	**72.2790**	**37.9610**	**0.0963**	**19.8282**	**2.6955**	**22.4061**	**10.1442**	**2.4821**	**12.5159**	**0.0000**	**9,825.6945**	**9,825.6945**	**2.0843**	**0.0000**	**9,877.8006**

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					
2018	33.2529	72.2790	37.9610	0.0963	9.0040	2.6955	11.5819	4.5865	2.4821	6.9581	0.0000	9,825.6945	9,825.6945	2.0843	0.0000	9,877.8006
2019	32.7596	30.2418	28.1254	0.0641	2.4731	1.4728	3.9459	0.6638	1.3928	2.0566	0.0000	6,356.5720	6,356.5720	0.7975	0.0000	6,376.5094
Maximum	**33.2529**	**72.2790**	**37.9610**	**0.0963**	**9.0040**	**2.6955**	**11.5819**	**4.5865**	**2.4821**	**6.9581**	**0.0000**	**9,825.6945**	**9,825.6945**	**2.0843**	**0.0000**	**9,877.8006**

Quarry Place Mixed Use Project - Placer-Sacramento 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	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	48.54	0.00	41.08	51.42	0.00	38.14	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.4845	0.2206	19.0778	1.0000e-003		0.1048	0.1048		0.1048	0.1048	0.0000	34.2510	34.2510	0.0335	0.0000	35.0896
Energy	0.1264	1.0875	0.5136	6.8900e-003		0.0873	0.0873		0.0873	0.0873		1,378.9097	1,378.9097	0.0264	0.0253	1,387.1039
Mobile	4.5640	32.1282	52.5920	0.1659	12.3718	0.1889	12.5606	3.3154	0.1783	3.4937		16,808.9071	16,808.9071	0.8159		16,829.3039
Total	**12.1749**	**33.4362**	**72.1834**	**0.1738**	**12.3718**	**0.3811**	**12.7528**	**3.3154**	**0.3704**	**3.6859**	**0.0000**	**18,222.0678**	**18,222.0678**	**0.8758**	**0.0253**	**18,251.4974**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	7.4845	0.2206	19.0778	1.0000e-003		0.1048	0.1048		0.1048	0.1048	0.0000	34.2510	34.2510	0.0335	0.0000	35.0896
Energy	0.0981	0.8450	0.4037	5.3500e-003		0.0678	0.0678		0.0678	0.0678		1,070.5334	1,070.5334	0.0205	0.0196	1,076.8950
Mobile	4.2907	29.5318	46.7904	0.1412	10.2729	0.1613	10.4343	2.7530	0.1522	2.9052		14,311.0461	14,311.0461	0.7519		14,329.8445
Total	**11.8733**	**30.5973**	**66.2719**	**0.1476**	**10.2729**	**0.3339**	**10.6069**	**2.7530**	**0.3248**	**3.0778**	**0.0000**	**15,415.8305**	**15,415.8305**	**0.8060**	**0.0196**	**15,441.8291**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**2.48**	**8.49**	**8.19**	**15.09**	**16.96**	**12.36**	**16.83**	**16.96**	**12.30**	**16.50**	**0.00**	**15.40**	**15.40**	**7.97**	**22.35**	**15.39**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/2/2018	1/31/2018	5	20	
2	Site Preparation	Site Preparation	2/1/2018	2/14/2018	5	10	
3	Grading	Grading	2/15/2018	3/28/2018	5	30	
4	Building Construction	Building Construction	4/5/2018	4/15/2019	5	268	
5	Paving	Paving	4/16/2019	5/13/2019	5	20	
6	Architectural Coating	Architectural Coating	11/27/2018	5/13/2019	5	120	

Acres of Grading (Site Preparation Phase): 15.22

Acres of Grading (Grading Phase): 15.22

Acres of Paving: 3.37

Residential Indoor: 538,650; Residential Outdoor: 179,550; Non-Residential Indoor: 14,550; Non-Residential Outdoor: 4,850; Striped Parking Area: 8,976 (Architectural Coating – sqft)

OffRoad Equipment

Quarry Place Mixed Use Project - Placer-Sacramento County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	382.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	1,188.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	216.00	51.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	43.00	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 Demolition - 2018

