Appendix C

Air Quality Technical Memorandum

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Memorandum

To	Reema Mahamood, Planning Department, City of San José	Pages	11
CC			
Subject	Gallup and Mesa Affordable Housing Project Air Quality Technical Memorandum		
From	Paola Peña, AECOM		
Date	March 30, 2020		

Introduction

This air quality memorandum was prepared to address potential air quality and greenhouse gas (GHG) impacts consistent with the National Environmental Policy Act (NEPA) review.

Project Description

The project site for proposed affordable housing units comprises two adjacent parcels at the intersection of the west side of Gallup Drive and the north side of Mesa Drive in the City of San José, Santa Clara County, California. The street address for each parcel of the project site is 1171 Mesa Drive and 5647 Gallup Drive.

The project applicant proposes to construct a five-story, approximately 55-foot-tall (excluding parapet, stairs, elevator room, and other rooftop accessories), 41,888 square-foot mixed-use affordable housing development on approximately 0.38 acres (16,576 square feet). The existing property previously contained structures but is currently vacant with grasses and scattered, mature redwood trees onsite. The proposed project would include 46 affordable residential units and service areas. Services include a neighborhood room, podium courtyard, residential community room, bike room, property management, mechanical, maintenance, and electrical rooms, mail room, an elevator, and stairs. An enclosed ground-floor garage and parallel parking spaces along an alley to the north would provide parking for project residents.

Project Construction

The proposed project would begin construction in November 2020. Construction is anticipated to take approximately 16 months. No demolition is proposed as there are no existing structures on-site. Construction staging and construction employee parking may be located in nearby parking lots and nearby streets.

Air Quality Background

Air quality is defined by the concentration of pollutants in relation to their impact on human health. Concentrations of air pollutants are determined by the rate and location of pollutant emissions released by pollution sources, and the atmosphere's ability to transport and dilute such emissions.

Natural factors that affect transport and dilution include terrain, wind, and sunlight. Therefore, ambient air quality conditions within the local air basin are influenced by natural factors such as topography, meteorology, and climate, in addition to the amount of air pollutant emissions released by existing air pollutant sources.

The Project site is located in Santa Clara County within the San Francisco Bay Area Air Basin (SFBAAB) under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD). Santa Clara County is south of the San Francisco Bay, with San Mateo and Alameda counties bordering it to the north, Santa Cruz County to the west, San Benito County to the south, and Stanislaus and Merced counties to the east. During thesummer, mostly clear skies result in warm daytime temperatures and cool nights. Winter are mild, except for very cool but generally frost-less mornings. Further inland where the moderating effect of the bay is not as strong, temperature extremes are greater. Wind patters are influenced by local terrain, with a northwesterly sea breeze typically developing during the daytime. Winds are usually stronger in the spring and summer. Rainfall amounts are modest, ranging from 13 inches in the lowlands to 29 inces in the hills.

Individual air pollutants at certain concentrations may adversely affect human or animal health, reduce visibility, damage property, and reduce the productivity or vigor of crops and natural vegetation. Six air pollutants have been identified by the United States Environmental Protection Agency (EPA) and the California Air Resources Board (ARB) as being of concern both on a nationwide and statewide level: ozone; carbon monoxide (CO); nitrogen dioxide (NO_2); sulfur dioxide (SO_2); lead; and particulate matter (PM), which is subdivided into two classes based on particle size: PM equal to or less than 10 micrometers in diameter (PM_{10}) and PM equal to or less than 2.5 micrometers in diameter ($PM_{2.5}$). Because the air quality standards for these air pollutants are regulated using human health and environmentally based criteria, they are commonly referred to as “criteria air pollutants.”

Ozene and $PM_{2.5}$, are the major regional air pollutants of concern in the San Francisco Bay Area. Ozone is primarily a problem in the summer, and $PM_{2.5}$ pollution in the winter. Most of Santa Clara County is well south of the cooler waters of the San Francisco Bay and far from the cooler mrine air which usually reaches across San Mateo County in summer. Ozone frequently forms on hot summer days when the prevailing seasonal northerly winds carry ozone precursors southward across the county, causing health standards tobe exceeded. Santa Clara County experiences many exceedances of the $PM_{2.5}$ standard each winter. This is due to the high population density, wood smoke, industrial and freeway traffic, and poor wintertime air circulation caused by extensive hills to the east and west that block wind flow into the region (BAAQMD 2017a).

Areas are classified under the Federal Clean Air Act and California Clean Air Act as attainment, non-attainment, or maintenance (previously non-attainment and currently attainment) for each criteria pollutant based on whether the federal and state air quality standards have been achieved. With respect to National Ambient Air Quality Standards (NAAQS), the SFBAAB is designated nonattainment area for ozone and $PM_{2.5}$, and as an attainment or unclassified area for all other pollutants. With respect to the California Ambient Air Quality Standards (CAAQS), the SFBAAB is designated as a nonattainment area for ozone, PM_{10}, and $PM_{2.5}$, and as an attainment area for all other pollutants (BAAQMD 2017b).

In addition to criteria air pollutants, EPA regulates hazardous air pollutants, also known as toxic air contaminants (TACs). TACs collectively refer to a diverse group of air pollutants that are capable of causing chronic (i.e., long-duration) and acute (i.e., severe but short-term) adverse effects on human health, including carcinogenic effects. TACs can be separated into carcinogens and noncarcinogens based on the nature of the effects associated with exposure to the pollutant.

The USEPA de minimis levels and the BAAQMD California Environmental Quality Act (CEQA) Air Quality Guidelines were consulted and used to inform environmental review. A federal action is exempt and considered to conform to the SIP if an applicability analysis shows that total direct and indirect emissions from construction and operation of the action would be less than specified emission-rate thresholds, known as de minimis levels. The de minimis levels are based on the attainment and nonattainment designations and classifications for the project area. If the emissions would exceed the de minimis levels, a formal air quality conformity determination is required. NEPA air quality significance differs from the General Conformity in that all criteria pollutant emissions are considered. Therefore, the NEPA analysis also includes attainment pollutants, as well as nonattainment pollutant emissions considered under General Conformity.

The BAAQMD CEQA Air Quality Guidelines are for informational purposes and should be followed by local governments at their own discretion (BAAQMD 2017). The CEQA Air Quality Guidelines may inform environmental review for development projects in the SFBAAB, but do not commit local governments or the BAAQMD to any specific course of regulatory action.

Greenhouse Gas and Climate Change Background

Certain gases in the earth's atmosphere, classified as greenhouse gases (GHG), play a critical role in determining the earth's surface temperature. A portion of the solar radiation that enters earth's atmosphere is absorbed by the earth's surface, and a smaller portion of this radiation is reflected back toward space. Infrared radiation is absorbed by GHGs; as a result, infrared radiation released from the earth that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the "greenhouse effect," is responsible for maintaining a habitable climate on Earth.