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					4.1343	0.0000	4.1343	0.6260	0.0000	0.6260			0.0000			0.0000
Off-Road	3.7190	38.3225	22.3040	0.0388		1.9386	1.9386		1.8048	1.8048		3,871.7665	3,871.7665	1.0667		3,898.4344
Total	**3.7190**	**38.3225**	**22.3040**	**0.0388**	**4.1343**	**1.9386**	**6.0728**	**0.6260**	**1.8048**	**2.4308**		**3,871.7665**	**3,871.7665**	**1.0667**		**3,898.4344**

3.2 Demolition - 2018

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	0.1913	6.1199	1.0661	0.0158	0.3112	0.0293	0.3405	0.0860	0.0280	0.1140		1,652.4544	1,652.4544	0.0654		1,654.0883
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	0.0680	0.0517	0.4960	1.1700e-003	0.1232	8.1000e-004	0.1240	0.0327	7.5000e-004	0.0334		116.4262	116.4262	3.5800e-003		116.5157
Total	**0.2593**	**6.1715**	**1.5621**	**0.0169**	**0.4344**	**0.0301**	**0.4645**	**0.1187**	**0.0288**	**0.1474**		**1,768.8806**	**1,768.8806**	**0.0689**		**1,770.6039**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.8604	0.0000	1.8604	0.2817	0.0000	0.2817			0.0000			0.0000
Off-Road	3.7190	38.3225	22.3040	0.0388		1.9386	1.9386		1.8048	1.8048	0.0000	3,871.7665	3,871.7665	1.0667		3,898.4344
Total	**3.7190**	**38.3225**	**22.3040**	**0.0388**	**1.8604**	**1.9386**	**3.7990**	**0.2817**	**1.8048**	**2.0865**	**0.0000**	**3,871.7665**	**3,871.7665**	**1.0667**		**3,898.4344**

3.2 Demolition - 2018

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	0.1913	6.1199	1.0661	0.0158	0.3112	0.0293	0.3405	0.0860	0.0280	0.1140		1,652.4544	1,652.4544	0.0654		1,654.0883
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	0.0680	0.0517	0.4960	1.1700e-003	0.1232	8.1000e-004	0.1240	0.0327	7.5000e-004	0.0334		116.4262	116.4262	3.5800e-003		116.5157
Total	**0.2593**	**6.1715**	**1.5621**	**0.0169**	**0.4344**	**0.0301**	**0.4645**	**0.1187**	**0.0288**	**0.1474**		**1,768.8806**	**1,768.8806**	**0.0689**		**1,770.6039**

3.3 Site Preparation - 2018

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					19.6803	0.0000	19.6803	10.1050	0.0000	10.1050			0.0000			0.0000
Off-Road	4.5627	48.1988	22.4763	0.0380		2.5769	2.5769		2.3708	2.3708		3,831.6239	3,831.6239	1.1928		3,861.4448
Total	**4.5627**	**48.1988**	**22.4763**	**0.0380**	**19.6803**	**2.5769**	**22.2573**	**10.1050**	**2.3708**	**12.4757**		**3,831.6239**	**3,831.6239**	**1.1928**		**3,861.4448**

3.3 Site Preparation - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0816	0.0620	0.5952	1.4000e-003	0.1479	9.7000e-004	0.1488	0.0392	9.0000e-004	0.0401		139.7114	139.7114	4.3000e-003		139.8188
Total	**0.0816**	**0.0620**	**0.5952**	**1.4000e-003**	**0.1479**	**9.7000e-004**	**0.1488**	**0.0392**	**9.0000e-004**	**0.0401**		**139.7114**	**139.7114**	**4.3000e-003**		**139.8188**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.8562	0.0000	8.8562	4.5472	0.0000	4.5472			0.0000			0.0000
Off-Road	4.5627	48.1988	22.4763	0.0380		2.5769	2.5769		2.3708	2.3708	0.0000	3,831.6239	3,831.6239	1.1928		3,861.4448
Total	**4.5627**	**48.1988**	**22.4763**	**0.0380**	**8.8562**	**2.5769**	**11.4331**	**4.5472**	**2.3708**	**6.9180**	**0.0000**	**3,831.6239**	**3,831.6239**	**1.1928**		**3,861.4448**

3.3 Site Preparation - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0816	0.0620	0.5952	1.4000e-003	0.1479	9.7000e-004	0.1488	0.0392	9.0000e-004	0.0401		139.7114	139.7114	4.3000e-003		139.8188
Total	**0.0816**	**0.0620**	**0.5952**	**1.4000e-003**	**0.1479**	**9.7000e-004**	**0.1488**	**0.0392**	**9.0000e-004**	**0.0401**		**139.7114**	**139.7114**	**4.3000e-003**		**139.8188**

3.4 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5959	0.0000	6.5959	3.3737	0.0000	3.3737			0.0000			0.0000
Off-Road	5.0901	59.5218	35.0894	0.0620		2.6337	2.6337		2.4230	2.4230		6,244.4284	6,244.4284	1.9440		6,293.0278
Total	**5.0901**	**59.5218**	**35.0894**	**0.0620**	**6.5959**	**2.6337**	**9.2297**	**3.3737**	**2.4230**	**5.7968**		**6,244.4284**	**6,244.4284**	**1.9440**		**6,293.0278**

3.4 Grading - 2018

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	0.3967	12.6884	2.2102	0.0327	0.6928	0.0607	0.7535	0.1899	0.0581	0.2480		3,426.0312	3,426.0312	0.1355		3,429.4186
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0907	0.0689	0.6614	1.5600e-003	0.1643	1.0800e-003	0.1654	0.0436	9.9000e-004	0.0446		155.2349	155.2349	4.7700e-003		155.3542
Total	**0.4874**	**12.7572**	**2.8716**	**0.0343**	**0.8571**	**0.0618**	**0.9189**	**0.2335**	**0.0591**	**0.2926**		**3,581.2661**	**3,581.2661**	**0.1403**		**3,584.7728**

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					2.9682	0.0000	2.9682	1.5182	0.0000	1.5182			0.0000			0.0000
Off-Road	5.0901	59.5218	35.0894	0.0620		2.6337	2.6337		2.4230	2.4230	0.0000	6,244.4284	6,244.4284	1.9440		6,293.0278
Total	**5.0901**	**59.5218**	**35.0894**	**0.0620**	**2.9682**	**2.6337**	**5.6019**	**1.5182**	**2.4230**	**3.9412**	**0.0000**	**6,244.4284**	**6,244.4284**	**1.9440**		**6,293.0278**

3.4 Grading - 2018

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	0.3967	12.6884	2.2102	0.0327	0.6928	0.0607	0.7535	0.1899	0.0581	0.2480		3,426.0312	3,426.0312	0.1355		3,429.4186
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0907	0.0689	0.6614	1.5600e-003	0.1643	1.0800e-003	0.1654	0.0436	9.9000e-004	0.0446		155.2349	155.2349	4.7700e-003		155.3542
Total	**0.4874**	**12.7572**	**2.8716**	**0.0343**	**0.8571**	**0.0618**	**0.9189**	**0.2335**	**0.0591**	**0.2926**		**3,581.2661**	**3,581.2661**	**0.1403**		**3,584.7728**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099		2,620.9351	2,620.9351	0.6421		2,636.9883
Total	**2.6795**	**23.3900**	**17.5804**	**0.0269**		**1.4999**	**1.4999**		**1.4099**	**1.4099**		**2,620.9351**	**2,620.9351**	**0.6421**		**2,636.9883**

3.5 Building Construction - 2018

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	0.2642	6.9428	1.6726	0.0148	0.3455	0.0497	0.3951	0.0995	0.0475	0.1470		1,546.9447	1,546.9447	0.0923		1,549.2523
Worker	0.9792	0.7437	7.1428	0.0169	1.7744	0.0116	1.7860	0.4707	0.0107	0.4814		1,676.5372	1,676.5372	0.0515		1,677.8258
Total	**1.2434**	**7.6866**	**8.8153**	**0.0316**	**2.1198**	**0.0613**	**2.1811**	**0.5701**	**0.0582**	**0.6283**		**3,223.4818**	**3,223.4818**	**0.1439**		**3,227.0781**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099	0.0000	2,620.9351	2,620.9351	0.6421		2,636.9883
Total	**2.6795**	**23.3900**	**17.5804**	**0.0269**		**1.4999**	**1.4999**		**1.4099**	**1.4099**	**0.0000**	**2,620.9351**	**2,620.9351**	**0.6421**		**2,636.9883**