GHGs are present in the atmosphere naturally, are released by natural sources and anthropogenic sources, and are formed from secondary reactions taking place in the atmosphere. The following are GHGs that are widely accepted as the principal contributors to human-induced global climate change that are relevant to the Project:

- Carbon dioxide (CO_2)
- Methane (CH_4)
- Nitrous oxide (N_2O)

Emissions of CO_2 are byproducts of fossil fuel combustion. CH_4 is the main component of natural gas and is associated with agricultural practices and landfills. N_2O is a colorless GHG that results from industrial processes, vehicle emissions, and agricultural practices.

Global warming potential (GWP) is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to CO_2. The GWP of a GHG is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and length of time (i.e., lifetime) that the gas remains in the atmosphere ("atmospheric lifetime"). The reference gas for GWP is CO_2; therefore, CO_2 has a GWP of 1. The other main GHGs that have been attributed to human activity include CH_4, which has a GWP of 28, and N_2O, which has a GWP of 265 (IPCC 2013). For example, 1 ton of CH_4 has the same contribution to the greenhouse effect as approximately 28 tons of CO_2. GHGs with lower emissions rates than CO_2 may still contribute to climate change, because they are more effective at absorbing outgoing infrared radiation than CO_2 (i.e., high GWP). The concept of CO_2-equivalents (CO_2e) is used to account for the different GWP potentials of GHGs to absorb infrared radiation.

Air Quality Impacts

Criteria Pollutants

Construction and operational activities associated with the proposed project would generate emissions of criteria pollutants. Because ozone is not directly emitted, but instead formed through the photochemical processes involving precursor chemicals [i.e. nitrogen oxides (NOx) and reactive organic gases (ROG)] in the presence of sunlight, the precursor pollutants are those that are analyzed. Emissions were estimated for construction and operation using the California Emissions Estimator Model (CalEEMod), Version 2016.3.2. Construction activities are anticipated to consist of the following phases: site preparation, grading, building construction, paving, and architectural coatings. Construction of the proposed project is anticipated to occur over 16 months, with construction assumed to commence in 2020. The analysis assumed there would be a maximum of 100 workers during peak construction. The analysis also assumed grading quantities would be balanced on-site and no material export would be required.

As shown in Table 1, average daily and annual construction-related emissions would be less than the thresholds of significance recommended by the BAAQMD and the de minimis levels. The BAAQMD thresholds for construction-related particulate matter (PM) emissions are only applicable to exhaust-related PM. BAAQMD does not have quantitative mass emissions thresholds for fugitive PM_{10} and $PM_{2.5}$ dust. Instead, the BAAQMD recommends that all projects, regardless of the level of average daily emissions, implement applicable best management practices (BMPs), including those listed as Basic Construction Measures in the BAAQMD CEQA Guidelines (BAAQMD 2017). As such, and consistent with Policy MS-13.1 of the City of San José General Plan, implementation of construction Mitigation Measures have been included.

Therefore, construction-related emissions associated with the proposed project would conform to the State Implementation Plan, and a formal conformity analysis would not be required. No direct or indirect effects would occur.

Operational emissions following construction of the proposed project would be generated by area, energy, and mobile sources. The analysis assumed a stationary generator would not be required. Area sources would include consumer products, periodic architectural coatings and landscape maintenance equipment. Energy sources would include natural gas combustion for space and water heating in residences. Mobile sources would involve vehicle trips associated with residential activities (e.g., work, shopping, and other trips). According to the TIA, it is estimated that the proposed project would generate approximately 170 trips per day. The analysis assumed each trip would be approximately 9.75 miles in length, consistent with the vehicle miles traveled analysis (Fehr and Peers 2019). Operational emissions were also calculated using CalEEMod Version 2016.3.2. As shown in Table 3 below, the average daily and annual operational emissions associated with the proposed project would not exceed the thresholds of significance recommended by the BAAQMD and the de minimis levels. Therefore, operational emissions associated with the proposed project would conform to the State Implementation Plan, and a formal conformity analysis would not be required. No direct or indirect effects would occur.

Table 1
Summary of Average Daily and Annual Construction-Related Emissions

Source	Criteria Pollutant Emissions				
	ROG	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**
Average Daily Emissions (lbs/day) [1]	**2.81**	**9.20**	**11.51**	**0.48**	**0.44**
BAAQMD Average Daily Thresholds of Significance (lbs/day) [2]	54	54	-	82	54
Exceeds Significance Threshold?	No	No	No	No	No
2020 Construction Emissions (tons/year)	**0.17**	**1.10**	**1.35**	**0.23**	**0.10**
2021 Construction Emissions (tons/year)	**0.33**	**0.52**	**0.67**	**0.11**	**0.05**
BAAQMD Annual Thresholds of Significance (tons/year)	10	10	-	15	10
Exceeds Significance Threshold?	No	No	No	No	No
de Minimis Levels (tons/year)	100	100	100	100	100
Exceeds *de Minimis* Levels?	No	No	No	No	No

Notes:

BAAQMD = Bay Area Air Quality Management District; CO = carbon monoxide; lbs/day = pounds per day; NO_X = oxides of nitrogen; PM_{10} = respirable particulate matter with an aerodynamic diameter of 10 micrometers or less; $PM_{2.5}$ = fine particulate matter with an aerodynamic diameter of 2.5 micrometers or less; ROG = reactive organic gases; tons/year = tons per year

[1] Average daily emissions calculated assuming 22 work days per month, for 16 months. Please refer to Source Document (Appendix C) for additional modeling assumptions and outputs.

[2] BAAQMD PM_{10} and $PM_{2.5}$ thresholds are only applicable to exhaust emissions. As such, average daily emissions are exhaust-related only. Annual emissions shown for particulate matter include total emissions (exhaust and fugitive dust) for comparison with the *de minimis* levels.

Health Risks

According to BAAQMD, if a project is likely to be a place where people live, play, or convalesce or if sensitive individuals are likely to spend a significant amount of time there, it should be considered a receptor (BAAQMD 2017). Sensitive individuals refer to those segments of the population most susceptible to poor air quality: children, the elderly, and those with pre-existing serious health problems affected by air quality. Examples of receptors include residences, schools and school yards, parks and play grounds, daycare centers, nursing homes, and medical facilities.