3.5 Building Construction - 2018

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	0.2642	6.9428	1.6726	0.0148	0.3455	0.0497	0.3951	0.0995	0.0475	0.1470		1,546.9447	1,546.9447	0.0923		1,549.2523
Worker	0.9792	0.7437	7.1428	0.0169	1.7744	0.0116	1.7860	0.4707	0.0107	0.4814		1,676.5372	1,676.5372	0.0515		1,677.8258
Total	**1.2434**	**7.6866**	**8.8153**	**0.0316**	**2.1198**	**0.0613**	**2.1811**	**0.5701**	**0.0582**	**0.6283**		**3,223.4818**	**3,223.4818**	**0.1439**		**3,227.0781**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635
Total	**2.3612**	**21.0788**	**17.1638**	**0.0269**		**1.2899**	**1.2899**		**1.2127**	**1.2127**		**2,591.5802**	**2,591.5802**	**0.6313**		**2,607.3635**

3.5 Building Construction - 2019

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	0.2332	6.5441	1.4970	0.0147	0.3455	0.0404	0.3858	0.0995	0.0386	0.1381		1,533.5175	1,533.5175	0.0878		1,535.7123
Worker	0.8860	0.6534	6.3577	0.0163	1.7744	0.0115	1.7859	0.4707	0.0106	0.4813		1,626.2768	1,626.2768	0.0455		1,627.4151
Total	**1.1191**	**7.1975**	**7.8547**	**0.0310**	**2.1198**	**0.0519**	**2.1717**	**0.5701**	**0.0492**	**0.6193**		**3,159.7943**	**3,159.7943**	**0.1333**		**3,163.1274**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635
Total	**2.3612**	**21.0788**	**17.1638**	**0.0269**		**1.2899**	**1.2899**		**1.2127**	**1.2127**	**0.0000**	**2,591.5802**	**2,591.5802**	**0.6313**		**2,607.3635**

3.5 Building Construction - 2019

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	0.2332	6.5441	1.4970	0.0147	0.3455	0.0404	0.3858	0.0995	0.0386	0.1381		1,533.5175	1,533.5175	0.0878		1,535.7123
Worker	0.8860	0.6534	6.3577	0.0163	1.7744	0.0115	1.7859	0.4707	0.0106	0.4813		1,626.2768	1,626.2768	0.0455		1,627.4151
Total	**1.1191**	**7.1975**	**7.8547**	**0.0310**	**2.1198**	**0.0519**	**2.1717**	**0.5701**	**0.0492**	**0.6193**		**3,159.7943**	**3,159.7943**	**0.1333**		**3,163.1274**

3.6 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586		2,257.0025	2,257.0025	0.7141		2,274.8548
Paving	0.4415					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.8959**	**15.2441**	**14.6648**	**0.0228**		**0.8246**	**0.8246**		**0.7586**	**0.7586**		**2,257.0025**	**2,257.0025**	**0.7141**		**2,274.8548**

3.6 Paving - 2019

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	0.0615	0.0454	0.4415	1.1300e-003	0.1232	8.0000e-004	0.1240	0.0327	7.4000e-004	0.0334		112.9359	112.9359	3.1600e-003		113.0149
Total	**0.0615**	**0.0454**	**0.4415**	**1.1300e-003**	**0.1232**	**8.0000e-004**	**0.1240**	**0.0327**	**7.4000e-004**	**0.0334**		**112.9359**	**112.9359**	**3.1600e-003**		**113.0149**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586	0.0000	2,257.0025	2,257.0025	0.7141		2,274.8548
Paving	0.4415					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.8959**	**15.2441**	**14.6648**	**0.0228**		**0.8246**	**0.8246**		**0.7586**	**0.7586**	**0.0000**	**2,257.0025**	**2,257.0025**	**0.7141**		**2,274.8548**

3.6 Paving - 2019

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	0.0615	0.0454	0.4415	1.1300e-003	0.1232	8.0000e-004	0.1240	0.0327	7.4000e-004	0.0334		112.9359	112.9359	3.1600e-003		113.0149
Total	**0.0615**	**0.0454**	**0.4415**	**1.1300e-003**	**0.1232**	**8.0000e-004**	**0.1240**	**0.0327**	**7.4000e-004**	**0.0334**		**112.9359**	**112.9359**	**3.1600e-003**		**113.0149**

3.7 Architectural Coating - 2018

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	28.8365					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171
Total	**29.1351**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**		**281.4485**	**281.4485**	**0.0267**		**282.1171**

3.7 Architectural Coating - 2018

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	0.1949	0.1481	1.4219	3.3500e-003	0.3532	2.3200e-003	0.3556	0.0937	2.1400e-003	0.0958		333.7551	333.7551	0.0103		334.0116
Total	**0.1949**	**0.1481**	**1.4219**	**3.3500e-003**	**0.3532**	**2.3200e-003**	**0.3556**	**0.0937**	**2.1400e-003**	**0.0958**		**333.7551**	**333.7551**	**0.0103**		**334.0116**

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	28.8365					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506	0.0000	281.4485	281.4485	0.0267		282.1171
Total	**29.1351**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**	**0.0000**	**281.4485**	**281.4485**	**0.0267**		**282.1171**

3.7 Architectural Coating - 2018

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	0.1949	0.1481	1.4219	3.3500e-003	0.3532	2.3200e-003	0.3556	0.0937	2.1400e-003	0.0958		333.7551	333.7551	0.0103		334.0116
Total	**0.1949**	**0.1481**	**1.4219**	**3.3500e-003**	**0.3532**	**2.3200e-003**	**0.3556**	**0.0937**	**2.1400e-003**	**0.0958**		**333.7551**	**333.7551**	**0.0103**		**334.0116**

3.7 Architectural Coating - 2019

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	28.8365					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423
Total	**29.1029**	**1.8354**	**1.8413**	**2.9700e-003**		**0.1288**	**0.1288**		**0.1288**	**0.1288**		**281.4481**	**281.4481**	**0.0238**		**282.0423**

3.7 Architectural Coating - 2019

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	0.1764	0.1301	1.2657	3.2500e-003	0.3532	2.2900e-003	0.3555	0.0937	2.1100e-003	0.0958		323.7495	323.7495	9.0600e-003		323.9762
Total	**0.1764**	**0.1301**	**1.2657**	**3.2500e-003**	**0.3532**	**2.2900e-003**	**0.3555**	**0.0937**	**2.1100e-003**	**0.0958**		**323.7495**	**323.7495**	**9.0600e-003**		**323.9762**

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	28.8365					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423
Total	**29.1029**	**1.8354**	**1.8413**	**2.9700e-003**		**0.1288**	**0.1288**		**0.1288**	**0.1288**	**0.0000**	**281.4481**	**281.4481**	**0.0238**		**282.0423**

3.7 Architectural Coating - 2019

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	0.1764	0.1301	1.2657	3.2500e-003	0.3532	2.2900e-003	0.3555	0.0937	2.1100e-003	0.0958		323.7495	323.7495	9.0600e-003		323.9762
Total	**0.1764**	**0.1301**	**1.2657**	**3.2500e-003**	**0.3532**	**2.2900e-003**	**0.3555**	**0.0937**	**2.1100e-003**	**0.0958**		**323.7495**	**323.7495**	**9.0600e-003**		**323.9762**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Transit Accessibility

Integrate Below Market Rate Housing

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	4.2907	29.5318	46.7904	0.1412	10.2729	0.1613	10.4343	2.7530	0.1522	2.9052		14,311.0461	14,311.0461	0.7519		14,329.8445
Unmitigated	4.5640	32.1282	52.5920	0.1659	12.3718	0.1889	12.5606	3.3154	0.1783	3.4937		16,808.9071	16,808.9071	0.8159		16,829.3039

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	1,202.50	1,202.50	1202.50	3,444,612	2,860,250
Fast Food Restaurant with Drive Thru	868.00	868.00	868.00	810,994	673,413
Parking Lot	0.00	0.00	0.00		
Regional Shopping Center	217.00	217.00	217.00	380,467	315,923
Single Family Housing	405.00	405.00	405.00	1,160,140	963,327
Total	2,692.50	2,692.50	2,692.50	5,796,213	4,812,913

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	29	21	50
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11
Single Family Housing	10.80	7.30	7.50	42.60	21.00	36.40	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	0.489257	0.041257	0.220156	0.132626	0.025790	0.006586	0.027831	0.045583	0.001467	0.001229	0.006102	0.000783	0.001333
Fast Food Restaurant with Drive Thru	0.489257	0.041257	0.220156	0.132626	0.025790	0.006586	0.027831	0.045583	0.001467	0.001229	0.006102	0.000783	0.001333
Apartments Mid Rise	0.489257	0.041257	0.220156	0.132626	0.025790	0.006586	0.027831	0.045583	0.001467	0.001229	0.006102	0.000783	0.001333
Single Family Housing	0.489257	0.041257	0.220156	0.132626	0.025790	0.006586	0.027831	0.045583	0.001467	0.001229	0.006102	0.000783	0.001333
Regional Shopping Center	0.489257	0.041257	0.220156	0.132626	0.025790	0.006586	0.027831	0.045583	0.001467	0.001229	0.006102	0.000783	0.001333