Table 2
Summary of Average Daily and Annual Operational Emissions

Source	Criteria Pollutant Emissions				
	ROG	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**
Average Daily Operational Emissions (lbs/day)[1]	**1.24**	**1.39**	**5.71**	**1.26**	**0.36**
BAAQMD Average Daily Thresholds of Significance (lbs/day)[1]	54	54	-	82	54
Exceeds Significance Threshold?	No	No	No	No	No
Annual Operational Emissions (tons/year)	**0.23**	**0.25**	**1.04**	**0.23**	**0.07**
BAAQMD Annual Thresholds of Significance (tons/year)	10	10	-	15	10
Exceeds Significance Threshold?	No	No	No	No	No
de Minimis Levels (tons/year)	100	100	100	100	100
Exceeds *de Minimis* Levels?	No	No	No	No	No

Notes:

BAAQMD = Bay Area Air Quality Management District; CO = carbon monoxide; lbs/day = pounds per day; NO_X = oxides of nitrogen; PM_{10} = respirable particulate matter with an aerodynamic diameter of 10 micrometers or less; $PM_{2.5}$ = fine particulate matter with an aerodynamic diameter of 2.5 micrometers or less; ROG = reactive organic gases; tons/year = tons per year

[1]Average daily emissions calculated using annual emissions divided by 365 operational days in a year. Please refer to Appendix A for additional modeling assumptions and outputs.

The nearest sensitive receptors to the project site are the immediately adjacent multi-family residences. The greatest potential for TAC emissions during construction of the proposed project would be related to diesel PM emissions generated by heavy-duty construction equipment. According to the Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments that determine the health risks associated with exposure of residential receptors to TAC emissions should be based on a 30-year exposure period (OEHHA 2015). However, health risk assessments should be limited to the period/duration of emissions-generating activity. Emissions would occur intermittently throughout the construction period and would not occur as a constant plume of emissions from the project site. Given the construction schedule, varying buffer distances to the nearest sensitive receptors as construction moves across the project site, and the highly dispersive nature of diesel PM emissions, construction of the project would not expose sensitive receptors to substantial TAC concentrations. Consistent with Policy MS-13.1 of the City of

San Jose General Plan, implementation of the BAAQMD's basic construction practices for construction-related emissions would also reduce diesel PM emissions during construction by minimizing vehicle idling and maintaining construction equipment properly tuned in accordance with manufacturer's specifications (BAAQMD 2017).

Operation of the proposed project would involve residential land uses that would not be a substantial source of TAC and/or PM2.5 emissions. In addition, new traffic generated by the proposed project would be approximately 170 trips per day given the higher rate of transit use and lower-than-average vehicle ownership rates typical of affordable housing for seniors. The closest source of TAC and/or PM2.5 emissions within 1,000 feet of the proposed site would be a gas station located approximately 875 feet northeast of the project site (BAAQMD Stationary Source Screening Analysis Tool, Santa Clara 2012). According to BAAQMD's Gasoline Dispensing Facility Distance Multiplier Tool, the cancer risk approximately 875 feet away from a gasoline dispensing facility would be 0.44 in a million, which is below BAAQMD's recommended significance threshold of a cancer risk greater than 100 in a million. The Screening Analysis also estimates the chronic hazard index at this distance from a gasoline dispensing facility to be 0.0006, which is also below the BAAQMD's cumulative significance threshold of 10. Therefore, construction and operation of the proposed project would not result in a direct impact requiring mitigation with respect to health risks. No adverse effects would occur.

Carbon Monoxide

The BAAQMD has developed screening criteria to provide lead agencies and project applicants with a conservative indication of whether the implementation of the proposed project would result in CO emissions that exceed the significance criteria for CO hotspots (9.0 parts per million [ppm] [8-hour average] and 20.0 ppm [1-hour average]). The proposed project would not increase traffic volumes at affected intersection to more than 44,000 vehicles per hour (the project would generate approximately 12 vehicle trips during the PM peak hour and existing volumes in the PM peak hour are approximately 138 vehicles on Gallup Drive [Fehr & Peers 2019]). Therefore, the proposed project would not violate the California Ambient Air Quality Standards (CAAQS) for either the 1-hour period (20 ppm) or the 8-hour period (9.0 ppm). Since the CAAQS CO concentrations are more conservative than the NAAQS, the proposed project would also not violate the NAAQS of 35 ppm for 1-hour period and 9 ppm for 8-hour period (9 ppm). As a result, direct or indirect effects associated with CO emissions would not be adverse.

Greenhouse Gas Emissions

On August 1, 2016, the CEQ released final guidance that applies to all proposed federal agency actions, including land and resource management actions, which explains that agencies should consider both the potential effects of a proposed action on climate change, as indicated by its estimated GHG emissions, and the implications of climate change for the environmental effects of a proposed action (CEQ 2016). However, this guidance was revoked by EO 13783, Promoting Energy Independence and Economic Growth, on April 5, 2017. As noted in the FR notice withdrawing the 2016 Final Guidance, the withdrawal of the guidance does not change any law, regulation, or other legally binding requirement (CEQ 2017).

On June 26, 2019, the CEQ released draft NEPA guidance on Consideration of GHG Emissions for public comment. This draft NEPA Guidance, if finalized, would replace the final guidance CEQ issued on August 1, 2016 (CEQ 2019). The draft guidance has not been adopted at the time of this analysis. Since there are no formally adopted NEPA quantitative thresholds of significance for GHG emissions, the analysis relies upon the Mandatory GHG Reporting Rule annual threshold of 25,000 metric tons carbon dioxide equivalent (MT CO2e) and annual BAAQMD threshold of 1,100 MT CO2e (or 4.6 MT CO2e per service population per year) for operations.

As shown in Table 4 below, construction and operational GHG emissions are projected to result in total annual GHG emissions of 301 MT CO2e per year. The proposed project's annual emissions would be below the BAAQMD and Reporting Rule threshold. As a result, no substantial adverse direct or indirect effects would occur. Therefore, the proposed project would not generate GHG emissions that may have a cumulatively considerable contribution to the significant cumulative impact of global climate change.

Table 3:
Estimated Annual GHG Emissions

Emissions Source	**MT CO_2e**
Area	2
Energy	44
Mobile	224
Waste	11
Water	6
Total Operational Emissions	**287**
Amortized Construction Emissions [1]	14
Total	**301**
BAAQMD GHG Emissions Threshold	1,100
Exceeds Threshold?	No
Emissions (MT CO_2e) Per Service Population [2]	2.8
Service Population Threshold	4.6
Exceeds Threshold?	No

Notes: Totals may not add due to rounding; MT CO_2e = metric tons carbon dioxide equivalent.
[1] Construction emissions were amortized over the lifetime of the project (assumed to be 30 years) and added to the annual operational emissions. Total construction emissions estimated to be 408 MT CO_2e.
[2] Calculated by dividing the total GHG emissions associated with the project by the service population (i.e., the number of residents provided by the project [108]).
Please refer to Appendix A for additional modeling assumptions and outputs.

Mitigation Measures

Consistent with Policy MS-13.1 of the City of San José General Plan, implementation of the BAAQMD's basic construction practices would be required as Mitigation Measures for project as described below.

Construction-Related Air Pollution Controls (Dust and Equipment Emissions)

The project applicant shall implement all of the following applicable air pollution control measures during construction of the project:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered 2 times per day.
- All haul trucks transporting soil, sand, or other loose material shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 miles per hour.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads will be laid as soon as possible after grading, unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or by reducing the maximum idling time to 5 minutes (as required by California airborne toxics control measure Title 13, Section 2485 of the California Code of Regulations). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment will be checked by a certified visible emissions evaluator.
- A publicly visible sign shall be posted at the project site with the telephone number and person to contact regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's phone number also shall be visibly posted, for compliance with applicable regulations.

References

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Appendix A

Air Quality Data

Gallup and Mesa Apartments - Air Quality
Emissions Summary - Construction and Operations

Summary of Average Daily and Annual Construction-Related Emissions					
Source	**Criteria Pollutant Emissions**				
	ROG	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**
Average Daily Emissions (lbs/day)	**2.81**	**9.20**	**11.51**	**0.48**	**0.44**
2020 Construction Emissions (tons/year)	**0.17**	**1.10**	**1.35**	**0.23**	**0.10**
2021 Construction Emissions (tons/year)	**0.33**	**0.52**	**0.67**	**0.11**	**0.05**
Note: Average daily PM emissions shown for exhaust-related sources only. Annual PM emissions include fugitive and exhaust PM.					

Assumptions:

Construction work days	352
Construction duration	16 months
Construction work days per month	22

Summary of Average Daily and Annual Operational Emissions					
Source	**Criteria Pollutant Emissions**				
	ROG	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**
Average Daily Operational Emissions (lbs/day)	1.24	1.39	5.71	1.26	0.36
Annual Operational Emissions (tons/year)	0.23	0.25	1.04	0.23	0.07
Note: Average daily emissions calculated using annual emissions divided by 365 operational days in a year.					

How to Use the Distance Adjustment Multiplier Tool for Gasoline Dispensing Facilities (GDF)

This distance multiplier tool refines the screening values for cancer risk and chronic hazard index found in the District's Stationary Source Screening Analysis Tool to represent adjusted risk and hazard impacts that can be expected with farther distances from the source of emissions (GDF's).

Source: G12270

1. Obtain the GDF cancer risk and/or chronic hazard index from the District's Stationary Source Screening Analysis tool for facilities where the Plant No. is preceded with a 'G'. If the distance to the nearest receptor is less than 20 meters, the distance adjustment multiplier table cannot be used and an air dispersion modeling analysis using site-specific information is needed to refine the cancer risk and/or chronic hazard index estimate.

2. Determine the shortest distance from the GDF to the nearest receptor.

3. In the table below, enter the cancer risk and/or chronic hazard index found in step 1 for the GDF in the row which aligns with the shortest distance from each GDF to the nearest receptor (found in step 2). If the shortest distance to the receptor falls between two distance values, select the multiplier corresponding to the smaller distance. For distances beyond 300 meters, use the multiplier 0.015. The resulting product is the adjusted cancer risk in a million or the adjusted chronic hazard index for the GDF.

Note: These distance adjustment multipliers may be used only for the screening level health risk values indicated in the District's Stationary Source Screening Analysis tool for gasoline dispensing facilities. This distance multiplier tool may not be used to adjust values from an HRA if an HRA for the facility was conducted.

Distance meters	Distance feet	Distance adjustment multiplier	Enter Cancer Risk	Adjusted Cancer Risk	Enter Chronic Hazard Index	Adjusted Chronic Hazard Index
20	66	1.000		0		0
25	82	0.728		0		0
30	98	0.559		0		0
35	115	0.445		0		0
40	131	0.365		0		0
45	148	0.305		0		0
50	164	0.260		0		0
55	180	0.225		0		0
60	197	0.197		0		0
65	213	0.174		0		0
70	230	0.155		0		0
75	246	0.139		0		0
80	262	0.126		0		0
85	279	0.114		0		0
90	295	0.104		0		0
95	312	0.096		0		0
100	328	0.088		0		0
105	344	0.082		0		0
110	361	0.076		0		0
115	377	0.071		0		0
120	394	0.066		0		0
125	410	0.062		0		0
130	426	0.058		0		0
135	443	0.055		0		0
140	459	0.052		0		0
145	476	0.049		0		0
150	492	0.046		0		0
155	508	0.044		0		0
160	525	0.042		0		0
165	541	0.040		0		0
170	558	0.038		0		0
175	574	0.036		0		0
180	590	0.034		0		0
185	607	0.033		0		0
190	623	0.031		0		0
195	640	0.030		0		0
200	656	0.029		0		0
205	672	0.028		0		0
210	689	0.027		0		0
215	705	0.026		0		0
220	722	0.025		0		0
225	738	0.024		0		0
230	754	0.023		0		0
235	771	0.022		0		0
240	787	0.022		0		0
245	804	0.021		0		0
250	820	0.020		0		0
255	836	0.020		0		0
260	853	0.019		0		0
265	869	0.018	24.391	0.446852215	0.032	0.000586252
270	886	0.018		0		0
275	902	0.017		0		0
280	918	0.017		0		0
285	935	0.016		0		0
290	951	0.016		0		0
295	968	0.015		0		0
300	984	0.015		0		0

Gallup and Mesa Apartments Project

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	46.00	Dwelling Unit	0.38	35,088.00	108
Enclosed Parking with Elevator	19.00	Space	0.00	6,800.00	0
Parking Lot	6.00	Space	0.05	3,560.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	210	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Updated CO2 intensity factor to 2017 carbon intensity based on PG&E 2019 Corporate Responsibility and Sustainability Report.

Land Use - Residential square footage includes residential space, circulation, lobbies, neighborhood room, and building services spaces. Acreage for parking garage included within acreage of residential land use. Parking lot to account for additional 6 parallel parking spaces.

Construction Phase - Default construction phasing durations scaled up to acount for 16 month construction schedule.

Off-road Equipment - Default equipment.

Off-road Equipment - Default equipment.

Off-road Equipment - Default equipment.

Off-road Equipment - Default equipment.

Off-road Equipment - Default equipment.

Grading - Default acres graded. Assumes balanced cut/fill.

Trips and VMT - Maximum of 100 workers during peak construction, assumed to be building construction phase. Default trips for remaining phases. Included additional water truck trips during grading.

Vehicle Trips - Based on Transportation Analysis Report: 170 daily inbound and outbound trips, using a 9.75-mile trip length from the VMT analysis.

Woodstoves - Assumes no woodstoves or wood-burning fireplaces per BAAQMD Regulation 6, Rule 3, Wood Burning Devices.

Energy Use -

Water And Wastewater - Default water consumption estimates used, more conservative than the indoor water usage factor of 62.9 gallons per day per residential customer.

Construction Off-road Equipment Mitigation - Assumes watering per BAAQMD BMPs.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	15.00
tblConstructionPhase	NumDays	100.00	310.00
tblConstructionPhase	NumDays	2.00	6.00
tblConstructionPhase	NumDays	5.00	15.00
tblConstructionPhase	NumDays	1.00	3.00
tblConstructionPhase	PhaseEndDate	8/19/2020	7/1/2021
tblConstructionPhase	PhaseEndDate	8/5/2020	5/20/2021
tblConstructionPhase	PhaseEndDate	3/18/2020	3/12/2020
tblConstructionPhase	PhaseEndDate	8/12/2020	6/10/2021

tblConstructionPhase	PhaseEndDate	3/16/2020	3/4/2020
tblConstructionPhase	PhaseStartDate	8/13/2020	6/11/2021
tblConstructionPhase	PhaseStartDate	3/19/2020	3/13/2020
tblConstructionPhase	PhaseStartDate	3/17/2020	3/5/2020
tblConstructionPhase	PhaseStartDate	8/6/2020	5/21/2021
tblConstructionPhase	PhaseStartDate	3/14/2020	3/2/2020
tblFireplaces	NumberGas	6.90	15.00
tblFireplaces	NumberWood	7.82	0.00
tblGrading	AcresOfGrading	1.50	0.50
tblLandUse	LandUseSquareFeet	46,000.00	35,088.00
tblLandUse	LandUseSquareFeet	7,600.00	6,800.00
tblLandUse	LandUseSquareFeet	2,400.00	3,560.00
tblLandUse	LotAcreage	1.21	0.38
tblLandUse	LotAcreage	0.17	0.00
tblLandUse	Population	132.00	108.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	210
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripNumber	37.00	200.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	HO_TL	5.70	9.75
tblVehicleTrips	HS_TL	4.80	9.75
tblVehicleTrips	HW_TL	10.80	9.75
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00
tblVehicleTrips	ST_TR	6.39	3.70
tblVehicleTrips	SU_TR	5.86	3.70
tblVehicleTrips	WD_TR	6.65	3.70

tblWoodstoves	NumberCatalytic	0.92	0.00
tblWoodstoves	NumberNoncatalytic	0.92	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					
2020	0.1669	1.1003	1.3537	3.0300e-003	0.1743	0.0583	0.2325	0.0471	0.0537	0.1007	0.0000	271.9290	271.9290	0.0394	0.0000	272.9136
2021	0.3276	0.5188	0.6726	1.5100e-003	0.0831	0.0263	0.1094	0.0222	0.0243	0.0465	0.0000	134.9516	134.9516	0.0203	0.0000	135.4586
Maximum	**0.3276**	**1.1003**	**1.3537**	**3.0300e-003**	**0.1743**	**0.0583**	**0.2325**	**0.0471**	**0.0537**	**0.1007**	**0.0000**	**271.9290**	**271.9290**	**0.0394**	**0.0000**	**272.9136**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.1669	1.1003	1.3537	3.0300e-003	0.1729	0.0583	0.2311	0.0464	0.0537	0.1000	0.0000	271.9289	271.9289	0.0394	0.0000	272.9135
2021	0.3276	0.5188	0.6726	1.5100e-003	0.0831	0.0263	0.1094	0.0222	0.0243	0.0465	0.0000	134.9515	134.9515	0.0203	0.0000	135.4586
Maximum	**0.3276**	**1.1003**	**1.3537**	**3.0300e-003**	**0.1729**	**0.0583**	**0.2311**	**0.0464**	**0.0537**	**0.1000**	**0.0000**	**271.9289**	**271.9289**	**0.0394**	**0.0000**	**272.9135**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.54**	**0.00**	**0.41**	**1.00**	**0.00**	**0.48**	**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	**3-2-2020**	**6-1-2020**	0.3737	0.3737
2	**6-2-2020**	**9-1-2020**	0.3828	0.3828
3	**9-2-2020**	**12-1-2020**	0.3819	0.3819
4	**12-2-2020**	**3-1-2021**	0.3547	0.3547
5	**3-2-2021**	**6-1-2021**	0.3343	0.3343
6	**6-2-2021**	**9-1-2021**	0.2868	0.2868
		Highest	0.3828	0.3828

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1732	5.5700e-003	0.3432	3.0000e-005		2.0200e-003	2.0200e-003		2.0200e-003	2.0200e-003	0.0000	2.4310	2.4310	5.8000e-004	3.0000e-005	2.4556
Energy	2.1400e-003	0.0183	7.7900e-003	1.2000e-004		1.4800e-003	1.4800e-003		1.4800e-003	1.4800e-003	0.0000	43.2112	43.2112	3.4500e-003	1.0200e-003	43.6005
Mobile	0.0502	0.2306	0.6907	2.4500e-003	0.2244	2.0800e-003	0.2264	0.0601	1.9400e-003	0.0620	0.0000	223.9968	223.9968	7.2500e-003	0.0000	224.1780
Waste						0.0000	0.0000		0.0000	0.0000	4.2953	0.0000	4.2953	0.2538	0.0000	10.6414
Water						0.0000	0.0000		0.0000	0.0000	0.9508	2.1747	3.1255	0.0980	2.3700e-003	6.2802
Total	**0.2255**	**0.2545**	**1.0417**	**2.6000e-003**	**0.2244**	**5.5800e-003**	**0.2299**	**0.0601**	**5.4400e-003**	**0.0655**	**5.2461**	**271.8136**	**277.0597**	**0.3631**	**3.4200e-003**	**287.1557**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1732	5.5700e-003	0.3432	3.0000e-005		2.0200e-003	2.0200e-003		2.0200e-003	2.0200e-003	0.0000	2.4310	2.4310	5.8000e-004	3.0000e-005	2.4556
Energy	2.1400e-003	0.0183	7.7900e-003	1.2000e-004		1.4800e-003	1.4800e-003		1.4800e-003	1.4800e-003	0.0000	43.2112	43.2112	3.4500e-003	1.0200e-003	43.6005
Mobile	0.0502	0.2306	0.6907	2.4500e-003	0.2244	2.0800e-003	0.2264	0.0601	1.9400e-003	0.0620	0.0000	223.9968	223.9968	7.2500e-003	0.0000	224.1780
Waste						0.0000	0.0000		0.0000	0.0000	4.2953	0.0000	4.2953	0.2538	0.0000	10.6414
Water						0.0000	0.0000		0.0000	0.0000	0.9508	2.1747	3.1255	0.0980	2.3700e-003	6.2802
Total	**0.2255**	**0.2545**	**1.0417**	**2.6000e-003**	**0.2244**	**5.5800e-003**	**0.2299**	**0.0601**	**5.4400e-003**	**0.0655**	**5.2461**	**271.8136**	**277.0597**	**0.3631**	**3.4200e-003**	**287.1557**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	3/2/2020	3/4/2020	5	3	
2	Grading	Grading	3/5/2020	3/12/2020	5	6	
3	Building Construction	Building Construction	3/13/2020	5/20/2021	5	310	
4	Paving	Paving	5/21/2021	6/10/2021	5	15	
5	Architectural Coating	Architectural Coating	6/11/2021	7/1/2021	5	15	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.05

Residential Indoor: 71,053; Residential Outdoor: 23,684; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 622 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

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

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	200.00	7.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	7.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0300e-003	0.0127	6.1400e-003	1.0000e-005		5.0000e-004	5.0000e-004		4.6000e-004	4.6000e-004	0.0000	1.2839	1.2839	4.2000e-004	0.0000	1.2943
Total	**1.0300e-003**	**0.0127**	**6.1400e-003**	**1.0000e-005**	**2.7000e-004**	**5.0000e-004**	**7.7000e-004**	**3.0000e-005**	**4.6000e-004**	**4.9000e-004**	**0.0000**	**1.2839**	**1.2839**	**4.2000e-004**	**0.0000**	**1.2943**

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	2.0000e-005	2.0000e-005	1.9000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0510	0.0510	0.0000	0.0000	0.0510
Total	**2.0000e-005**	**2.0000e-005**	**1.9000e-004**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0510**	**0.0510**	**0.0000**	**0.0000**	**0.0510**

3.2 Site Preparation - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.2000e-004	0.0000	1.2000e-004	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0300e-003	0.0127	6.1400e-003	1.0000e-005		5.0000e-004	5.0000e-004		4.6000e-004	4.6000e-004	0.0000	1.2839	1.2839	4.2000e-004	0.0000	1.2943
Total	**1.0300e-003**	**0.0127**	**6.1400e-003**	**1.0000e-005**	**1.2000e-004**	**5.0000e-004**	**6.2000e-004**	**1.0000e-005**	**4.6000e-004**	**4.7000e-004**	**0.0000**	**1.2839**	**1.2839**	**4.2000e-004**	**0.0000**	**1.2943**

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	2.0000e-005	2.0000e-005	1.9000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0510	0.0510	0.0000	0.0000	0.0510
Total	**2.0000e-005**	**2.0000e-005**	**1.9000e-004**	**0.0000**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0510**	**0.0510**	**0.0000**	**0.0000**	**0.0510**

3.3 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.2600e-003	0.0000	2.2600e-003	1.2400e-003	0.0000	1.2400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6000e-003	0.0236	0.0229	4.0000e-005		1.4000e-003	1.4000e-003		1.3400e-003	1.3400e-003	0.0000	3.1223	3.1223	5.9000e-004	0.0000	3.1370
Total	**2.6000e-003**	**0.0236**	**0.0229**	**4.0000e-005**	**2.2600e-003**	**1.4000e-003**	**3.6600e-003**	**1.2400e-003**	**1.3400e-003**	**2.5800e-003**	**0.0000**	**3.1223**	**3.1223**	**5.9000e-004**	**0.0000**	**3.1370**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	6.8000e-004	1.8000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1569	0.1569	1.0000e-005	0.0000	0.1571
Worker	1.0000e-004	7.0000e-005	7.5000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2040	0.2040	1.0000e-005	0.0000	0.2042
Total	**1.2000e-004**	**7.5000e-004**	**9.3000e-004**	**0.0000**	**2.8000e-004**	**0.0000**	**2.8000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.3609**	**0.3609**	**2.0000e-005**	**0.0000**	**0.3612**

3.3 Grading - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0200e-003	0.0000	1.0200e-003	5.6000e-004	0.0000	5.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6000e-003	0.0236	0.0229	4.0000e-005		1.4000e-003	1.4000e-003		1.3400e-003	1.3400e-003	0.0000	3.1223	3.1223	5.9000e-004	0.0000	3.1370
Total	**2.6000e-003**	**0.0236**	**0.0229**	**4.0000e-005**	**1.0200e-003**	**1.4000e-003**	**2.4200e-003**	**5.6000e-004**	**1.3400e-003**	**1.9000e-003**	**0.0000**	**3.1223**	**3.1223**	**5.9000e-004**	**0.0000**	**3.1370**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.0000e-005	6.8000e-004	1.8000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1569	0.1569	1.0000e-005	0.0000	0.1571
Worker	1.0000e-004	7.0000e-005	7.5000e-004	0.0000	2.4000e-004	0.0000	2.4000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2040	0.2040	1.0000e-005	0.0000	0.2042
Total	**1.2000e-004**	**7.5000e-004**	**9.3000e-004**	**0.0000**	**2.8000e-004**	**0.0000**	**2.8000e-004**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**0.0000**	**0.3609**	**0.3609**	**2.0000e-005**	**0.0000**	**0.3612**

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0905	0.9295	0.7757	1.2000e-003		0.0549	0.0549		0.0505	0.0505	0.0000	105.0635	105.0635	0.0340	0.0000	105.9130
Total	**0.0905**	**0.9295**	**0.7757**	**1.2000e-003**		**0.0549**	**0.0549**		**0.0505**	**0.0505**	**0.0000**	**105.0635**	**105.0635**	**0.0340**	**0.0000**	**105.9130**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.9100e-003	0.0837	0.0223	2.0000e-004	4.8400e-003	4.1000e-004	5.2500e-003	1.4000e-003	4.0000e-004	1.7900e-003	0.0000	19.2160	19.2160	8.8000e-004	0.0000	19.2381
Worker	0.0698	0.0501	0.5256	1.5800e-003	0.1666	1.0800e-003	0.1676	0.0443	9.9000e-004	0.0453	0.0000	142.8314	142.8314	3.5000e-003	0.0000	142.9190
Total	**0.0727**	**0.1338**	**0.5478**	**1.7800e-003**	**0.1714**	**1.4900e-003**	**0.1729**	**0.0457**	**1.3900e-003**	**0.0471**	**0.0000**	**162.0474**	**162.0474**	**4.3800e-003**	**0.0000**	**162.1571**

3.4 Building Construction - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0905	0.9295	0.7757	1.2000e-003		0.0549	0.0549		0.0505	0.0505	0.0000	105.0634	105.0634	0.0340	0.0000	105.9129
Total	**0.0905**	**0.9295**	**0.7757**	**1.2000e-003**		**0.0549**	**0.0549**		**0.0505**	**0.0505**	**0.0000**	**105.0634**	**105.0634**	**0.0340**	**0.0000**	**105.9129**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.9100e-003	0.0837	0.0223	2.0000e-004	4.8400e-003	4.1000e-004	5.2500e-003	1.4000e-003	4.0000e-004	1.7900e-003	0.0000	19.2160	19.2160	8.8000e-004	0.0000	19.2381
Worker	0.0698	0.0501	0.5256	1.5800e-003	0.1666	1.0800e-003	0.1676	0.0443	9.9000e-004	0.0453	0.0000	142.8314	142.8314	3.5000e-003	0.0000	142.9190
Total	**0.0727**	**0.1338**	**0.5478**	**1.7800e-003**	**0.1714**	**1.4900e-003**	**0.1729**	**0.0457**	**1.3900e-003**	**0.0471**	**0.0000**	**162.0474**	**162.0474**	**4.3800e-003**	**0.0000**	**162.1571**

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0388	0.3993	0.3632	5.7000e-004		0.0224	0.0224		0.0206	0.0206	0.0000	50.0410	50.0410	0.0162	0.0000	50.4456
Total	**0.0388**	**0.3993**	**0.3632**	**5.7000e-004**		**0.0224**	**0.0224**		**0.0206**	**0.0206**	**0.0000**	**50.0410**	**50.0410**	**0.0162**	**0.0000**	**50.4456**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1400e-003	0.0360	9.5700e-003	9.0000e-005	2.3000e-003	8.0000e-005	2.3800e-003	6.7000e-004	8.0000e-005	7.4000e-004	0.0000	9.0660	9.0660	4.0000e-004	0.0000	9.0759
Worker	0.0308	0.0213	0.2288	7.3000e-004	0.0793	5.0000e-004	0.0798	0.0211	4.6000e-004	0.0216	0.0000	65.6542	65.6542	1.4900e-003	0.0000	65.6915
Total	**0.0320**	**0.0573**	**0.2383**	**8.2000e-004**	**0.0816**	**5.8000e-004**	**0.0822**	**0.0218**	**5.4000e-004**	**0.0223**	**0.0000**	**74.7202**	**74.7202**	**1.8900e-003**	**0.0000**	**74.7674**

3.4 Building Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0388	0.3993	0.3632	5.7000e-004		0.0224	0.0224		0.0206	0.0206	0.0000	50.0410	50.0410	0.0162	0.0000	50.4456
Total	**0.0388**	**0.3993**	**0.3632**	**5.7000e-004**		**0.0224**	**0.0224**		**0.0206**	**0.0206**	**0.0000**	**50.0410**	**50.0410**	**0.0162**	**0.0000**	**50.4456**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1400e-003	0.0360	9.5700e-003	9.0000e-005	2.3000e-003	8.0000e-005	2.3800e-003	6.7000e-004	8.0000e-005	7.4000e-004	0.0000	9.0660	9.0660	4.0000e-004	0.0000	9.0759
Worker	0.0308	0.0213	0.2288	7.3000e-004	0.0793	5.0000e-004	0.0798	0.0211	4.6000e-004	0.0216	0.0000	65.6542	65.6542	1.4900e-003	0.0000	65.6915
Total	**0.0320**	**0.0573**	**0.2383**	**8.2000e-004**	**0.0816**	**5.8000e-004**	**0.0822**	**0.0218**	**5.4000e-004**	**0.0223**	**0.0000**	**74.7202**	**74.7202**	**1.8900e-003**	**0.0000**	**74.7674**

3.5 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.4100e-003	0.0504	0.0532	8.0000e-005		2.6500e-003	2.6500e-003		2.4600e-003	2.4600e-003	0.0000	7.0444	7.0444	2.0500e-003	0.0000	7.0957
Paving	7.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.4800e-003**	**0.0504**	**0.0532**	**8.0000e-005**		**2.6500e-003**	**2.6500e-003**		**2.4600e-003**	**2.4600e-003**	**0.0000**	**7.0444**	**7.0444**	**2.0500e-003**	**0.0000**	**7.0957**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.2000e-004	2.9000e-004	3.0900e-003	1.0000e-005	1.0700e-003	1.0000e-005	1.0800e-003	2.8000e-004	1.0000e-005	2.9000e-004	0.0000	0.8863	0.8863	2.0000e-005	0.0000	0.8868
Total	**4.2000e-004**	**2.9000e-004**	**3.0900e-003**	**1.0000e-005**	**1.0700e-003**	**1.0000e-005**	**1.0800e-003**	**2.8000e-004**	**1.0000e-005**	**2.9000e-004**	**0.0000**	**0.8863**	**0.8863**	**2.0000e-005**	**0.0000**	**0.8868**

3.5 Paving - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.4100e-003	0.0504	0.0532	8.0000e-005		2.6500e-003	2.6500e-003		2.4600e-003	2.4600e-003	0.0000	7.0443	7.0443	2.0500e-003	0.0000	7.0956
Paving	7.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.4800e-003**	**0.0504**	**0.0532**	**8.0000e-005**		**2.6500e-003**	**2.6500e-003**		**2.4600e-003**	**2.4600e-003**	**0.0000**	**7.0443**	**7.0443**	**2.0500e-003**	**0.0000**	**7.0956**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.2000e-004	2.9000e-004	3.0900e-003	1.0000e-005	1.0700e-003	1.0000e-005	1.0800e-003	2.8000e-004	1.0000e-005	2.9000e-004	0.0000	0.8863	0.8863	2.0000e-005	0.0000	0.8868
Total	**4.2000e-004**	**2.9000e-004**	**3.0900e-003**	**1.0000e-005**	**1.0700e-003**	**1.0000e-005**	**1.0800e-003**	**2.8000e-004**	**1.0000e-005**	**2.9000e-004**	**0.0000**	**0.8863**	**0.8863**	**2.0000e-005**	**0.0000**	**0.8868**

3.6 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2492					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6400e-003	0.0115	0.0136	2.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004	0.0000	1.9149	1.9149	1.3000e-004	0.0000	1.9182
Total	**0.2508**	**0.0115**	**0.0136**	**2.0000e-005**		**7.1000e-004**	**7.1000e-004**		**7.1000e-004**	**7.1000e-004**	**0.0000**	**1.9149**	**1.9149**	**1.3000e-004**	**0.0000**	**1.9182**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6000e-004	1.1000e-004	1.2000e-003	0.0000	4.2000e-004	0.0000	4.2000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3447	0.3447	1.0000e-005	0.0000	0.3449
Total	**1.6000e-004**	**1.1000e-004**	**1.2000e-003**	**0.0000**	**4.2000e-004**	**0.0000**	**4.2000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3447**	**0.3447**	**1.0000e-005**	**0.0000**	**0.3449**

3.6 Architectural Coating - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2492					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6400e-003	0.0115	0.0136	2.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004	0.0000	1.9149	1.9149	1.3000e-004	0.0000	1.9182
Total	**0.2508**	**0.0115**	**0.0136**	**2.0000e-005**		**7.1000e-004**	**7.1000e-004**		**7.1000e-004**	**7.1000e-004**	**0.0000**	**1.9149**	**1.9149**	**1.3000e-004**	**0.0000**	**1.9182**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6000e-004	1.1000e-004	1.2000e-003	0.0000	4.2000e-004	0.0000	4.2000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3447	0.3447	1.0000e-005	0.0000	0.3449
Total	**1.6000e-004**	**1.1000e-004**	**1.2000e-003**	**0.0000**	**4.2000e-004**	**0.0000**	**4.2000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**	**0.0000**	**0.3447**	**0.3447**	**1.0000e-005**	**0.0000**	**0.3449**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.0502	0.2306	0.6907	2.4500e-003	0.2244	2.0800e-003	0.2264	0.0601	1.9400e-003	0.0620	0.0000	223.9968	223.9968	7.2500e-003	0.0000	224.1780
Unmitigated	0.0502	0.2306	0.6907	2.4500e-003	0.2244	2.0800e-003	0.2264	0.0601	1.9400e-003	0.0620	0.0000	223.9968	223.9968	7.2500e-003	0.0000	224.1780

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	170.00	170.00	170.00	603,330	603,330
Enclosed Parking with Elevator	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	170.00	170.00	170.00	603,330	603,330

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	9.75	9.75	9.75	31.00	15.00	54.00	100	0	0
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761
Enclosed Parking with Elevator	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761
Parking Lot	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	22.0036	22.0036	3.0400e-003	6.3000e-004	22.2669
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	22.0036	22.0036	3.0400e-003	6.3000e-004	22.2669
NaturalGas Mitigated	2.1400e-003	0.0183	7.7900e-003	1.2000e-004		1.4800e-003	1.4800e-003		1.4800e-003	1.4800e-003	0.0000	21.2076	21.2076	4.1000e-004	3.9000e-004	21.3336
NaturalGas Unmitigated	2.1400e-003	0.0183	7.7900e-003	1.2000e-004		1.4800e-003	1.4800e-003		1.4800e-003	1.4800e-003	0.0000	21.2076	21.2076	4.1000e-004	3.9000e-004	21.3336

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	397415	2.1400e-003	0.0183	7.7900e-003	1.2000e-004		1.4800e-003	1.4800e-003		1.4800e-003	1.4800e-003	0.0000	21.2076	21.2076	4.1000e-004	3.9000e-004	21.3336
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**2.1400e-003**	**0.0183**	**7.7900e-003**	**1.2000e-004**		**1.4800e-003**	**1.4800e-003**		**1.4800e-003**	**1.4800e-003**	**0.0000**	**21.2076**	**21.2076**	**4.1000e-004**	**3.9000e-004**	**21.3336**

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	397415	2.1400e-003	0.0183	7.7900e-003	1.2000e-004		1.4800e-003	1.4800e-003		1.4800e-003	1.4800e-003	0.0000	21.2076	21.2076	4.1000e-004	3.9000e-004	21.3336
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**2.1400e-003**	**0.0183**	**7.7900e-003**	**1.2000e-004**		**1.4800e-003**	**1.4800e-003**		**1.4800e-003**	**1.4800e-003**	**0.0000**	**21.2076**	**21.2076**	**4.1000e-004**	**3.9000e-004**	**21.3336**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	189904	18.0892	2.5000e-003	5.2000e-004	18.3057
Enclosed Parking with Elevator	39848	3.7957	5.2000e-004	1.1000e-004	3.8411
Parking Lot	1246	0.1187	2.0000e-005	0.0000	0.1201
Total		**22.0036**	**3.0400e-003**	**6.3000e-004**	**22.2669**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	189904	18.0892	2.5000e-003	5.2000e-004	18.3057
Enclosed Parking with Elevator	39848	3.7957	5.2000e-004	1.1000e-004	3.8411
Parking Lot	1246	0.1187	2.0000e-005	0.0000	0.1201
Total		**22.0036**	**3.0400e-003**	**6.3000e-004**	**22.2669**

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	0.1732	5.5700e-003	0.3432	3.0000e-005		2.0200e-003	2.0200e-003		2.0200e-003	2.0200e-003	0.0000	2.4310	2.4310	5.8000e-004	3.0000e-005	2.4556
Unmitigated	0.1732	5.5700e-003	0.3432	3.0000e-005		2.0200e-003	2.0200e-003		2.0200e-003	2.0200e-003	0.0000	2.4310	2.4310	5.8000e-004	3.0000e-005	2.4556

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	0.0249					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1377					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.9000e-004	1.6200e-003	6.9000e-004	1.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	1.8726	1.8726	4.0000e-005	3.0000e-005	1.8837
Landscaping	0.0104	3.9500e-003	0.3425	2.0000e-005		1.8900e-003	1.8900e-003		1.8900e-003	1.8900e-003	0.0000	0.5584	0.5584	5.4000e-004	0.0000	0.5719
Total	**0.1732**	**5.5700e-003**	**0.3432**	**3.0000e-005**		**2.0200e-003**	**2.0200e-003**		**2.0200e-003**	**2.0200e-003**	**0.0000**	**2.4310**	**2.4310**	**5.8000e-004**	**3.0000e-005**	**2.4556**

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	0.0249					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1377					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.9000e-004	1.6200e-003	6.9000e-004	1.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	1.8726	1.8726	4.0000e-005	3.0000e-005	1.8837
Landscaping	0.0104	3.9500e-003	0.3425	2.0000e-005		1.8900e-003	1.8900e-003		1.8900e-003	1.8900e-003	0.0000	0.5584	0.5584	5.4000e-004	0.0000	0.5719
Total	**0.1732**	**5.5700e-003**	**0.3432**	**3.0000e-005**		**2.0200e-003**	**2.0200e-003**		**2.0200e-003**	**2.0200e-003**	**0.0000**	**2.4310**	**2.4310**	**5.8000e-004**	**3.0000e-005**	**2.4556**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	3.1255	0.0980	2.3700e-003	6.2802
Unmitigated	3.1255	0.0980	2.3700e-003	6.2802

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	2.99709 / 1.88947	3.1255	0.0980	2.3700e-003	6.2802
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**3.1255**	**0.0980**	**2.3700e-003**	**6.2802**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	2.99709 / 1.88947	3.1255	0.0980	2.3700e-003	6.2802
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**3.1255**	**0.0980**	**2.3700e-003**	**6.2802**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	4.2953	0.2538	0.0000	10.6414
Unmitigated	4.2953	0.2538	0.0000	10.6414

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	21.16	4.2953	0.2538	0.0000	10.6414
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**4.2953**	**0.2538**	**0.0000**	**10.6414**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	21.16	4.2953	0.2538	0.0000	10.6414
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**4.2953**	**0.2538**	**0.0000**	**10.6414**

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