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0981	0.8450	0.4037	5.3500e-003		0.0678	0.0678		0.0678	0.0678		1,070.5334	1,070.5334	0.0205	0.0196	1,076.8950
NaturalGas Unmitigated	0.1264	1.0875	0.5136	6.8900e-003		0.0873	0.0873		0.0873	0.0873		1,378.9097	1,378.9097	0.0264	0.0253	1,387.1039

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					
Apartments Mid Rise	6526.28	0.0704	0.6014	0.2559	3.8400e-003		0.0486	0.0486		0.0486	0.0486		767.7980	767.7980	0.0147	0.0141	772.3606
Fast Food Restaurant with Drive Thru	1051.15	0.0113	0.1031	0.0866	6.2000e-004		7.8300e-003	7.8300e-003		7.8300e-003	7.8300e-003		123.6648	123.6648	2.3700e-003	2.2700e-003	124.3997
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	199.589	2.1500e-003	0.0196	0.0164	1.2000e-004		1.4900e-003	1.4900e-003		1.4900e-003	1.4900e-003		23.4811	23.4811	4.5000e-004	4.3000e-004	23.6206
Single Family Housing	3943.71	0.0425	0.3634	0.1547	2.3200e-003		0.0294	0.0294		0.0294	0.0294		463.9659	463.9659	8.8900e-003	8.5100e-003	466.7230
Total		**0.1264**	**1.0875**	**0.5136**	**6.9000e-003**		**0.0873**	**0.0873**		**0.0873**	**0.0873**		**1,378.9097**	**1,378.9097**	**0.0264**	**0.0253**	**1,387.1039**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	5.08026	0.0548	0.4682	0.1992	2.9900e-003		0.0379	0.0379		0.0379	0.0379		597.6773	597.6773	0.0115	0.0110	601.2290
Fast Food Restaurant with Drive Thru	0.941632	0.0102	0.0923	0.0776	5.5000e-004		7.0200e-003	7.0200e-003		7.0200e-003	7.0200e-003		110.7803	110.7803	2.1200e-003	2.0300e-003	111.4386
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Regional Shopping Center	0.145416	1.5700e-003	0.0143	0.0120	9.0000e-005		1.0800e-003	1.0800e-003		1.0800e-003	1.0800e-003		17.1078	17.1078	3.3000e-004	3.1000e-004	17.2095
Single Family Housing	2.93223	0.0316	0.2702	0.1150	1.7200e-003		0.0219	0.0219		0.0219	0.0219		344.9680	344.9680	6.6100e-003	6.3200e-003	347.0180
Total		**0.0981**	**0.8450**	**0.4038**	**5.3500e-003**		**0.0678**	**0.0678**		**0.0678**	**0.0678**		**1,070.5333**	**1,070.5333**	**0.0205**	**0.0196**	**1,076.8950**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.4845	0.2206	19.0778	1.0000e-003		0.1048	0.1048		0.1048	0.1048	0.0000	34.2510	34.2510	0.0335	0.0000	35.0896
Unmitigated	7.4845	0.2206	19.0778	1.0000e-003		0.1048	0.1048		0.1048	0.1048	0.0000	34.2510	34.2510	0.0335	0.0000	35.0896

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.9481					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.9530					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.5834	0.2206	19.0778	1.0000e-003		0.1048	0.1048		0.1048	0.1048		34.2510	34.2510	0.0335		35.0896
Total	**7.4845**	**0.2206**	**19.0778**	**1.0000e-003**		**0.1048**	**0.1048**		**0.1048**	**0.1048**	**0.0000**	**34.2510**	**34.2510**	**0.0335**	**0.0000**	**35.0896**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.9481					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.9530					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.5834	0.2206	19.0778	1.0000e-003		0.1048	0.1048		0.1048	0.1048		34.2510	34.2510	0.0335		35.0896
Total	**7.4845**	**0.2206**	**19.0778**	**1.0000e-003**		**0.1048**	**0.1048**		**0.1048**	**0.1048**	**0.0000**	**34.2510**	**34.2510**	**0.0335**	**0.0000**	**35.0896**

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation