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ENVIRONMENT
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MEMO

Date: **September 6, 2019**

To: **Pooja Nagrath, Project Manager, David J Powers & Associates**

From: **Michael Keinath**
Megan Klevze Sutter
Michael Howley

Subject: **CEQA AIR QUALITY AND GREENHOUSE GAS ASSESSMENT FOR THE PASSAGE AT SAN MATEO PROJECT, SAN MATEO, CALIFORNIA**

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Ramboll US Corporation (Ramboll) conducted California Environmental Quality Act (CEQA) analyses for the proposed Passage at San Mateo Project in San Mateo, California. Specifically, Ramboll has prepared Air Quality (AQ), including a Health Risk Assessment (HRA), and Greenhouse Gas (GHG) impact assessments.

Ramboll understands that the Project is a transit-oriented, mixed-use development composed of housing and commercial retail. The proposed plan for the Project includes the demolition of six existing commercial buildings on the 14.5-acre site and the construction of 961 residential units, and 35,000 square feet of commercial within five, three to four level, podium buildings. Parking consists of one level of below-grade parking, as well as ground-level parking throughout the site. Nearby uses to the site include residential uses to the north; commercial uses and U.S. Route 101 to the east; commercial and residential uses, as well as California State Route 92 to the south; and Hayward Park Caltrain, Hillsdale Caltrain Station, and commercial uses to the west. A new street would cut into the site from Concar Drive and exit at the center of Delaware Street. The site would include over three acres of public and private parkland. The existing and proposed land uses at the Project site are listed in **Table 1**.

CEQA THRESHOLDS OF SIGNIFICANCE

The City of San Mateo is the lead agency responsible for Project approval. Per City of San Mateo requirements, Ramboll evaluated the Project in accordance with the current Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines, which were updated in May 2017.[1] These guidelines present methods for evaluating compliance with CEQA as well as thresholds for determining significance. With respect to the Project, the BAAQMD thresholds of significance are as follows:

[1] BAAQMD. 2017. California Environmental Quality Act (CEQA) Air Quality Guidelines. May. Available online at: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en

BAAQMD CEQA Thresholds of Significance			
Criteria Air Pollutants (and Precursors)	**Construction-Related Average Daily Emissions (lbs/day)**	**Operational-Related**	
		Average Daily Emissions (lbs/day)	**Maximum Annual Emissions (tons/year)**
ROGs	54	54	10
NO_X	54	54	10
PM_{10}	82 (exhaust only)	82	15
$PM_{2.5}$	54 (exhaust only)	54	10
$PM_{10}/PM_{2.5}$ (fugitive dust)	Best Management Practices	None	
CO (local concentration)	None	9.0 ppm (8-hour average) 20.0 ppm (1-hour average)	
GHGs – Projects other than Stationary Sources[2]	None	Compliance with Qualified GHG Reduction Strategy OR 1,100 MT of CO_2e/yr OR 4.6 MT CO_2e/SP/yr (residents+employees) **(see below)**	
Risks and Hazards for New Sources and Receptors (Individual Project)	Same as Operational Thresholds	Compliance with Qualified Community Risk Reduction Plan OR Increased cancer risk of >10.0 in a million Increased non-cancer risk of > 1.0 HI (chronic or acute) Ambient $PM_{2.5}$ increase: > 0.3 µg/m^3 annual average Zone of Influence: 1,000-foot radius from fence line of source or receptor	

[2] Ramboll assumes that the Project will not be operational prior to 2020 and therefore will evaluate compliance with SB 32 GHG reduction goals for 2030, rather than AB 32 GHG reduction goals for 2020. BAAQMD thresholds are tied directly to AB 32 and statewide emissions reduction goals for 2020. The BAAQMD has yet to establish a revised significance threshold for GHG emissions. As the SB 32 goal is a 40% reduction in emissions from the AB 32 goal for 2020, Ramboll has set the GHG significance threshold as a 40% reduction from 4.6 MT/SP/yr, or 2.8 MT/SP/year.

BAAQMD CEQA Thresholds of Significance			
Criteria Air Pollutants (and Precursors)	**Construction-Related Average Daily Emissions (lbs/day)**	**Operational-Related**	
		Average Daily Emissions (lbs/day)	**Maximum Annual Emissions (tons/year)**
Risks and Hazards for New Sources and Receptors (Cumulative Threshold)	Same as Operational Thresholds	Compliance with Qualified Community Risk Reduction Plan OR Increased cancer risk of >100 in a million (from all local sources) Increased non-cancer risk of >10 HI (from all local sources) (chronic) Ambient $PM_{2.5}$ increase: > 0.8 µg/m^3 annual average (from all local sources) Zone of Influence: 1,000-foot radius from fence line of source or receptor	
Odors	None	Complaint History – five confirmed complaints per year averaged over 3 years	

Abbreviations:
CO = Carbon Monoxide
Lbs = pounds
MT of CO_2e/yr = metric tons of carbon dioxide equivalent per year
MT CO_2e/SP/yr = metric tons carbon dioxide equivalent per service population per year
NOx = oxides of nitrogen
$PM_{2.5}$ = Particulate Matter less than 2.5 microns
PM_{10} = Particulate Matter less than 2.5 microns
ROG = Reactive Organic Gas
µg/m^3 = micrograms per cubic meter.

This Technical Memorandum evaluates construction Criteria Air Pollutants (CAP) emissions and health effects, as well as operational CAP emissions, GHG emissions, and Project and Cumulative health effects.

SUMMARY OF RESULTS

Construction emissions are presented in **Table 2**. Operational emissions are presented for the Project in **Table 3** and the Baseline for **Table 4**, and the net change in Operational emissions is summarized in **Table 5**. As shown in these tables, CAP emissions for construction and net operations are below the BAAQMD thresholds of significance. Net operational GHG emissions exceed the 1,000 metric tons of carbon dioxide equivalent (MT CO_2e) threshold but are below the service population threshold. Health risk impacts from the Project and on a Cumulative basis, as shown in **Tables 14** through **16**.

DATA SOURCES AND EMISSIONS METHODOLOGIES

The following sections describe the input data and methodologies used in the construction and operational emissions analysis. Detailed information for each section can be found in the referenced tables and appendices.

CAP and GHG Emissions

Ramboll utilized the California Emission Estimator Model version 2016.3.2 (CalEEMod®)[3] to quantify all construction and operational CAP and GHG emissions. CalEEMod® is a statewide program designed to calculate both CAP and GHG emissions for development projects in California. CalEEMod® provides a simple platform to calculate both construction emissions and operational emissions from a land use project. It calculates both the daily maximum and annual average for CAPs as well as total or annual GHG emissions.

CalEEMod® utilizes widely accepted models for emission estimates combined with appropriate default data that can be used if site-specific information is not available. CalEEMod® uses sources such as the US Environmental Protection Agency (USEPA) AP-42 emission factors,[4] California Air Resources Board's (CARB) on-road and off-road equipment emission models such as the EMission FACtor model (EMFAC) and the Emissions Inventory Program model (OFFROAD), and studies commissioned by California agencies such as the California Energy Commission (CEC) and CalRecycle.

Construction emissions from the Project include both on-site, offroad heavy equipment as well as off-site, on-road vehicle travel. Operational CAP and GHG emissions from the Project include area source emissions (including emissions from architectural coating, consumer products, and landscaping); emissions from energy use (including natural gas combustion); indirect GHG emissions associated with electricity, water use, and waste disposal; and operational traffic. As described below, Ramboll updated several default assumptions to Project-specific information to generate GHG emission estimates with CalEEMod®, for consistency with BAAQMD and California Air Pollution Control Officer Association (CAPCOA) methods. Where project-specific data were not available, Ramboll used CalEEMod® defaults for the land uses shown in **Table 1**. An operational year of 2025 was assumed. The CalEEMod® output report is included as **Appendix A**.

Updates to CalEEMod® Default Assumptions

In preparing Project operational emissions, Ramboll made several updates to the CalEEMod® default factors and assumptions. These include the following areas:

- Project construction is assumed to use all Tier 4 offroad equipment.
- Haul truck trips were calculated by CalEEMod® based on the amount of demolition and soil exported and imported during construction. Soil quantities were provided by the Project Sponsor (see **Appendix B)**.
- Electricity emissions: the carbon intensity factor for electricity consumption was updated to reflect a 44% Renewable Portfolio Standard, consistent with California Senate Bill 100.[5] Calculation details for the revised carbon intensity are shown in **Table 6**.

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[3] California Air Pollution Control Officers Association (CAPCOA). 2016. California Emissions Estimator Model. Available at: http://www.CalEEMod.com/.

[4] The USEPA maintains a compilation of Air pollutant Emission Factors and process information for several air pollution source categories. The data is based on source test data, material balance studies, and engineering estimates. Available at: http://epa.gov/ttnchie1/ap42/.

[5] SB 100. Available at: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180SB100.

- Mobile activity: trip generation rates for the Project were updated to be consistent with the Preliminary Transport Impact Assessment prepared by Hexagon for the Project (**Appendix B**). The trip rate memo provided daily trip rates for each land use, adjusted for reductions associated with mixed-use developments and pass-by trip reductions. CalEEMod® takes pass-by trip rates as a separate input from daily trip counts, so Ramboll removed the pass-by reductions before entering data to the emissions model. Trip generation and pass-by rates for each land use are presented in **Table 7**.
- Electricity and natural gas usage: Electricity and natural gas use are based on CalEEMod® defaults for Climate Zone 5, which account for 2016 Title 24. Title 24 electricity and lighting electricity use rates were reduced by 10.7% and Title 24 natural gas use rates were reduced by 1.0%, per the CEC 2019 Title 24 Impact Analysis.[6] The revised consumption rates are presented in **Table 8**.

LOCAL COMMUNITY RISK AND HAZARD IMPACTS

Local Carbon Monoxide (CO) Impacts

According to the 2017 BAAQMD CEQA Guidelines, the Project would result in less-than-significant localized CO concentrations if it meets the following criteria:

1. Is consistent with county and local congestion management plans, and
2. Does not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour.

Based on the traffic volume data provided by the Project Sponsor (see **Appendix B**), the maximum hourly intersection traffic volume for existing plus Project trips is 5,615 vehicles per hour. Thus, operational impacts from Project CO emissions would be less than significant.

Toxic Air Contaminant (TAC) Emissions

The TAC emissions associated with the Project construction were calculated with the following assumptions and exceptions:

1. Diesel Particulate Matter (DPM): DPM emissions were used to evaluate the cancer risk and non-cancer chronic HI from Project construction. In this analysis, both onsite (i.e., construction equipment) and local offsite (i.e., construction mobile sources) Particulate Matter less than 10 microns (PM_{10}) exhaust emissions[7] were calculated as DPM and modeled within the Project boundary (as discussed in the next section). This analysis also conservatively assumed the small fraction of non-diesel PM_{10} (i.e., PM_{10} emissions from gasoline fueled passenger vehicles) was DPM, which has greater human health impacts. All off-road construction equipment was assumed to be certified as Tier 4 Final.
2. $PM_{2.5}$: Exhaust Particulate Matter less 2.5 microns ($PM_{2.5}$) emissions were used to evaluate the $PM_{2.5}$ concentration due to the Project construction. The modeled emissions were calculated using the same conservative assumptions as the DPM calculation.

Total modelled emissions are presented in Table 2, as total PM_{10} and $PM_{2.5}$ from construction.

[6] CEC. 2019. 2019 Title 24 Impact Analysis. Available online at: https://www.energy.ca.gov/title24/2019standards/post_adoption/documents/2019_Impact_Analysis_Final_Report_2018-06-29.pdf

[7] Local offsite (mobile source) emissions were conservatively calculated by including CalEEMod® on-road emissions for the entire default trip length in the screening model.

Construction Health Risk Assessment

Ramboll analyzed Project construction-related risks by estimating ambient air concentrations of DPM and $PM_{2.5}$. To estimate air concentrations of DPM and $PM_{2.5}$, Ramboll used AERMOD, a steady-state Gaussian plume model developed by USEPA for regulatory applications. AERMOD requires emission source locations and release parameters, receptor locations, and processed meteorological data. The construction source parameters are shown in **Table 9**. Ramboll used five years of meteorological data from the San Francisco International Airport, which was the nearest dataset available to the Project.

The AERMOD input files are provided electronically as **Appendix C**. The receptor and source setup is shown in **Figure 1**.

Modeled Emissions

Based on the construction schedule provided by the Project Sponsor, each building of the Project will be completed and occupied in sequence, with residents being exposed to the remainder of construction of the other buildings. Residents of each building were evaluated separately to determine the maximum health impacts of construction, along with off-site residential receptors exposed to the entire construction period.

Emissions and exposure were estimated on a quarterly basis, as shown in **Table 10**. CalEEMod® default construction phases were mapped to the provided schedule subphases. Emissions were allocated between each building based on the fraction of total residential units. Emissions within each subphase were evenly divided by quarter over the duration of the subphase.

For off-site receptors, all emissions from each building were summed by year and modeled on an annual basis. For off-site receptors, separate emission rates were calculated to represent only the emissions that occur during the potential exposure period. For example, Building 1 will be occupied by residents in the 4th Quarter of 2021. At this time, construction emissions will occur at Buildings 2, 3, and 5. For modeling purposes, only the 4th Quarter 2021 emissions from these buildings were annualized and included in Building 1 exposure calculations. These annualized emission rates for each combination of source-receptor-year are presented in **Table 11**. The change in duration is addressed in the exposure parameter calculation, discussed below.

Exposure Parameters and Cancer Risk Calculation

In February 2015, Office of Environmental Health Hazard Assessment (OEHHA) released the updated Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments (OEHHA 2015), which combines information from previously-released and adopted technical support documents to delineate OEHHA's revised risk assessment methodologies based on current science. The BAAQMD has issued HRA Guidelines formally adopting the OEHHA 2015 Guidance Manual.[8] This analysis followed the recommended methodology from the 2015 OEHHA Hot Spots Guidance. Ramboll conservatively evaluated Project impacts due to construction emissions using default exposure assumptions for a resident child from OEHHA (2015) unless otherwise noted.[9] The resident child scenario assumes a much higher daily breathing rate and age-sensitivity factor (ASF)[10] than other sensitive receptor populations and therefore is the most conservative scenario to evaluate for this

[8] BAAQMD. 2016. Proposed Health Risk Assessment Guidelines. Air Toxics NSR program. January. Available at: http://www.baaqmd.gov/~/media/files/planning-and-research/rules-and-regs/workshops/2016/reg-2-5/hra-guidelines_clean_jan_2016-pdf.pdf?la=en

[9] BAAQMD. 2010. BAAQMD Air Toxics NSR Program Health Risk Screening Analysis (HRSA) Guidelines. January.

[10] Ibid.

analysis. The exposure parameters used to estimate excess lifetime cancer risks for a resident child are presented in **Table 12**.

The dose estimated for each exposure pathway is a function of the concentration of a chemical and the intake of that chemical. The intake factor for inhalation, IF_{inh}, can be calculated as follows:

$$IF_{inh} = \frac{DBR * FAH * EF * ED * CF * ASF * FY}{AT}$$

Where:

IF_{inh}	=	Intake Factor for Inhalation (m^3/kg-day)
DBR	=	Daily Breathing Rate (L/kg-day)
FAH	=	Fraction of Time at Home (unitless)
EF	=	Exposure Frequency (days/year)
ED	=	Exposure Duration (years)
AT	=	Averaging Time (days)
CF	=	Conversion Factor, 0.001 (m^3/L)
ASF	=	Age Sensitivity Factor (unitless)
FY	=	Fraction of Year, to correct annualization of partial year emissions

The chemical intake or dose is estimated by multiplying the inhalation intake factor, IF_{inh}, by the chemical concentration in air, C_i. When coupled with the chemical concentration, this calculation is mathematically equivalent to the dose algorithm given in the OEHHA Hot Spots guidance (Cal/EPA 2003).

The toxicity assessment characterizes the relationship between the magnitude of exposure and the nature and magnitude of adverse health effects that may result from such exposure. This HRA evaluated theoretical exposures to TACs for two categories of potential adverse health effects, cancer and non-cancer endpoints. Toxicity values used to estimate the likelihood of adverse effects occurring in humans at different exposure levels are identified as part of the toxicity assessment component of a risk assessment.

Excess lifetime cancer risk and chronic hazard quotient (HQs) calculations for Project construction utilized the toxicity values for DPM. Toxicity values for DPM (Cal/EPA 2016) are as presented in **Table 13**.

Cancer risk and chronic HI were calculated from ambient annual concentrations using intake factors, cancer potency factors, and chronic reference exposure levels calculated consistent with the 2015 OEHHA Hot Spots Guidance[11] and 2010 BAAQMD guidance.[12]

As shown in **Table 14**, the maximum cancer risk from construction activities is calculated to be 5.4 in 1 million, compared to a threshold of 10 in 1 million. Construction activities would also result in a non-cancer hazard index of 0.005 (threshold of 1.0), and maximum $PM_{2.5}$ concentration of 0.02 micrograms per cubic meter (µg/m^3) (threshold of 0.3 µg/m^3). These results are all below the BAAQMD thresholds of significance; thus, health risk impacts associated with construction of the

[11] Cal/EPA. 2003. The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments. Office of Environmental Health Hazard Assessment. August.

[12] BAAQMD. 2010. Air Toxics NSR Program Health Risk Screening Analysis (HRSA) Guidelines. January

Project are less than significant. The locations of on-site and off-site Maximally Exposed Individual Residents (MEIRs) are shown in **Figure 2**.

Operational Health Risk Assessment

TAC emissions from operation were not estimated. BAAQMD recommends analysing TAC emissions from roadways with over 10,000 vehicles per day. As discussed above, per the traffic assessment conducted by Hexagon (see **Appendix B**), the Project is expected to generate a net 5,780 daily trips. Therefore, the Project would not generate 10,000 vehicles per day, so TAC emissions from roadways is not needed. The Project also does not contain other significant sources of TAC emissions.

Cumulative Health Risk Assessment

In accordance with BAAQMD CEQA guidelines, Ramboll conducted a cumulative HRA for both offsite sensitive receptors and new onsite sensitive receptors created by the Project. The cumulative assessment tabulates the impact of Project-related construction risks plus existing offsite sources (stationary and mobile) at the maximum offsite and onsite sensitive receptor location for construction. The evaluation requires the identification of any stationary and mobile sources within 1,000 feet of the Project boundary. In addition to the evaluation of each single source, the combined health risk from all TAC and $PM_{2.5}$ sources are evaluated.

Sources evaluated in the cumulative health risk assessment include any BAAQMD permitted stationary source, roadways with over 10,000 vehicles per day, and any other major source of emissions within the zone of influence such as railways. The BAAQMD provides tools with conservative estimates of impacts from these sources, including a stationary source tool, railway screening tool, major roadway screening tool, and roadway screening tables. BAAQMD's major roadway screening tool includes impacts from all roadways with daily traffic above 30,000 vehicles per day. The roadway screening tables should be used for any roadway between 10,000 vehicles per day and 30,000 vehicles per day.

Based on the traffic volumes provided by Hexagon (see **Appendix B**), South Delaware Street, on the Western edge of the Project site, and Concar Drive, on the Northern edge, fall into this range, with approximately 15,000 and 14,000 vehicles per day, respectively. Daily traffic volumes were calculated as five times the sum of peak AM and PM hourly traffic, using all turning volumes at the intersection.

The major roadway screening tool and railway screening tool were used to estimate the health impacts from all major roadways and railways and combined with the impacts from all other sources at the operational MEIR.

The combined impact from all the sources results in a cancer risk of 70 in 1 million at the on-site MEIR, and 62 in 1 million at the off-site MEIR. The combined non-cancer hazard index at the on-site and off-site MEIRs are 0.015 and 0.006, respectively, and combined maximum $PM_{2.5}$ concentrations are 0.75 and 0.74 $\mu g/m^3$. Details of each source included in the cumulative analysis are presented in **Tables 15 and 16**. These results are all below the BAAQMD cumulative thresholds of significance; thus, the cumulative health risk impacts associated with the Project are less than significant.

CLOSING

The analysis presented above represent the Mitigated emissions and health risk impacts from construction and operation of the proposed Project. When mitigated through the use of all Tier 4 construction equipment, the Project does not exceed any BAAQMD CEQA significance thresholds.

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MEMO

Date: **March 11, 2020**

To: **Pooja Nagrath, Project Manager, David J Powers & Associates, Inc.**

From: **Michael Keinath**
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Subject: **CEQA AIR QUALITY AND GREENHOUSE GAS ASSESSMENT FOR THE PASSAGE AT SAN MATEO PROJECT, SAN MATEO, CALIFORNIA**

Ramboll US Corporation (Ramboll) conducted California Environmental Quality Act (CEQA) analyses of greenhouse gases (GHGs), criteria air pollutants (CAPs) and precursors, as well as a health risk assessment (HRA), from construction and operations for the proposed Passage at San Mateo development ("the Project") located in San Mateo, California. Ramboll has previously submitted the results of this analysis in a report dated September 6, 2019 ("original analysis"). Since that report, the Project site plan and traffic analysis were revised. Revisions include:

- A reduction in the net number of daily trips associated with the Project, from 5,780 to 2,471; and
- An increase in the daycare center square footage from 4,600 square feet to 5,060 square feet.

As construction inputs are based on site acreage, the increase in daycare square footage does not affect construction assumptions or results.

For operational emissions, the daycare square footage increase represents a 0.04% increase in net new square footage at the site (see Table 1 of the original analysis), which would result in a corresponding increase in non-traffic related operational emissions of roughly the same fraction. However, this slight increase would be more than offset by the reduction in traffic emissions. Traffic emissions make up 9-90% of operational CAP and GHG emissions (See Table 3 of the original analysis). The reduction of daily trips of over 57% would decrease the operational traffic emissions by a similar fraction. The overall effect on operational emissions would be a net reduction from emissions reported in the original analysis.

Furthermore, HRA impacts from operational traffic were not analyzed in the original report as the net daily trips were below the BAAQMD screening threshold. The reduced number of net daily trips is even further below the threshold, and thus operational HRA impacts would also be unchanged.

Based on the reduction of operational emissions, and lack of change to the construction emissions and health risks, Ramboll has not updated the original analysis. The conclusions from that analysis - that the Project would not result in any significant impacts – remain unchanged.

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Attachments:

Tables

Figures

Appendix A: CalEEMod® Output Files

Appendix B: Project Description and Traffic Study

Appendix C: AERMOD Input Files (provided Electronically)

TABLES

Table 1
Land Uses
Passage at San Mateo
San Mateo, California

Scenario	Project Description Land Use Type	CalEEMod® Land Use Type	CalEEMod® Land Use Subtype	Unit Amount[1]	Size Metric	Square Footage	Acreage[2]
Project (2025)	Day-Care Center	Educational	Day-Care Center	4.6	1000sqft	4,600	0
	Underground/Enclosed Parking	Parking	Enclosed Parking with Elevator	1596	Space	638,400	0
	Green Space	Recreational	City Park	6.83	Acre	0	6.83
	SEED Food Hall	Recreational	Fast Food Restaurant w/o Drive Thru	5	1000sqft	5,000	0
	Leasing offices, workspace, and fitness centers	Recreational	Health Club	24.86	1000sqft	24,860	0
	High Turnover (Sit Down Restaurant)	Recreational	High Turnover (Sit Down Restaurant)	2.4	1000sqft	2,400	0
	Peninsula Ballet + Performance Space	Recreational	Movie Theater (No Matinee)	8.79	1000sqft	8,790	0
	Apartments Mid Rise	Residential	Apartments Mid Rise	961	Dwelling Unit	961,000	7.67
	7-Eleven	Retail	Convenience Market (24 Hour)	3.13	1000sqft	3,130	0
	Other Retail	Retail	Strip Mall	3.1	1000sqft	3,100	0
	Trader Joe's	Retail	Supermarket	13.5	1000sqft	13,500	0
Baseline (2019)	Existing Parking	Parking	Parking Lot	670	Space	268,000	6.03
	Performance Space	Recreational	Movie Theater (No Matinee)	20.9	1000sqft	20,900	0.48
	7-Eleven	Retail	Convenience Market (24 Hour)	2.33	1000sqft	2,330	0.05
	Other Existing Retail	Retail	Strip Mall	131	1000sqft	131,000	3.01
	Trader Joe's	Retail	Supermarket	11.16	1000sqft	11,160	0.26

Notes:

1. Land use sizes provided by Project Sponsor.
2. Project acreages used to determine construction activity. Total acreage of 14.5 acres provided by Project Sponsor.

Abbreviations:

CalEEMod® - California Emissions Estimator Model®

Table 2
Project Construction Emissions
Passage at San Mateo
San Mateo, California

Phase	Source	Total Construction CAP Emissions				GHG Emissions
		ROG	NOx	PM_{10}	$PM_{2.5}$	CO_2e
		tons				MT
Demolition	On-Site	0.005	0.02	6.20E-04	6.20E-04	35
	Off-Site	0.004	0.13	5.30E-04	5.10E-04	33
Site Preparation	On-Site	0.002	0.01	3.10E-04	3.10E-04	17
	Off-Site	0.07	2.59	1.03E-02	9.88E-03	632
Grading	On-Site	0.01	0.05	1.52E-03	1.52E-03	84
	Off-Site	0.001	0.001	2.00E-05	1.00E-05	2
Building Construction	On-Site	0.05	0.34	6.12E-03	6.12E-03	350
	Off-Site	0.62	5.03	3.34E-02	3.17E-02	2,163
Paving	On-Site	0.003	0.01	3.80E-04	3.80E-04	20
	Off-Site	0.0004	0.0003	0.00E+00	0.00E+00	1
Architectural Coating	On-Site	7.24	0.001	4.00E-05	4.00E-05	3
	Off-Site	0.01	0.004	1.10E-04	1.00E-04	14
Total		8.02	8.19	0.05	0.05	3,354

Scenario	Average Daily CAP Emissions				GHG Emissions
	ROG	NOx	PM_{10}	$PM_{2.5}$	CO2e
	lb/day[2]				MT/year[3]
Total Construction	40	41	0.27	0.26	112
BAAQMD CEQA Threshold[4]	54	54	82	54	N/A
Exceeds Threshold?	NO	NO	NO	NO	N/A

Notes:

1. Emissions calculated in CalEEMod® version 2016.3.2 based on the Project acreage and land use size. Emissions assume the use of all Tier 4 Final off-road equipment.
2. Emissions divided by the CalEEMod® default number of working days (400) for the Project acreage.
3 Greenhouse gas emissions annualized over a 30 year project lifetime for inclusion in Project thresold comparisons (see Table 5)

Abbreviations:

BAAQMD - Bay Area Air Quality Management District
CalEEMod® - California Emissions Estimator Model®
CAP - Criteria Air Pollutants
CEQA - California Environmental Quality Act
GHG - Greenhouse Gases
NOx - nitrogen oxides
PM_{10} - particulate matter less than 10 microns
$PM_{2.5}$ - particulate matter less than 2.5 microns
ROG - reactive organic gases

Reference:

California Environmental Quality Act (CEQA) Guidelines. 2017. Bay Area Air Quality Management District (BAAQMD). May. Available online at: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en

Table 3
Operational Emissions - Project
Passage at San Mateo
San Mateo, California

Emissions Source	Annual CAP Emissions				Annual GHG Emissions
	ROG	NO_x	PM_{10}	$PM_{2.5}$	
	tons/year				MT CO_2e/year
Area	7.21	0.13	0.48	0.48	76
Energy Use	0.058	0.50	0.040	0.040	1,524
Water Use[1]	0	0	0	0	162
Waste Disposed[1]	0	0	0	0	410
Traffic	2.0	5.4	0.056	0.052	6,066
Total Project Operational Emissions	9.3	6.0	0.57	0.57	8,239

Scenario	Average Daily CAP Emissions			
	ROG	NO_x	PM_{10}	$PM_{2.5}$
	lb/day[2]			
Total Project Operational Emissions	51	33	3.13	3.11

Notes:

1. Water use and waste disposal only contribute to greenhouse gas emissions per CalEEMod® methods.
2. Daily operational emissions averaged over period of 365 days.

Abbreviations:

CalEEMod® - California Emissions Estimator Model®
CAP - Criteria Air Pollutants
CEQA - California Environmnetal Quality Act
CO_2e - Carbon dioxide equivalents
lb - pound
MT - Metric Tons
NOx - nitrogen oxides
PM_{10} - particulate matter less than 10 microns
$PM_{2.5}$ - particulate matter less than 2.5 microns
ROG - reactive organic gases

Table 4
Operational Emissions - Baseline
Passage at San Mateo
San Mateo, California

Emissions Source	Annual CAP Emissions				Annual GHG Emissions
	ROG	NOx	PM_{10}	$PM_{2.5}$	
	tons/year				MT CO_2e/year
Area	0.76	7.00E-05	3.00E-05	3.00E-05	0
Energy Use	0.008	0.08	0.006	0.006	349
Water Use[1]	0	0	0	0	45
Waste Disposed[1]	0	0	0	0	164
Traffic	2.1	5.7	0.063	0.059	4,382
Total Baseline Operational Emissions	2.9	5.8	0.069	0.065	4,940

Scenario	Average Daily CAP Emissions			
	ROG	NOx	PM_{10}	$PM_{2.5}$
	lb/day[2]			
Total Baseline Operational Emissions	16	32	0.38	0.36

Notes:

1. Water use and waste disposal only contribute to green house gas emissions per CalEEMod® methods.
2. Daily operational emissions averaged over period of 365 days.

Abbreviations:

CalEEMod® - California Emissions Estimator Model®
CAP - Criteria Air Pollutants
CEQA - California Environmnetal Quality Act
CO_2e - Carbon dioxide equivalents
lb - pound
MT - Metric Tons
NOx - nitrogen oxides
PM_{10} - particulate matter less than 10 microns
$PM_{2.5}$ - particulate matter less than 2.5 microns
ROG - reactive organic gases

Reference:

California Environmental Quality Act (CEQA) Guidelines. 2017. Bay Area Air Quality Management District (BAAQMD). May. Available online at: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en

Table 5
Operational Emissions Thresholds
Passage at San Mateo
San Mateo, California

Scenario	Annual CAP Emissions				Annual GHG Emissions
	ROG	NOx	PM_{10}	$PM_{2.5}$	
	tons/year				MT CO_2e/year
Project Construction GHG Emissions	--	--	--	--	112
Project Operational Emissions	9.3	6.0	0.57	0.57	8,239
Baseline Operational Emissions	2.9	5.8	0.069	0.065	4,940
Net Operational Emissions	6.4	0.23	0.50	0.50	3,411
BAAQMD Threshold[1]	10	10	15	10	1100
Exceeds Threshold?	NO	NO	NO	NO	YES
				Net Service Population[2]	2,031
				Service Population Emissions (MT/person/year)	1.7
				Threshold[3] (MT/person/year)	2.8
				Exceeds Threshold?	NO

Scenario	Average Daily CAP Emissions			
	ROG	NOx	PM_{10}	$PM_{2.5}$
	lb/day[4]			
Project Operational Emissions	51	33	3.1	3.1
Baseline Operational Emissions	16	32	0.38	0.36
Net Operational Emissions	35	1.3	2.8	2.8
BAAQMD CEQA Threshold[2]	54	54	82	54
Exceeds Threshold?	NO	NO	NO	NO

Notes:

1. From BAAQMD California Environmental Quality Act (CEQA) Guidelines.
2. Service population calculated from CalEEMod® as the residential population plus the number of Commercial-Worker trips for each land use (i.e. [trip rate]*[size metric]*[C-W%]). See Appendix B for CAlEEMod® output files.
3. The BAAQMD service population metric for 2020 is 4.6 MT/person/year. To account for the SB-32 goal of a 40% reduction in greenhouse gas emissions from the 2020 target set in AB-32, the threshold has been reduced by 40%.
4. Daily operational emissions averaged over period of 365 days.

Abbreviations:

BAAQMD - Bay Area Air Quality Management District
CalEEMod® - California Emissions Estimator Model®
CAP - Criteria Air Pollutants
CEQA - California Environmnetal Quality Act
CO_2e - Carbon dioxide equivalents
lb - pound
MT - Metric Tons
NOx - nitrogen oxides
PM_{10} - particulate matter less than 10 microns
$PM_{2.5}$ - particulate matter less than 2.5 microns
ROG - reactive organic gases

Reference:

California Environmental Quality Act (CEQA) Guidelines. 2017. Bay Area Air Quality Management District (BAAQMD). May. Available online at: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en

California Assemby Bill 32 (AB-32). 2006. Available at: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=200520060AB32

California Senate Bill 32 (SB-32). 2016. Available at: https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201520160SB32

Table 6
Electricity Intensity Factor Derivation
Passage at San Mateo
San Mateo, California

Baseline Electricity Intensity

Annual Electricity Data	2015[1,2]	2016[1,3]	2017[1,4]	Average[5]	Units
CO_2 Intensity Factor per Total Energy Delivered	405	294	210	303	lbs CO_2/MWh delivered
% of Total Energy From Renewables	29.5%	32.8%	33.0%	31.8%	[-]
CO_2 Intensity Factor per Total Non-Renewable Energy[6]	574	437	314	444	lbs CO_2/MWh delivered

Estimated Intensity Factor for Total Energy Delivered[7,8]

Model Year	2015[1,3]	2016[1,4]	2017[1,4]	Average[5]	Units
2024 RPS (44%)[9]	321	245	176	249	lbs CO_2/MWh delivered
	323	246	177	250	lbs CO_2e/MWh delivered

Notes:

1. Total CO_2 intensity factors from The Climate Registry. Available at: https://www.theclimateregistry.org/our-members/cris-public-reports/. Accessed: June 2019.
2. Percent of total energy from eligible renewables is from the PGE 2016 Corporate Responsibility Report. Available at: http://www.pgecorp.com/corp_responsibility/reports/2016/PGE_CRSR_Environment.pdf.
3. Percent of total energy from eligible renewables is from the PGE 2017 Corporate Responsibility Report. Available at: http://www.pgecorp.com/corp_responsibility/reports/2017/assets/PGE_CRSR_2017_Environment.pdf.
4. Percent of total energy from eligible renewables is from the PGE 2018 Corporate Responsibility Report. Available at: http://www.pgecorp.com/corp_responsibility/reports/2018/assets/PGE_CRSR_2018_Environment.pdf.
5. This average uses the most recent three years of data.
6. The emissions metric presented here is calculated based on the total CO_2 intensity factor divided by the percent of energy delivered from non-renewable sources.
7. The intensity factor for total energy delivered is estimated by multiplying the percentage of energy delivered from non-renewable energy by the CO_2 emissions per total non-renewable energy metric calculated above. The estimate provided here and the energy reports issued by PGE assume that renewable energy sources do not result in any CO_2
8. Global Warming Potentials (GWP) are based on the IPCC Fourth Assessment Report. CH_4 and N_2O emission factors are updated from the CalEEMod® version 2016.3.2 defaults for PGE based on the most recent versions of the data sources cited I nthe CalEEMod® User's Guide (0.026 lbs CH4/MWh and 0.003 lb N2O/MWh).
9. Emission factor presented here is 44% projected RPS for 2024 consistent with SB 100. Available at: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180SB100.

Abbreviations:

CARB - California Air Resources Board
CH_4 -Methane
CO_2 - carbon dioxide
CO2e - carbon dioxide equivalent
GHG - greenhouse gases
lb - pound
MWh -megawatt hour
N_2O -Nitrous oxide
PGE - Pacific Gas & Electric
RPS - Renewable Portfolio Standard
SB - Senate Bill
USEPA - US Environmental Protection Agency

Table 7
Operational Trip Rates
Passage at San Mateo
San Mateo, California

Scenario	Land Use	CalEEMod® Land Use Type	Land Use Size Metric	Net New Size	Trip Rate (trips/day/size)	Total Daily Trips (no pass-by reduction)	Primary Trip Rate (%)	Diverted Trip Rate (%)	Pass-By Trip Rate (%)
Project	Apartments Mid Rise	Apartments Mid Rise	Dwelling Unit	961	4.47	4296	86	11	3
	Green Space	City Park	Acre	7	0	0	66	28	6
	7-Eleven	Convenience Market (24 Hour)	1000sqft	3	287.1	899	30	19	51
	Day-Care Center	Day-Care Center	1000sqft	5	39.14	180	28	58	14
	Underground/Enclosed Parking	Enclosed Parking with Elevator	Space	1,596	0	0	0	0	0
	SEED Food Hall	Fast Food Restaurant w/o Drive Thru	1000sqft	5	259.07	1295	33	24	43
	Leasing offices, workspace, and fitness centers	Health Club	1000sqft	25	0	0	52	39	9
	High Turnover (Sit Down Restaurant)	High Turnover (Sit Down Restaurant)	1000sqft	2	259.07	622	37	20	43
	Peninsula Ballet + Performance Space	Movie Theater (No Matinee)	1000sqft	9	23.69	208	66	17	17
	Other Retail	Strip Mall	1000sqft	3	31.03	96	35	31	34
	Trader Joe's	Supermarket	1000sqft	14	287.59	3882	34	30	36
Baseline	7-Eleven	Convenience Market (24 Hour)	1000sqft	3	351.93	1102	30	19	51
	Peninsula Ballet + Performance Space	Movie Theater (No Matinee)	1000sqft	9	0	0	52	39	9
	Existing Parking	Parking Lot	Space	670	0	0	0	0	0
	Other Retail	Strip Mall	1000sqft	3	40.08	124	35	31	34
	Trader Joe's	Supermarket	1000sqft	14	294.8	3980	34	30	36

Notes:

1. All trip rates recalcualted from the Traffic Report (see Appendix C) as daily trips/size, not including pass-by reductions. Pass-by percentages in CalEEMod® were updated to match the Pass-by Reduction in the Traffic Report as necessary.
2. Parking and green space are assumed not to generate any trips. Leasing office, work space, and fitness center trips are assumed to be included in the residential land use.
3. The existing performance space was not included in the Traffic Report. Trip rates were conservatively set to zero.

Table 8
Energy Use
Passage at San Mateo
San Mateo, California

Scenario	Project Land Use	CalEEMod® Land Use	Size Unit	Net New Size	Electricity Use Rate (kWh/unit-year)	Natural Gas Use Rate (kBTU/unit-year)	Total Electricity Use (kWh/year)	Total Natural Gas Use (kBTU/year)
Project	Apartments Mid Rise	Apartments Mid Rise	Dwelling Unit	961	4,105	8,443	3,945,107	8,113,723
	Green Space	City Park	Acre	7	0	0	0	0
	7-Eleven	Convenience Market (24 Hour)	1000sqft	3	10	5	30	14
	Day-Care Center	Day-Care Center	1000sqft	5	4	16	19	75
	Underground/Enclosed Parking	Enclosed Parking with Elevator	Space	1,596	5	0	8,379	0
	SEED Food Hall	Fast Food Restaurant w/o Drive Thru	1000sqft	5	28	168	141	838
	Leasing offices, workspace, and fitness centers	Health Club	1000sqft	25	7	25	177	611
	High Turnover (Sit Down Restaurant)	High Turnover (Sit Down Restaurant)	1000sqft	2	28	168	67	402
	Peninsula Ballet + Performance Space	Movie Theater (No Matinee)	1000sqft	9	7	25	62	216
	Other Retail	Strip Mall	1000sqft	3	10	5	30	14
	Trader Joe's	Supermarket	1000sqft	14	36	37	490	499
Baseline	7-Eleven	Convenience Market (24 Hour)	1000sqft	3	10	5	30	14
	Peninsula Ballet + Performance Space	Movie Theater (No Matinee)	1000sqft	9	7	25	62	216
	Existing Parking	Parking Lot	Space	670	0	0	208	0
	Other Retail	Strip Mall	1000sqft	3	10	5	30	14
	Trader Joe's	Supermarket	1000sqft	14	36	37	490	499

Notes:

1. Electricity and natural gas use are based on CalEEMod® defaults for Climate Zone 5, which account for 2016 Title 24. Title 24 electricity and lighting electricity use rates were reduced by 10.7% and Title 24 natural gas use rates were reduced by 1.0%, per the California Energy Commission (CEC) 2019 Title 24 Impact Analysis: https://www.energy.ca.gov/title24/2019standards/post_adoption/documents/2019_Impact_Analysis_Final_Report_2018-06-29.pdf

Abbreviations

CalEEMod® - CALifornia Emissions Estimator MODel

KBTU - kilo-British thermal unit

KWh - kilowatt hour

Sqft - square footage

Table 9
Modeling Source Parameters
Passage at San Mateo
San Mateo, California

Source	Source Type	Release Height[1]	Initial Vertical Dimension	Area[2,3]
		m	[unitless]	m^2
Building 1	Polygon Area	5.00	1.16	7,805
Building 2	Polygon Area	5.00	1.16	17,421
Building 3	Polygon Area	5.00	1.16	5,539
Building 4	Polygon Area	5.00	1.16	15,773
Building 5	Polygon Area	5.00	1.16	2,949

Notes:

1. Area source release height assumed to be 5 m, consistent with SCAQMD LST Guidance.
2. Modeled emission rates are 1/[Area] to generate unit dispersion factors.
3. The complete AERMOD input file can be found in Appendix C.

Abbreviations:

m - meter

SCAQMD - South Coast Air Quality Management District

Reference:

SCAQMD. 2008. Final Localized Significance Threshold Methodology. July. Available at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf?sfvrsn=2

Table 10
Quarterly Modeled Diesel Particulate Matter (DPM) Emissions and Exposure Periods
Passage at San Mateo
San Mateo, California

Building Number	Residential Units	Construction Subphase	CalEEMod Default Phase(s)	Start Date	End Date	2020 Q1	2020 Q2	2020 Q3	2020 Q4	2021 Q1	2021 Q2	2021 Q3	2021 Q4
2	303	Rough Grade Operations	Demolition, Site Preparation, Grading, Paving	Wed 1/1/20	Tue 4/7/20	2.2E-03	2.2E-03	0	0	0	0	0	0
		Garage Structure	Building Construction	Wed 4/8/20	Tue 4/6/21	0	1.0E-03	1.0E-03	1.0E-03	1.0E-03	1.0E-03	0	0
		Framing & Roughs	Building Construction	Wed 12/16/20	Tue 8/24/21	0	0	0	1.0E-03	1.0E-03	1.0E-03	1.0E-03	0
		Drywall	Architectural Coating	Wed 6/30/20	Tue 10/19/21	0	4.7E-06	4.7E-06	4.7E-06	4.7E-06	4.7E-06	4.7E-06	4.7E-06
		Finishes & Turn Units	Building Construction, Architectural Coating	Wed 7/28/21	Tue 1/25/22	0	0	0	0	0	0	1.0E-03	1.0E-03
1	153	Rough Grade Operations	Demolition, Site Preparation, Grading, Paving	Wed 2/26/20	Thu 4/23/20	1.1E-03	1.1E-03	0	0	0	0	0	0
		Garage Structure	Building Construction	Fri 4/24/20	Thu 2/25/21	0	6.3E-04	6.3E-04	6.3E-04	6.3E-04	0	0	0
		Framing & Roughs	Building Construction	Fri 11/6/20	Thu 6/17/21	0	0	6.3E-04	6.3E-04	6.3E-04	6.3E-04	0	0
		Drywall	Architectural Coating	Fri 4/23/21	Thu 7/15/21	0	0	0	0	0	6.0E-06	6.0E-06	0
		Finishes & Turn Units	Building Construction, Architectural Coating	Fri 4/23/21	Thu 9/9/21	0	0	0	0	0	6.4E-04	6.4E-04	0
3	155	Rough Grade Operations	Demolition, Site Preparation, Grading, Paving	Fri 6/18/21	Tue 8/24/21	0	0	0	0	0	1.1E-03	1.1E-03	0
		Foundations	Building Construction	Wed 8/25/21	Tue 6/28/22	0	0	0	0	0	0	5.8E-04	5.8E-04
		Framing & Roughs	Building Construction	Wed 3/9/22	Tue 10/18/22	0	0	0	0	0	0	0	0
		Drywall	Architectural Coating	Wed 8/24/22	Tue 12/13/22	0	0	0	0	0	0	0	0
		Finishes & Turn Units	Building Construction, Architectural Coating	Wed 9/21/22	Tue 3/7/23	0	0	0	0	0	0	0	0
5	75	Rough Grade Operations	Demolition, Site Preparation, Grading, Paving	Fri 8/13/21	Mon 10/11/21	0	0	0	0	0	0	5.3E-04	5.3E-04
		Foundations	Building Construction	Tue 10/12/21	Mon 8/15/22	0	0	0	0	0	0	0	0
		Framing & Roughs	Building Construction	Tue 7/19/22	Mon 1/16/23	0	0	0	0	0	0	0	0
		Drywall	Architectural Coating	Tue 12/20/22	Mon 2/27/23	0	0	0	0	0	0	0	0
		Finishes & Turn Units	Building Construction, Architectural Coating	Tue 1/3/23	Mon 3/24/23	0	0	0	0	0	0	0	0
4	275	Rough Grade Operations	Demolition, Site Preparation, Grading, Paving	Tue 1/17/23	Thu 4/20/23	0	0	0	0	0	0	0	0
		Foundations	Building Construction	Fri 4/21/23	Thu 4/18/24	0	0	0	0	0	0	0	0
		Framing & Roughs	Building Construction	Fri 12/29/23	Thu 8/22/24	0	0	0	0	0	0	0	0
		Drywall	Architectural Coating	Fri 6/28/24	Thu 10/17/24	0	0	0	0	0	0	0	0
		Finishes & Turn Units	Building Construction, Architectural Coating	Fri 7/26/24	Thu 1/23/25	0	0	0	0	0	0	0	0

Key:
3rd Timester exposure period
Age 0-2 exposure period
Age 2-9 exposure period

Notes:
1. Construction phases and schedule provided by Project Sponsor (see Appendix A). CalEEMod® default phases were mapped to construction subphases by description, and emissions from each CalEEMod® phase from Table 9 were divided between buildings based on the number of residential units on a quarterly basis.
2. Highlighting indicates exposure periods used in residential receptor cancer risk calculations. Off-site residents area ssumed to be exposed to all construction emissions beginning in the 3rd trimester in utero. Each building is assumed to be occupied immediately after construction and exposed to all other emissions beginning in the next quarter.

Abbreviations:
DPM - Diesel Particulate Matter
PM_{10} - particulate matter less than 10 microns

Table 10
Quarterly Modeled Diesel Particulate Matter (DPM) Emissions and Exposure Periods
Passage at San Mateo
San Mateo, California

Building Number	Residential Units	Construction Subphase	CalEEMod Default Phase(s)	Start Date	End Date	Quarterly DPM Emissions (tons/quarter)							
						2022				2023			
						2022 Q1	2022 Q2	2022 Q3	2022 Q4	2023 Q1	2023 Q2	2023 Q3	2023 Q4
2	303	Rough Grade Operations	Demolition, Site Preparation, Grading, Paving	Wed 1/1/20	Tue 4/7/20	0	0	0	0	0	0	0	0
		Garage Structure	Building Construction	Wed 4/8/20	Tue 4/6/21	0	0	0	0	0	0	0	0
		Framing & Roughs	Building Construction	Wed 12/16/20	Tue 8/24/21	0	0	0	0	0	0	0	0
		Drywall	Architectural Coating	Wed 6/30/20	Tue 10/19/21	0	0	0	0	0	0	0	0
		Finishes & Turn Units	Building Construction, Architectural Coating	Wed 7/28/21	Tue 1/25/22	1.0E-03	0	0	0	0	0	0	0
1	153	Rough Grade Operations	Demolition, Site Preparation, Grading, Paving	Wed 2/26/20	Thu 4/23/20	0	0	0	0	0	0	0	0
		Garage Structure	Building Construction	Fri 4/24/20	Thu 2/25/21	0	0	0	0	0	0	0	0
		Framing & Roughs	Building Construction	Fri 11/6/20	Thu 6/17/21	0	0	0	0	0	0	0	0
		Drywall	Architectural Coating	Fri 4/23/21	Thu 7/15/21	0	0	0	0	0	0	0	0
		Finishes & Turn Units	Building Construction, Architectural Coating	Fri 4/23/21	Thu 9/9/21	0	0	0	0	0	0	0	0
3	155	Rough Grade Operations	Demolition, Site Preparation, Grading, Paving	Fri 6/18/21	Tue 8/24/21	0	0	0	0	0	0	0	0
		Foundations	Building Construction	Wed 8/25/21	Tue 6/28/22	5.8E-04	5.8E-04	0	0	0	0	0	0
		Framing & Roughs	Building Construction	Wed 3/9/22	Tue 10/18/22	5.8E-04	5.8E-04	5.8E-04	5.8E-04	0	0	0	0
		Drywall	Architectural Coating	Wed 8/24/22	Tue 12/13/22	0	0	4.8E-06	4.8E-06	0	0	0	0
		Finishes & Turn Units	Building Construction, Architectural Coating	Wed 9/21/22	Tue 3/7/23	0	0	5.8E-04	5.8E-04	5.8E-04	0	0	0
5	75	Rough Grade Operations	Demolition, Site Preparation, Grading, Paving	Fri 8/13/21	Mon 10/11/21	0	0	0	0	0	0	0	0
		Foundations	Building Construction	Tue 10/12/21	Mon 8/15/22	4.4E-04	4.4E-04	4.4E-04	0	0	0	0	0
		Framing & Roughs	Building Construction	Tue 7/19/22	Mon 1/16/23	0	0	4.4E-04	4.4E-04	4.4E-04	0	0	0
		Drywall	Architectural Coating	Tue 12/20/22	Mon 2/27/23	0	0	0	3.9E-06	3.9E-06	0	0	0
		Finishes & Turn Units	Building Construction, Architectural Coating	Tue 1/3/23	Mon 3/24/23	0	0	0	0	4.4E-04	0	0	0
4	275	Rough Grade Operations	Demolition, Site Preparation, Grading, Paving	Tue 1/17/23	Thu 4/20/23	0	0	0	0	2.0E-03	2.0E-03	0	0
		Foundations	Building Construction	Fri 4/21/23	Thu 4/18/24	0	0	0	0	0	9.4E-04	9.4E-04	9.4E-04
		Framing & Roughs	Building Construction	Fri 12/29/23	Thu 8/22/24	0	0	0	0	0	0	0	9.4E-04
		Drywall	Architectural Coating	Fri 6/28/24	Thu 10/17/24	0	0	0	0	0	0	0	0
		Finishes & Turn Units	Building Construction, Architectural Coating	Fri 7/26/24	Thu 1/23/25	0	0	0	0	0	0	0	0

Key:
- 3rd Timester exposure period
- Age 0-2 exposure period
- Age 2-9 exposure period

Notes:
1. Construction phases and schedule provided by Project Sponsor (see Appendix A). CalEEMod® default phases were mapped to construction subphases by description, and emissions from each CalEEMod® phase from Table 9 were divided between buildings based on the number of residential units on a quarterly basis.
2. Highlighting indicates exposure periods used in residential receptor cancer risk calculations. Off-site residents area ssumed to be exposed to all construction emissions beginning in the 3rd trimester in utero. Each building is assumed to be occupied immediately after construction and exposed to all other emissions beginning in the next quarter.

Abbreviations:
DPM - Diesel Particulate Matter
PM_{10} - particulate matter less than 10 microns

Table 10
Quarterly Modeled Diesel Particulate Matter (DPM) Emissions and Exposure Periods
Passage at San Mateo
San Mateo, California

Building Number	Residential Units	Construction Subphase	CalEEMod Default Phase(s)	Start Date	End Date	2024 Q1	2024 Q2	2024 Q3	2024 Q4	2025 Q1	2025 Q2	2025 Q3	2025 Q4	Total PM_{10} Emissions by Building (tons)
2	303	Rough Grade Operations	Demolition, Site Preparation, Grading, Paving	Wed 1/1/20	Tue 4/7/20	0	0	0	0	0	0	0	0	1.68E-02
		Garage Structure	Building Construction	Wed 4/8/20	Tue 4/6/21	0	0	0	0	0	0	0	0	
		Framing & Roughs	Building Construction	Wed 12/16/20	Tue 8/24/21	0	0	0	0	0	0	0	0	
		Drywall	Architectural Coating	Wed 6/30/20	Tue 10/19/21	0	0	0	0	0	0	0	0	
		Finishes & Turn Units	Building Construction, Architectural Coating	Wed 7/28/21	Tue 1/25/22	0	0	0	0	0	0	0	0	
1	153	Rough Grade Operations	Demolition, Site Preparation, Grading, Paving	Wed 2/26/20	Thu 4/23/20	0	0	0	0	0	0	0	0	8.49E-03
		Garage Structure	Building Construction	Fri 4/24/20	Thu 2/25/21	0	0	0	0	0	0	0	0	
		Framing & Roughs	Building Construction	Fri 11/6/20	Thu 6/17/21	0	0	0	0	0	0	0	0	
		Drywall	Architectural Coating	Fri 4/23/21	Thu 7/15/21	0	0	0	0	0	0	0	0	
		Finishes & Turn Units	Building Construction, Architectural Coating	Fri 4/23/21	Thu 9/9/21	0	0	0	0	0	0	0	0	
3	155	Rough Grade Operations	Demolition, Site Preparation, Grading, Paving	Fri 6/18/21	Tue 8/24/21	0	0	0	0	0	0	0	0	8.60E-03
		Foundations	Building Construction	Wed 8/25/21	Tue 6/28/22	0	0	0	0	0	0	0	0	
		Framing & Roughs	Building Construction	Wed 3/9/22	Tue 10/18/22	0	0	0	0	0	0	0	0	
		Drywall	Architectural Coating	Wed 8/24/22	Tue 12/13/22	0	0	0	0	0	0	0	0	
		Finishes & Turn Units	Building Construction, Architectural Coating	Wed 9/21/22	Tue 3/7/23	0	0	0	0	0	0	0	0	
5	75	Rough Grade Operations	Demolition, Site Preparation, Grading, Paving	Fri 8/13/21	Mon 10/11/21	0	0	0	0	0	0	0	0	4.16E-03
		Foundations	Building Construction	Tue 10/12/21	Mon 8/15/22	0	0	0	0	0	0	0	0	
		Framing & Roughs	Building Construction	Tue 7/19/22	Mon 1/16/23	0	0	0	0	0	0	0	0	
		Drywall	Architectural Coating	Tue 12/20/22	Mon 2/27/23	0	0	0	0	0	0	0	0	
		Finishes & Turn Units	Building Construction, Architectural Coating	Tue 1/3/23	Mon 3/24/23	0	0	0	0	0	0	0	0	
4	275	Rough Grade Operations	Demolition, Site Preparation, Grading, Paving	Tue 1/17/23	Thu 4/20/23	0	0	0	0	0	0	0	0	1.53E-02
		Foundations	Building Construction	Fri 4/21/23	Thu 4/18/24	9.4E-04	9.4E-04	0	0	0	0	0	0	
		Framing & Roughs	Building Construction	Fri 12/29/23	Thu 8/22/24	9.4E-04	9.4E-04	9.4E-04	0	0	0	0	0	
		Drywall	Architectural Coating	Fri 6/28/24	Thu 10/17/24	0	7.2E-06	7.2E-06	7.2E-06	0	0	0	0	
		Finishes & Turn Units	Building Construction, Architectural Coating	Fri 7/26/24	Thu 1/23/25	0	0	9.5E-04	9.5E-04	9.5E-04	0	0	0	
													Total DPM Emissions	5.34E-02

Key:
- 3rd Timester exposure period
- Age 0-2 exposure period
- Age 2-9 exposure period

Notes:
1. Construction phases and schedule provided by Project Sponsor (see Appendix A). CalEEMod® default phases were mapped to construction subphases by description, and emissions from each CalEEMod® phase from Table 9 were divided between buildings based on the number of residential units on a quarterly basis.
2. Highlighting indicates exposure periods used in residential receptor cancer risk calculations. Off-site residents area ssumed to be exposed to all construction emissions beginning in the 3rd trimester in utero. Each building is assumed to be occupied immediately after construction and exposed to all other emissions beginning in the next quarter.

Abbreviations:
DPM - Diesel Particulate Matter
PM_{10} - particulate matter less than 10 microns

Table 11
Modeled Emission Rates
Passage at San Mateo
San Mateo, California

Receptor Type	Emissions Source	Year	Emissions (tons)	Emission Rate (g/s)
Offsite	BD1	2020	5.3E-03	1.5E-04
Offsite	BD2	2020	8.5E-03	2.4E-04
Offsite	BD1	2021	3.2E-03	9.1E-05
Offsite	BD2	2021	7.3E-03	2.1E-04
Offsite	BD3	2021	3.4E-03	9.7E-05
Offsite	BD5	2021	1.1E-03	3.1E-05
Offsite	BD2	2022	1.0E-03	3.0E-05
Offsite	BD3	2022	4.7E-03	1.3E-04
Offsite	BD5	2022	2.2E-03	6.3E-05
Offsite	BD3	2023	5.8E-04	1.7E-05
Offsite	BD4	2023	7.7E-03	2.2E-04
Offsite	BD5	2023	8.9E-04	2.6E-05
Offsite	BD4	2024	6.6E-03	1.9E-04
Offsite	BD4	2025	9.5E-04	2.7E-05
BD1	BD2	2021	1.0E-03	3.0E-05
BD1	BD3	2021	5.8E-04	1.7E-05
BD1	BD5	2021	5.3E-04	1.5E-05
BD1	BD2	2022	1.0E-03	3.0E-05
BD1	BD3	2022	4.7E-03	1.3E-04
BD1	BD5	2022	2.2E-03	6.3E-05
BD1	BD3	2023	5.8E-04	1.7E-05
BD1	BD4	2023	7.7E-03	2.2E-04
BD1	BD5	2023	8.9E-04	2.6E-05
BD1	BD4	2024	6.6E-03	1.9E-04
BD1	BD4	2025	9.5E-04	2.7E-05
BD2	BD3	2022	3.5E-03	1.0E-04
BD2	BD5	2022	1.8E-03	5.1E-05
BD2	BD3	2023	5.8E-04	1.7E-05
BD2	BD4	2023	7.7E-03	2.2E-04
BD2	BD5	2023	8.9E-04	2.6E-05
BD2	BD4	2024	6.6E-03	1.9E-04
BD2	BD4	2025	9.5E-04	2.7E-05
BD3	BD4	2023	5.7E-03	1.6E-04
BD3	BD4	2024	6.6E-03	1.9E-04
BD3	BD4	2025	9.5E-04	2.7E-05
BD5	BD4	2023	5.7E-03	1.6E-04
BD5	BD4	2024	6.6E-03	1.9E-04
BD5	BD4	2025	9.5E-04	2.7E-05

Notes:

1. Annual emissions summed by year for each souce-receptor combination from Table 10. Each row represents the total emissions that "Receptor Type" is exposed to from "Emissions Source" in "Year".

2. Emission rates in grams per second calculated as continuous over 8,760 hours per year and 3,600 seconds per hour.

Abbreviations:
BD-Building; g- gram; s-second

Table 12
Cancer Risk Exposure Parameters
Passage at San Mateo
San Mateo, California

Receptor Type	Year	Age Group	Fraction of Year (FY)[1]	Daily Breathing Rate (DBR)[2]	Exposure Duration (ED)[3]	Fraction of Time at Home (FAH)[4]	Exposure Frequency (EF)[5]	Age Sensitivity Factor (ASF)[6]	Averaging Time (AT)	Intake Factor, Inhalation (IF_{inh})[7]
				[L/kg-day]	[years]	[unitless]	[days/year]		[days]	[m^3/kg-day]
Offsite	2020	3rd trimester	0.25	361	1.00	1.0	350	10	25,550	0.01
Offsite	2020	0-2	0.75	1,090	1.00	1.0	350	10	25,550	0.11
Offsite	2021	0-2	1	1,090	1.00	1.0	350	10	25,550	0.15
Offsite	2022	0-2	0.25	1,090	1.00	1.0	350	10	25,550	0.037
Offsite	2022	2-9	0.75	572	1.00	1.0	350	3	25,550	0.018
Offsite	2023	2-9	1	572	1.00	1.0	350	3	25,550	0.024
Offsite	2024	2-9	1	572	1.00	1.0	350	3	25,550	0.024
Offsite	2025	2-9	1	572	1.00	1.0	350	3	25,550	0.024
Building 2	2022	3rd trimester	0.33	361	1.00	1.0	350	10	25,550	0.016
Building 2	2022	0-2	0.67	1,090	1.00	1.0	350	10	25,550	0.10
Building 2	2023	0-2	1	1,090	1.00	1.0	350	10	25,550	0.15
Building 2	2024	0-2	0.5	1,090	1.00	1.0	350	10	25,550	0.075
Building 2	2024	2-9	0.5	572	1.00	1.0	350	3	25,550	0.012
Building 2	2025	2-9	1	572	1.00	1.0	350	3	25,550	0.024
Building 1	2021	3rd trimester	1	361	1.00	1.0	350	10	25,550	0.049
Building 1	2022	0-2	1	1,090	1.00	1.0	350	10	25,550	0.15
Building 1	2023	0-2	1	1,090	1.00	1.0	350	10	25,550	0.15
Building 1	2024	2-9	1	572	1.00	1.0	350	3	25,550	0.024
Building 1	2025	2-9	1	572	1.00	1.0	350	3	25,550	0.024
Building 3	2023	3rd trimester	0.33	361	1.00	1.0	350	10	25,550	0.016
Building 3	2023	0-2	0.67	1,090	1.00	1.0	350	10	25,550	0.10
Building 3	2024	0-2	1	1,090	1.00	1.0	350	10	25,550	0.15
Building 3	2025	0-2	1	1,090	1.00	1.0	350	10	25,550	0.15
Building 5	2023	3rd trimester	0.33	361	1.00	1.0	350	10	25,550	0.016
Building 5	2023	0-2	0.67	1,090	1.00	1.0	350	10	25,550	0.10
Building 5	2024	0-2	1	1,090	1.00	1.0	350	10	25,550	0.15
Building 5	2025	0-2	1	1,090	1.00	1.0	350	10	25,550	0.15

Table 12
Cancer Risk Exposure Parameters
Passage at San Mateo
San Mateo, California

Notes:

1. Fraction of year represents the portion of the exposure time within a year that the age bin occupies for the specific receptor type, based on the color coding in Table 10. For example, Building 1 exposure begins in the 4th quarter of 2021. The 3rd Trimester age bin occupies the entire exposure period for Building 1 in 2021, so the Fraction of Year is set to 1. All construction emissions that occur in the 4th Quarter of 2021 are annualized for Building 1 exposure.
2. Daily breathing rates reflect default breathing rates from OEHHA 2015 and BAAQMD 2016 as follows: 95th percentile 24-hour daily breathing rate for age 0-<2 years (per BAAQMD 2016 guidance).
3. Exposure durations are all set to 1 as emissions for each exposure scenario are calculated separately and annualized to one year.
4. Fraction of time spent at home is conservatively assumed to be 1 (i.e. 24 hours/day) based on the recommendation from BAAQMD (BAAQMD 2016) and OEHHA (OEHHA 2015).
5. Exposure frequency reflects default residential exposure frequency from OEHHA 2015.
6. Based on OEHHA 2015. Age sensitivity factors are unitless.
7. Inhalation Factors calculated via the equation below:

Calculation:

$IF_{inh} = FY * DBR * FAH * EF * ED * ASF * CF / AT$

$CF = 0.001 (m^3/L)$

Abbreviations:

ASF - age sensitivity factor	FAH - fraction of time at home
AT - averaging time	IF_{inh} - intake factor
BAAQMD - Bay Area Air Quality Managem	kg - kilogram
DBR - daily breathing rate	L - liter
ED - exposure duration	m^3 - cubic meter
EF - exposure frequency	OEHHA - Office of Environmental Health Hazard Assessment

Reference:

BAAQMD. 2016. Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines. January.
OEHHA. 2015. Air Toxics Hot Spots Program Risk Assessment Guidelines. Guidance Manual for Preparation of Health Risk

Table 13
Toxicity Values
Passage at San Mateo
San Mateo, California

Chemical[1]	Cancer Potency Factor $(mg/kg\text{-}day)^{-1}$	Chronic REL ($\mu g/m^3$)
Diesel PM	1.1	5.0

Notes:

1. Chemicals presented in this table reflect air toxic contaminants in the proposed fuel types that are expected from off-road equipment and on-road truck trips.

Abbreviations:

$\mu g/m^3$ - micrograms per cubic meter
ARB - Air Resources Board
Cal/EPA - California Environmental Protection Agency
$(mg/kg\text{-}day)^{-1}$ - per milligram per kilogram-day
OEHHA - Office of Environmental Health Hazard Assessment
PM - particulate matter
REL - reference exposure level

Reference:

Cal/EPA. 2015. OEHHA/ARB Consolidated Table of Approved Risk Assessment Health Values. May 13.

Table 14
Summary of Project Health Risks
Passage at San Mateo
San Mateo, California

Receptor Type	Lifetime Excess Cancer Risk (in a million)[1]	Non-Cancer Hazard Index[2]	$PM_{2.5}$ Concentration ($\mu g/m^3$, Annual Average)
Off-Site Resident	2.37	0.002	0.01
On-Site Resident (Building 1)	5.44	0.005	0.02
On-Site Resident (Building 2)	2.73	0.002	0.01
On-Site Resident (Building 3)	3.56	0.002	0.01
On-Site Resident (Building 5)	2.75	0.002	0.01
Maximum Construction Impact	5.44	0.005	0.02
BAAQMD Thresholds[3]	10	1	0.3

Notes:

1. Excess lifetime cancer risks are estimated as the upper-bound incremental probability that an individual will develop cancer over a lifetime as a direct result of exposure to potential carcinogens. The estimated risk is expressed as a unitless probability. The cancer risk attributed to the emissions associated with the Project was calculated based on the modeled annual average DPM concentration, the intake factor for a resident child, the Cancer Potency Factors (CPF) for Diesel Particulate Matter (DPM), and the Age Sensitivity Factors (ASF).
2. The potential for exposure to result in adverse chronic noncancer effects is evaluated by comparing the estimated annual average air concentration to the noncancer chronic Reference Exposure Level (REL) for each chemical. When calculated for a single chemical, the comparison yields a ratio termed a chronic hazard quotient (HQ). To evaluate the potential for adverse chronic noncancer health effects from simultaneous exposure to multiple chemicals, the chronic hazard quotients for all chemicals are summed, yielding a hazard index (HI).
3. From BAAQMD CEQA Guidelines (BAAQMD 2017).

Abbreviations:

µg - microgram
m^3 - cubic meter
PM - particulate matter
OEHHA - Office of Environmental Health Hazard Assessment

Reference:

BAAQMD. 2017. California Environmental Quality Act Air Quality Guidelines. May. Available at: http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en

OEHHA. 2015. Air Toxics Hot Spots Program Risk Assessment Guidelines. Guidance Manual for Preparation of Health Risk Assessments. February.

Table 15
Cumulative Health Impacts From Nearby Sources on On-Site Receptors[1]
Passage at San Mateo
San Mateo, California

Source Type	Sources	Distance from MEIR (feet)	Cancer Risk (in a million)	Chronic Hazard Index[3]	$PM_{2.5}$ Concentration ($\mu g/m^3$)
Project	Construction	--	5.4	0.005	0.023
Stationary Sources[2]	16028 - Cross Roads/Clock Tower Inc Generator	1000	0.7	2E-04	1.20E-04
	G8613 - Arco Gas Station	650	6.7	0.008	0
	G8635 - Exxon Gas Station	475	1.7	0.002	0
Roadways	S Delaware St[4]	470	3.5	--	0.057
	Concar Dr[4]	660	1.4	--	0.024
	Major Streets[5]	--	0.4	--	0.010
	Highway[5,6]	--	34	--	0.60
Railway	Caltrain[5]	--	17	--	0.031
		Total	70	0.015	0.75
		BAAQMD Threshold	100	10	0.8
		Exceed?	No	No	No

Notes:

1. Health impacts estimated using BAAQMD Screening Tools. Impacts presented here are the maximum impacts at any point within the Project boundary. This is a conservative overestimate since the maximum from each source would occur at different locations and the impact at any one location would be lower.

2. Consistent with BAAQMD guidance, Ramboll included all facilities within 1,000 feet of the proposed Project as per the BAAQMD Stationary Source Screening Analysis Tool. Facility information was obtained from the San Mateo County Stationary Source Screening tool with additional details provided by BAAQMD. Values have been adjusted using BAAQMD's Diesel Internal Combustion (IC) Engine Distance Multiplier Tool.

3. The BAAQMD's screening tools do not estimate chronic hazards since the screening levels were found to be extremely low, and thus there are no chronic hazard values associated with highways, railways, or major streets.

4. Calues taken from BAAQMD Roadway Screening Calculator based on existing traffic volumes and distance from the nearest traffic lane. Traffic volume estimated as 5 * ([Peak AM Hour] + [Peak PM Hour]), from the turning volumes in Appendix A. Cancer risk values are multiplied by a factor of 1.3744 to account for the 2015 OEHHA Guidelines.

5. Cancer risk and $PM_{2.5}$ concentration values were taken from BAAQMD raster files at the MEIR location (BAAQMD 2018).

6. The BAAQMD highway raster file was generated using 2014 calendar year emissions generated in EMFAC2014. The $PM_{2.5}$ results presented here were refined by scaling the raster output by running EMFAC2014 for total emissions in San Mateo County in 2014 (0.54 tons/day) and the year of maximum impact, which for onsite construction impacts was 2022 (0.48 tons/day).

Abbreviations:

µg - microgram

BAAQMD - Bay Area Air Quality Management District

HI - Hazard Index

m - meter

m^3 - cubic meter

MEIR - Maximally Exposed Individual Resident

$PM_{2.5}$ - fine particulate matter

Sources:

BAAQMD. 2012. Stationary Source Screening Analysis Tool. San Mateo County. May 30. Available at: http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools

BAAQMD. 2015. Roadway Risks and Hazards Screening Calculator. April 16. Available at: http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools

BAAQMD. 2018. Personal Communication from Areana Flores to Varsha Gopalakrishnan. April 20. Files available at: https://www.dropbox.com/sh/r0d12b66m4scwlc/AADpA16Bsv1-9A5zIH3L9EAza?dl=0

California Air Resources Board (ARB). 2014. EMFAC2014 Web Database. Available at: https://www.arb.ca.gov/emfac/2014/

Table 16
Cumulative Health Impacts From Project Traffic and Nearby Sources on Offsite Sensitive Receptors[1]
Passage at San Mateo
San Mateo, California

Source Type	Sources	Distance from MEIR (feet)	Cancer Risk (in a million)	Chronic Hazard Index[3]	$PM_{2.5}$ Concentration ($\mu g/m^3$)
Project	Construction	--	2.4	0.002	0.008
Stationary Sources[2]	6359 - US Post Office	949	0.0	0.0	0.0
	G8613 - Arco Gas Station	1000	3.5	0.004	0.0
	G8635 - Exxon Gas Station	1000	0.5	0.001	0.0
Roadways	S Delaware St[4]	200	6.6	--	0.11
	Concar Dr[4]	30	12	--	0.19
	Major Streets[5]	--	0.3	--	0.008
	Highway[5,6]	--	18	--	0.39
Railway	Caltrain[5]	--	19	--	0.036
		Total	62	0.006	0.74
		BAAQMD Threshold	100	10	0.8
		Exceed?	No	No	No

Notes:

1. Health impacts estimated using BAAQMD Screening Tools. Impacts presented here are the maximum impacts at any point within the Project boundary. This is a conservative overestimate since the maximum from each source would occur at different locations and the impact at any one location would be lower.
2. Consistent with BAAQMD guidance, Ramboll included all facilities within 1,000 feet of the proposed Project as per the BAAQMD Stationary Source Screening Analysis Tool. Facility information was obtained from the San Mateo County Stationary Source Screening tool with additional details provided by BAAQMD. Values have been adjusted using BAAQMD's Diesel Internal Combustion (IC) Engine Distance Multiplier Tool.
3. The BAAQMD's screening tools do not estimate chronic hazards since the screening levels were found to be extremely low, and thus there are no chronic hazard values associated with highways, railways, or major streets.
4. Calues taken from BAAQMD Roadway Screening Calculator based on existing traffic volumes and distance from the nearest traffic lane. Traffic volume estimated as 5 * ([Peak AM Hour] + [Peak PM Hour]), from the turning volumes in Appendix A. Cancer risk values are multiplied by a factor of 1.3744 to account for the 2015 OEHHA Guidelines.
5. Cancer risk and $PM_{2.5}$ concentration values were taken from BAAQMD raster files at the MEIR location.
6. The BAAQMD highway raster file was generated using 2014 calendar year emissions generated in EMFAC2014. The $PM_{2.5}$ results presented here were refined by scaling the raster output by running EMFAC2014 for total emissions in San Mateo County in 2014 (0.54 tons/day) and the year of maximum impact, which for offsite construction impacts was 2020 (0.49 tons/day).

Abbreviations:

µg - microgram

BAAQMD - Bay Area Air Quality Management District

HI - Hazard Index

m - meter

m^3 - cubic meter

MEIR - Maximally Exposed Individual Resident

$PM_{2.5}$ - fine particulate matter

Sources:

BAAQMD. 2012. Stationary Source Screening Analysis Tool. San Mateo County. May 30. Available at: http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools

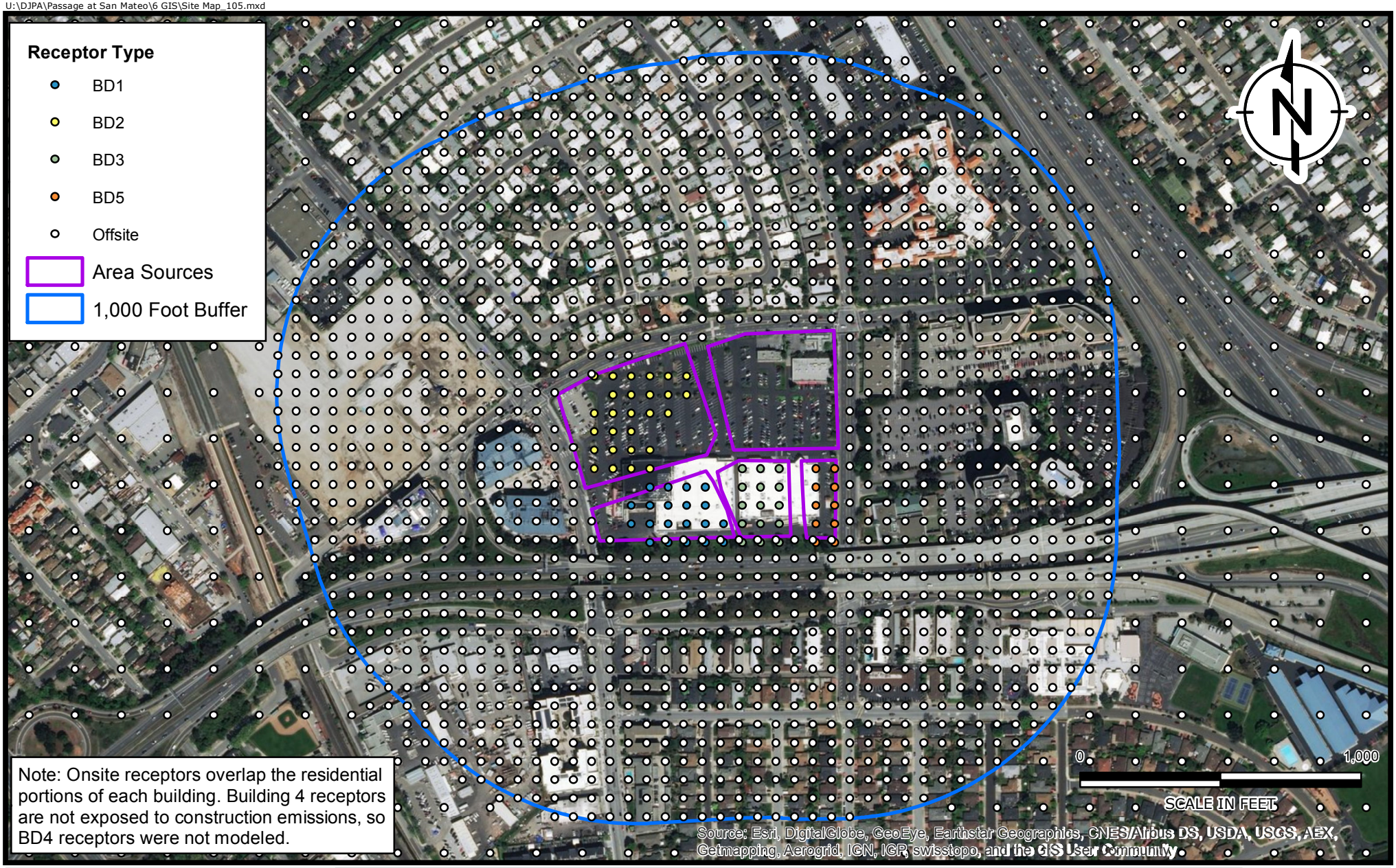
BAAQMD. 2015. Roadway Risks and Hazards Screening Calculator. April 16. Available at: http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools

BAAQMD. 2018. Personal Communication from Areana Flores to Varsha Gopalakrishnan. April 20. Files available at: https://www.dropbox.com/sh/r0d12b66m4scwlc/AADpA16Bsv1-9A5zIH3L9EAza?dl=0

California Air Resources Board (ARB). 2014. EMFAC2014 Web Database. Available at: https://www.arb.ca.gov/emfac/2014/

FIGURES

U:\DJPA\Passage at San Mateo\6 GIS\Site Map_105.mxd



RAMBOLL

Modeled Sources and Receptors

Passage at San Mateo
San Mateo, California

FIGURE
1

DRAFTED BY:

DATE: 8/27/2019

PROJECT:

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RAMBOLL

Maximally Exposed Individual Resident (MEIR) Locations

Passage at San Mateo
San Mateo, California

FIGURE
2

DRAFTED BY:

DATE: 8/27/2019

PROJECT:

APPENDIX A
CALEEMOD® OUTPUT FILES

Passage at San Mateo

San Mateo County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	670.00	Space	6.03	268,000.00	0
Movie Theater (No Matinee)	20.90	1000sqft	0.48	20,900.00	0
Convenience Market (24 Hour)	2.33	1000sqft	0.05	2,330.00	0
Strip Mall	131.00	1000sqft	3.01	131,000.00	0
Supermarket	11.16	1000sqft	0.26	11,160.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	70
Climate Zone	5			**Operational Year**	2019
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	303	**CH4 Intensity (lb/MWhr)**	0.026	**N2O Intensity (lb/MWhr)**	0.003

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 intensity factor represents average of 2015-2017 data.

Land Use -

Vehicle Trips - Pass-By Trip % updated per traffic data, Primary and Divert Trip % updated proportionally. Trip rates recalculated from land use sizes and trip generation memo.

Energy Use - Energy uses updated per percent reductions from 2016 T24 energy uses.

Passage at San Mateo - San Mateo County, Annual

Table Name	Column Name	Default Value	New Value
tblEnergyUse	LightingElect	4.88	4.36
tblEnergyUse	LightingElect	2.99	2.67
tblEnergyUse	LightingElect	0.35	0.31
tblEnergyUse	LightingElect	4.88	4.36
tblEnergyUse	LightingElect	7.42	6.63
tblEnergyUse	T24E	2.24	2.00
tblEnergyUse	T24E	1.21	1.08
tblEnergyUse	T24E	2.24	2.00
tblEnergyUse	T24E	2.72	2.43
tblEnergyUse	T24NG	3.90	3.86
tblEnergyUse	T24NG	17.85	17.67
tblEnergyUse	T24NG	3.90	3.86
tblEnergyUse	T24NG	24.53	24.28
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.026
tblProjectCharacteristics	CO2IntensityFactor	641.35	303
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.003
tblVehicleTrips	DV_TP	15.00	19.00
tblVehicleTrips	DV_TP	40.00	31.00
tblVehicleTrips	PB_TP	61.00	51.00
tblVehicleTrips	PB_TP	15.00	34.00
tblVehicleTrips	PR_TP	24.00	30.00
tblVehicleTrips	PR_TP	45.00	35.00
tblVehicleTrips	ST_TR	863.10	351.93
tblVehicleTrips	ST_TR	99.28	0.00
tblVehicleTrips	ST_TR	42.04	40.08
tblVehicleTrips	ST_TR	177.59	294.80

tblVehicleTrips	SU_TR	758.45	351.93
tblVehicleTrips	SU_TR	81.90	0.00
tblVehicleTrips	SU_TR	20.43	40.08
tblVehicleTrips	SU_TR	166.44	294.80
tblVehicleTrips	WD_TR	737.99	351.93
tblVehicleTrips	WD_TR	78.06	0.00
tblVehicleTrips	WD_TR	44.32	40.08
tblVehicleTrips	WD_TR	102.24	294.80

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					
2019	0.1748	1.7391	1.1933	2.5700e-003	0.2098	0.0827	0.2925	0.0980	0.0771	0.1751	0.0000	234.5440	234.5440	0.0453	0.0000	235.6770
2020	1.1903	2.5570	2.1981	5.3100e-003	0.1583	0.1096	0.2678	0.0431	0.1030	0.1460	0.0000	484.1437	484.1437	0.0716	0.0000	485.9340
Maximum	**1.1903**	**2.5570**	**2.1981**	**5.3100e-003**	**0.2098**	**0.1096**	**0.2925**	**0.0980**	**0.1030**	**0.1751**	**0.0000**	**484.1437**	**484.1437**	**0.0716**	**0.0000**	**485.9340**

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					
2019	0.1748	1.7391	1.1933	2.5700e-003	0.2098	0.0827	0.2925	0.0980	0.0771	0.1751	0.0000	234.5438	234.5438	0.0453	0.0000	235.6768
2020	1.1903	2.5570	2.1981	5.3100e-003	0.1583	0.1096	0.2678	0.0431	0.1030	0.1460	0.0000	484.1434	484.1434	0.0716	0.0000	485.9337
Maximum	**1.1903**	**2.5570**	**2.1981**	**5.3100e-003**	**0.2098**	**0.1096**	**0.2925**	**0.0980**	**0.1030**	**0.1751**	**0.0000**	**484.1434**	**484.1434**	**0.0716**	**0.0000**	**485.9337**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	8-5-2019	11-4-2019	1.2153	1.2153
2	11-5-2019	2-4-2020	1.0715	1.0715
3	2-5-2020	5-4-2020	0.9829	0.9829
4	5-5-2020	8-4-2020	0.9995	0.9995
5	8-5-2020	9-30-2020	0.5912	0.5912
		Highest	1.2153	1.2153

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	0.7558	7.0000e-005	7.7500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0149	0.0149	4.0000e-005	0.0000	0.0159
Energy	8.2700e-003	0.0752	0.0632	4.5000e-004		5.7200e-003	5.7200e-003		5.7200e-003	5.7200e-003	0.0000	347.4994	347.4994	0.0244	4.1300e-003	349.3395
Mobile	2.1406	5.6898	19.1596	0.0480	4.0199	0.0630	4.0828	1.0802	0.0592	1.1394	0.0000	4,376.9471	4,376.9471	0.1905	0.0000	4,381.7094
Waste						0.0000	0.0000		0.0000	0.0000	66.3009	0.0000	66.3009	3.9183	0.0000	164.2577
Water						0.0000	0.0000		0.0000	0.0000	6.2325	17.7997	24.0322	0.6417	0.0153	44.6307
Total	**2.9047**	**5.7651**	**19.2305**	**0.0484**	**4.0199**	**0.0687**	**4.0886**	**1.0802**	**0.0650**	**1.1452**	**72.5334**	**4,742.2611**	**4,814.7946**	**4.7748**	**0.0194**	**4,939.9532**

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	0.7558	7.0000e-005	7.7500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0149	0.0149	4.0000e-005	0.0000	0.0159
Energy	8.2700e-003	0.0752	0.0632	4.5000e-004		5.7200e-003	5.7200e-003		5.7200e-003	5.7200e-003	0.0000	347.4994	347.4994	0.0244	4.1300e-003	349.3395
Mobile	2.1406	5.6898	19.1596	0.0480	4.0199	0.0630	4.0828	1.0802	0.0592	1.1394	0.0000	4,376.9471	4,376.9471	0.1905	0.0000	4,381.7094
Waste						0.0000	0.0000		0.0000	0.0000	66.3009	0.0000	66.3009	3.9183	0.0000	164.2577
Water						0.0000	0.0000		0.0000	0.0000	6.2325	17.7997	24.0322	0.6417	0.0153	44.6307
Total	**2.9047**	**5.7651**	**19.2305**	**0.0484**	**4.0199**	**0.0687**	**4.0886**	**1.0802**	**0.0650**	**1.1452**	**72.5334**	**4,742.2611**	**4,814.7946**	**4.7748**	**0.0194**	**4,939.9532**

	ROG	NOx	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

Passage at San Mateo - San Mateo County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	8/5/2019	8/30/2019	5	20	
2	Site Preparation	Site Preparation	8/31/2019	9/13/2019	5	10	
3	Grading	Grading	9/14/2019	10/11/2019	5	20	
4	Building Construction	Building Construction	10/12/2019	8/28/2020	5	230	
5	Paving	Paving	8/29/2020	9/25/2020	5	20	
6	Architectural Coating	Architectural Coating	9/26/2020	10/23/2020	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 6.03

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 248,085; Non-Residential Outdoor: 82,695; Striped Parking Area: 16,080 (Architectural Coating – sqft)

OffRoad Equipment

Passage at San Mateo - San Mateo 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	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	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	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	168.00	71.00	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	34.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 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	0.0351	0.3578	0.2206	3.9000e-004		0.0180	0.0180		0.0167	0.0167	0.0000	34.6263	34.6263	9.6300e-003	0.0000	34.8672
Total	**0.0351**	**0.3578**	**0.2206**	**3.9000e-004**		**0.0180**	**0.0180**		**0.0167**	**0.0167**	**0.0000**	**34.6263**	**34.6263**	**9.6300e-003**	**0.0000**	**34.8672**

3.2 Demolition - 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	4.4000e-004	3.1000e-004	3.2200e-003	1.0000e-005	1.1800e-003	1.0000e-005	1.1900e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	1.0156	1.0156	2.0000e-005	0.0000	1.0161
Total	**4.4000e-004**	**3.1000e-004**	**3.2200e-003**	**1.0000e-005**	**1.1800e-003**	**1.0000e-005**	**1.1900e-003**	**3.1000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0156**	**1.0156**	**2.0000e-005**	**0.0000**	**1.0161**

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	0.0351	0.3578	0.2206	3.9000e-004		0.0180	0.0180		0.0167	0.0167	0.0000	34.6263	34.6263	9.6300e-003	0.0000	34.8671
Total	**0.0351**	**0.3578**	**0.2206**	**3.9000e-004**		**0.0180**	**0.0180**		**0.0167**	**0.0167**	**0.0000**	**34.6263**	**34.6263**	**9.6300e-003**	**0.0000**	**34.8671**

3.2 Demolition - 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	4.4000e-004	3.1000e-004	3.2200e-003	1.0000e-005	1.1800e-003	1.0000e-005	1.1900e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	1.0156	1.0156	2.0000e-005	0.0000	1.0161
Total	**4.4000e-004**	**3.1000e-004**	**3.2200e-003**	**1.0000e-005**	**1.1800e-003**	**1.0000e-005**	**1.1900e-003**	**3.1000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0156**	**1.0156**	**2.0000e-005**	**0.0000**	**1.0161**

3.3 Site Preparation - 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					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0217	0.2279	0.1103	1.9000e-004		0.0120	0.0120		0.0110	0.0110	0.0000	17.0843	17.0843	5.4100e-003	0.0000	17.2195
Total	**0.0217**	**0.2279**	**0.1103**	**1.9000e-004**	**0.0903**	**0.0120**	**0.1023**	**0.0497**	**0.0110**	**0.0607**	**0.0000**	**17.0843**	**17.0843**	**5.4100e-003**	**0.0000**	**17.2195**

3.3 Site Preparation - 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	2.7000e-004	1.9000e-004	1.9300e-003	1.0000e-005	7.1000e-004	0.0000	7.1000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6093	0.6093	1.0000e-005	0.0000	0.6097
Total	**2.7000e-004**	**1.9000e-004**	**1.9300e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.1000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.6093**	**0.6093**	**1.0000e-005**	**0.0000**	**0.6097**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0217	0.2279	0.1103	1.9000e-004		0.0120	0.0120		0.0110	0.0110	0.0000	17.0843	17.0843	5.4100e-003	0.0000	17.2195
Total	**0.0217**	**0.2279**	**0.1103**	**1.9000e-004**	**0.0903**	**0.0120**	**0.1023**	**0.0497**	**0.0110**	**0.0607**	**0.0000**	**17.0843**	**17.0843**	**5.4100e-003**	**0.0000**	**17.2195**

3.3 Site Preparation - 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	2.7000e-004	1.9000e-004	1.9300e-003	1.0000e-005	7.1000e-004	0.0000	7.1000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6093	0.6093	1.0000e-005	0.0000	0.6097
Total	**2.7000e-004**	**1.9000e-004**	**1.9300e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.1000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.6093**	**0.6093**	**1.0000e-005**	**0.0000**	**0.6097**

3.4 Grading - 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					
Fugitive Dust					0.0655	0.0000	0.0655	0.0337	0.0000	0.0337	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0258	0.2835	0.1629	3.0000e-004		0.0140	0.0140		0.0129	0.0129	0.0000	26.6423	26.6423	8.4300e-003	0.0000	26.8530
Total	**0.0258**	**0.2835**	**0.1629**	**3.0000e-004**	**0.0655**	**0.0140**	**0.0795**	**0.0337**	**0.0129**	**0.0465**	**0.0000**	**26.6423**	**26.6423**	**8.4300e-003**	**0.0000**	**26.8530**

3.4 Grading - 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	4.4000e-004	3.1000e-004	3.2200e-003	1.0000e-005	1.1800e-003	1.0000e-005	1.1900e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	1.0156	1.0156	2.0000e-005	0.0000	1.0161
Total	**4.4000e-004**	**3.1000e-004**	**3.2200e-003**	**1.0000e-005**	**1.1800e-003**	**1.0000e-005**	**1.1900e-003**	**3.1000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0156**	**1.0156**	**2.0000e-005**	**0.0000**	**1.0161**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0655	0.0000	0.0655	0.0337	0.0000	0.0337	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0258	0.2835	0.1629	3.0000e-004		0.0140	0.0140		0.0129	0.0129	0.0000	26.6422	26.6422	8.4300e-003	0.0000	26.8530
Total	**0.0258**	**0.2835**	**0.1629**	**3.0000e-004**	**0.0655**	**0.0140**	**0.0795**	**0.0337**	**0.0129**	**0.0465**	**0.0000**	**26.6422**	**26.6422**	**8.4300e-003**	**0.0000**	**26.8530**

3.4 Grading - 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	4.4000e-004	3.1000e-004	3.2200e-003	1.0000e-005	1.1800e-003	1.0000e-005	1.1900e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	1.0156	1.0156	2.0000e-005	0.0000	1.0161
Total	**4.4000e-004**	**3.1000e-004**	**3.2200e-003**	**1.0000e-005**	**1.1800e-003**	**1.0000e-005**	**1.1900e-003**	**3.1000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**1.0156**	**1.0156**	**2.0000e-005**	**0.0000**	**1.0161**

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	0.0673	0.6008	0.4892	7.7000e-004		0.0368	0.0368		0.0346	0.0346	0.0000	67.0047	67.0047	0.0163	0.0000	67.4128
Total	**0.0673**	**0.6008**	**0.4892**	**7.7000e-004**		**0.0368**	**0.0368**		**0.0346**	**0.0346**	**0.0000**	**67.0047**	**67.0047**	**0.0163**	**0.0000**	**67.4128**

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	9.6100e-003	0.2584	0.0992	5.5000e-004	0.0132	1.7800e-003	0.0150	3.8100e-003	1.7100e-003	5.5200e-003	0.0000	54.1296	54.1296	4.7800e-003	0.0000	54.2491
Worker	0.0142	9.9700e-003	0.1027	3.6000e-004	0.0377	2.4000e-004	0.0379	0.0100	2.2000e-004	0.0103	0.0000	32.4163	32.4163	6.9000e-004	0.0000	32.4337
Total	**0.0238**	**0.2683**	**0.2020**	**9.1000e-004**	**0.0509**	**2.0200e-003**	**0.0529**	**0.0138**	**1.9300e-003**	**0.0158**	**0.0000**	**86.5459**	**86.5459**	**5.4700e-003**	**0.0000**	**86.6828**

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	0.0673	0.6008	0.4892	7.7000e-004		0.0368	0.0368		0.0346	0.0346	0.0000	67.0046	67.0046	0.0163	0.0000	67.4127
Total	**0.0673**	**0.6008**	**0.4892**	**7.7000e-004**		**0.0368**	**0.0368**		**0.0346**	**0.0346**	**0.0000**	**67.0046**	**67.0046**	**0.0163**	**0.0000**	**67.4127**

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	9.6100e-003	0.2584	0.0992	5.5000e-004	0.0132	1.7800e-003	0.0150	3.8100e-003	1.7100e-003	5.5200e-003	0.0000	54.1296	54.1296	4.7800e-003	0.0000	54.2491
Worker	0.0142	9.9700e-003	0.1027	3.6000e-004	0.0377	2.4000e-004	0.0379	0.0100	2.2000e-004	0.0103	0.0000	32.4163	32.4163	6.9000e-004	0.0000	32.4337
Total	**0.0238**	**0.2683**	**0.2020**	**9.1000e-004**	**0.0509**	**2.0200e-003**	**0.0529**	**0.0138**	**1.9300e-003**	**0.0158**	**0.0000**	**86.5459**	**86.5459**	**5.4700e-003**	**0.0000**	**86.6828**

3.5 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	0.1834	1.6596	1.4574	2.3300e-003		0.0966	0.0966		0.0909	0.0909	0.0000	200.3426	200.3426	0.0489	0.0000	201.5646
Total	**0.1834**	**1.6596**	**1.4574**	**2.3300e-003**		**0.0966**	**0.0966**		**0.0909**	**0.0909**	**0.0000**	**200.3426**	**200.3426**	**0.0489**	**0.0000**	**201.5646**

3.5 Building Construction - 2020

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	0.0238	0.7122	0.2835	1.6300e-003	0.0400	3.5500e-003	0.0436	0.0116	3.4000e-003	0.0150	0.0000	162.7460	162.7460	0.0141	0.0000	163.0995
Worker	0.0396	0.0269	0.2828	1.0500e-003	0.1144	7.2000e-004	0.1151	0.0304	6.6000e-004	0.0311	0.0000	95.2615	95.2615	1.8600e-003	0.0000	95.3079
Total	**0.0634**	**0.7390**	**0.5663**	**2.6800e-003**	**0.1544**	**4.2700e-003**	**0.1587**	**0.0420**	**4.0600e-003**	**0.0461**	**0.0000**	**258.0075**	**258.0075**	**0.0160**	**0.0000**	**258.4074**

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	0.1834	1.6596	1.4574	2.3300e-003		0.0966	0.0966		0.0909	0.0909	0.0000	200.3424	200.3424	0.0489	0.0000	201.5643
Total	**0.1834**	**1.6596**	**1.4574**	**2.3300e-003**		**0.0966**	**0.0966**		**0.0909**	**0.0909**	**0.0000**	**200.3424**	**200.3424**	**0.0489**	**0.0000**	**201.5643**

3.5 Building Construction - 2020

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	0.0238	0.7122	0.2835	1.6300e-003	0.0400	3.5500e-003	0.0436	0.0116	3.4000e-003	0.0150	0.0000	162.7460	162.7460	0.0141	0.0000	163.0995
Worker	0.0396	0.0269	0.2828	1.0500e-003	0.1144	7.2000e-004	0.1151	0.0304	6.6000e-004	0.0311	0.0000	95.2615	95.2615	1.8600e-003	0.0000	95.3079
Total	**0.0634**	**0.7390**	**0.5663**	**2.6800e-003**	**0.1544**	**4.2700e-003**	**0.1587**	**0.0420**	**4.0600e-003**	**0.0461**	**0.0000**	**258.0075**	**258.0075**	**0.0160**	**0.0000**	**258.4074**

3.6 Paving - 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	0.0136	0.1407	0.1465	2.3000e-004		7.5300e-003	7.5300e-003		6.9300e-003	6.9300e-003	0.0000	20.0282	20.0282	6.4800e-003	0.0000	20.1902
Paving	7.9000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0215**	**0.1407**	**0.1465**	**2.3000e-004**		**7.5300e-003**	**7.5300e-003**		**6.9300e-003**	**6.9300e-003**	**0.0000**	**20.0282**	**20.0282**	**6.4800e-003**	**0.0000**	**20.1902**

3.6 Paving - 2020

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	4.1000e-004	2.8000e-004	2.9200e-003	1.0000e-005	1.1800e-003	1.0000e-005	1.1900e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	0.9833	0.9833	2.0000e-005	0.0000	0.9838
Total	**4.1000e-004**	**2.8000e-004**	**2.9200e-003**	**1.0000e-005**	**1.1800e-003**	**1.0000e-005**	**1.1900e-003**	**3.1000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9833**	**0.9833**	**2.0000e-005**	**0.0000**	**0.9838**

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	0.0136	0.1407	0.1465	2.3000e-004		7.5300e-003	7.5300e-003		6.9300e-003	6.9300e-003	0.0000	20.0282	20.0282	6.4800e-003	0.0000	20.1901
Paving	7.9000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0215**	**0.1407**	**0.1465**	**2.3000e-004**		**7.5300e-003**	**7.5300e-003**		**6.9300e-003**	**6.9300e-003**	**0.0000**	**20.0282**	**20.0282**	**6.4800e-003**	**0.0000**	**20.1901**

3.6 Paving - 2020

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	4.1000e-004	2.8000e-004	2.9200e-003	1.0000e-005	1.1800e-003	1.0000e-005	1.1900e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	0.9833	0.9833	2.0000e-005	0.0000	0.9838
Total	**4.1000e-004**	**2.8000e-004**	**2.9200e-003**	**1.0000e-005**	**1.1800e-003**	**1.0000e-005**	**1.1900e-003**	**3.1000e-004**	**1.0000e-005**	**3.2000e-004**	**0.0000**	**0.9833**	**0.9833**	**2.0000e-005**	**0.0000**	**0.9838**

3.7 Architectural Coating - 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					
Archit. Coating	0.9183					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.4200e-003	0.0168	0.0183	3.0000e-005		1.1100e-003	1.1100e-003		1.1100e-003	1.1100e-003	0.0000	2.5533	2.5533	2.0000e-004	0.0000	2.5582
Total	**0.9207**	**0.0168**	**0.0183**	**3.0000e-005**		**1.1100e-003**	**1.1100e-003**		**1.1100e-003**	**1.1100e-003**	**0.0000**	**2.5533**	**2.5533**	**2.0000e-004**	**0.0000**	**2.5582**

3.7 Architectural Coating - 2020

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	9.3000e-004	6.3000e-004	6.6200e-003	2.0000e-005	2.6800e-003	2.0000e-005	2.6900e-003	7.1000e-004	2.0000e-005	7.3000e-004	0.0000	2.2288	2.2288	4.0000e-005	0.0000	2.2299
Total	**9.3000e-004**	**6.3000e-004**	**6.6200e-003**	**2.0000e-005**	**2.6800e-003**	**2.0000e-005**	**2.6900e-003**	**7.1000e-004**	**2.0000e-005**	**7.3000e-004**	**0.0000**	**2.2288**	**2.2288**	**4.0000e-005**	**0.0000**	**2.2299**

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	0.9183					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.4200e-003	0.0168	0.0183	3.0000e-005		1.1100e-003	1.1100e-003		1.1100e-003	1.1100e-003	0.0000	2.5533	2.5533	2.0000e-004	0.0000	2.5582
Total	**0.9207**	**0.0168**	**0.0183**	**3.0000e-005**		**1.1100e-003**	**1.1100e-003**		**1.1100e-003**	**1.1100e-003**	**0.0000**	**2.5533**	**2.5533**	**2.0000e-004**	**0.0000**	**2.5582**

3.7 Architectural Coating - 2020

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	9.3000e-004	6.3000e-004	6.6200e-003	2.0000e-005	2.6800e-003	2.0000e-005	2.6900e-003	7.1000e-004	2.0000e-005	7.3000e-004	0.0000	2.2288	2.2288	4.0000e-005	0.0000	2.2299
Total	**9.3000e-004**	**6.3000e-004**	**6.6200e-003**	**2.0000e-005**	**2.6800e-003**	**2.0000e-005**	**2.6900e-003**	**7.1000e-004**	**2.0000e-005**	**7.3000e-004**	**0.0000**	**2.2288**	**2.2288**	**4.0000e-005**	**0.0000**	**2.2299**

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	2.1406	5.6898	19.1596	0.0480	4.0199	0.0630	4.0828	1.0802	0.0592	1.1394	0.0000	4,376.9471	4,376.9471	0.1905	0.0000	4,381.7094
Unmitigated	2.1406	5.6898	19.1596	0.0480	4.0199	0.0630	4.0828	1.0802	0.0592	1.1394	0.0000	4,376.9471	4,376.9471	0.1905	0.0000	4,381.7094

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Convenience Market (24 Hour)	820.00	820.00	820.00	774,442	774,442
Movie Theater (No Matinee)	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Strip Mall	5,250.48	5,250.48	5250.48	6,327,657	6,327,657
Supermarket	3,289.97	3,289.97	3289.97	3,742,153	3,742,153
Total	9,360.44	9,360.44	9,360.44	10,844,252	10,844,252

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
Convenience Market (24 Hour)	9.50	7.30	7.30	0.90	80.10	19.00	30	19	51
Movie Theater (No Matinee)	9.50	7.30	7.30	1.80	79.20	19.00	66	17	17
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	35	31	34
Supermarket	9.50	7.30	7.30	6.50	74.50	19.00	34	30	36

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Convenience Market (24 Hour)	0.498968	0.049513	0.248277	0.134909	0.018184	0.006326	0.020670	0.006254	0.003828	0.003354	0.008577	0.000418	0.000722
Movie Theater (No Matinee)	0.498968	0.049513	0.248277	0.134909	0.018184	0.006326	0.020670	0.006254	0.003828	0.003354	0.008577	0.000418	0.000722
Parking Lot	0.498968	0.049513	0.248277	0.134909	0.018184	0.006326	0.020670	0.006254	0.003828	0.003354	0.008577	0.000418	0.000722
Strip Mall	0.498968	0.049513	0.248277	0.134909	0.018184	0.006326	0.020670	0.006254	0.003828	0.003354	0.008577	0.000418	0.000722
Supermarket	0.498968	0.049513	0.248277	0.134909	0.018184	0.006326	0.020670	0.006254	0.003828	0.003354	0.008577	0.000418	0.000722

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	265.6349	265.6349	0.0228	2.6300e-003	266.9885
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	265.6349	265.6349	0.0228	2.6300e-003	266.9885
NaturalGas Mitigated	8.2700e-003	0.0752	0.0632	4.5000e-004		5.7200e-003	5.7200e-003		5.7200e-003	5.7200e-003	0.0000	81.8645	81.8645	1.5700e-003	1.5000e-003	82.3510
NaturalGas Unmitigated	8.2700e-003	0.0752	0.0632	4.5000e-004		5.7200e-003	5.7200e-003		5.7200e-003	5.7200e-003	0.0000	81.8645	81.8645	1.5700e-003	1.5000e-003	82.3510

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Convenience Market (24 Hour)	10624.8	6.0000e-005	5.2000e-004	4.4000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.5670	0.5670	1.0000e-005	1.0000e-005	0.5704
Movie Theater (No Matinee)	513513	2.7700e-003	0.0252	0.0211	1.5000e-004		1.9100e-003	1.9100e-003		1.9100e-003	1.9100e-003	0.0000	27.4030	27.4030	5.3000e-004	5.0000e-004	27.5659
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	597360	3.2200e-003	0.0293	0.0246	1.8000e-004		2.2300e-003	2.2300e-003		2.2300e-003	2.2300e-003	0.0000	31.8774	31.8774	6.1000e-004	5.8000e-004	32.0668
Supermarket	412585	2.2200e-003	0.0202	0.0170	1.2000e-004		1.5400e-003	1.5400e-003		1.5400e-003	1.5400e-003	0.0000	22.0171	22.0171	4.2000e-004	4.0000e-004	22.1480
Total		**8.2700e-003**	**0.0752**	**0.0632**	**4.5000e-004**		**5.7200e-003**	**5.7200e-003**		**5.7200e-003**	**5.7200e-003**	**0.0000**	**81.8645**	**81.8645**	**1.5700e-003**	**1.4900e-003**	**82.3510**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Convenience Market (24 Hour)	10624.8	6.0000e-005	5.2000e-004	4.4000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.5670	0.5670	1.0000e-005	1.0000e-005	0.5704
Movie Theater (No Matinee)	513513	2.7700e-003	0.0252	0.0211	1.5000e-004		1.9100e-003	1.9100e-003		1.9100e-003	1.9100e-003	0.0000	27.4030	27.4030	5.3000e-004	5.0000e-004	27.5659
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	597360	3.2200e-003	0.0293	0.0246	1.8000e-004		2.2300e-003	2.2300e-003		2.2300e-003	2.2300e-003	0.0000	31.8774	31.8774	6.1000e-004	5.8000e-004	32.0668
Supermarket	412585	2.2200e-003	0.0202	0.0170	1.2000e-004		1.5400e-003	1.5400e-003		1.5400e-003	1.5400e-003	0.0000	22.0171	22.0171	4.2000e-004	4.0000e-004	22.1480
Total		**8.2700e-003**	**0.0752**	**0.0632**	**4.5000e-004**		**5.7200e-003**	**5.7200e-003**		**5.7200e-003**	**5.7200e-003**	**0.0000**	**81.8645**	**81.8645**	**1.5700e-003**	**1.4900e-003**	**82.3510**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Convenience Market (24 Hour)	22647.6	3.1127	2.7000e-004	3.0000e-005	3.1285
Movie Theater (No Matinee)	148599	20.4232	1.7500e-003	2.0000e-004	20.5273
Parking Lot	83080	11.4184	9.8000e-004	1.1000e-004	11.4766
Strip Mall	1.27332e+006	175.0032	0.0150	1.7300e-003	175.8949
Supermarket	405108	55.6774	4.7800e-003	5.5000e-004	55.9612
Total		**265.6349**	**0.0228**	**2.6200e-003**	**266.9885**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Convenience Market (24 Hour)	22647.6	3.1127	2.7000e-004	3.0000e-005	3.1285
Movie Theater (No Matinee)	148599	20.4232	1.7500e-003	2.0000e-004	20.5273
Parking Lot	83080	11.4184	9.8000e-004	1.1000e-004	11.4766
Strip Mall	1.27332e+006	175.0032	0.0150	1.7300e-003	175.8949
Supermarket	405108	55.6774	4.7800e-003	5.5000e-004	55.9612
Total		**265.6349**	**0.0228**	**2.6200e-003**	**266.9885**

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	0.7558	7.0000e-005	7.7500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0149	0.0149	4.0000e-005	0.0000	0.0159
Unmitigated	0.7558	7.0000e-005	7.7500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0149	0.0149	4.0000e-005	0.0000	0.0159

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	0.0918					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6633					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.3000e-004	7.0000e-005	7.7500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0149	0.0149	4.0000e-005	0.0000	0.0159
Total	**0.7558**	**7.0000e-005**	**7.7500e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0149**	**0.0149**	**4.0000e-005**	**0.0000**	**0.0159**

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	0.0918					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6633					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	7.3000e-004	7.0000e-005	7.7500e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.0149	0.0149	4.0000e-005	0.0000	0.0159
Total	**0.7558**	**7.0000e-005**	**7.7500e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**0.0149**	**0.0149**	**4.0000e-005**	**0.0000**	**0.0159**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	24.0322	0.6417	0.0153	44.6307
Unmitigated	24.0322	0.6417	0.0153	44.6307

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Convenience Market (24 Hour)	0.172589 / 0.10578	0.2340	5.6400e-003	1.3000e-004	0.4151
Movie Theater (No Matinee)	8.39347 / 0.535753	9.1626	0.2741	6.5200e-003	17.9578
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	9.7035 / 5.94731	13.1556	0.3171	7.5700e-003	23.3365
Supermarket	1.37567 / 0.0425466	1.4800	0.0449	1.0700e-003	2.9214
Total		**24.0322**	**0.6417**	**0.0153**	**44.6307**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Convenience Market (24 Hour)	0.172589 / 0.10578	0.2340	5.6400e-003	1.3000e-004	0.4151
Movie Theater (No Matinee)	8.39347 / 0.535753	9.1626	0.2741	6.5200e-003	17.9578
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	9.7035 / 5.94731	13.1556	0.3171	7.5700e-003	23.3365
Supermarket	1.37567 / 0.0425466	1.4800	0.0449	1.0700e-003	2.9214
Total		**24.0322**	**0.6417**	**0.0153**	**44.6307**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	66.3009	3.9183	0.0000	164.2577
Unmitigated	66.3009	3.9183	0.0000	164.2577

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Convenience Market (24 Hour)	7	1.4209	0.0840	0.0000	3.5203
Movie Theater (No Matinee)	119.13	24.1823	1.4291	0.0000	59.9107
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	137.55	27.9214	1.6501	0.0000	69.1741
Supermarket	62.94	12.7763	0.7551	0.0000	31.6526
Total		**66.3009**	**3.9183**	**0.0000**	**164.2577**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Convenience Market (24 Hour)	7	1.4209	0.0840	0.0000	3.5203
Movie Theater (No Matinee)	119.13	24.1823	1.4291	0.0000	59.9107
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	137.55	27.9214	1.6501	0.0000	69.1741
Supermarket	62.94	12.7763	0.7551	0.0000	31.6526
Total		**66.3009**	**3.9183**	**0.0000**	**164.2577**

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

Passage at San Mateo - San Mateo County, Annual

Passage at San Mateo

San Mateo County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Day-Care Center	4.60	1000sqft	0.00	4,600.00	0
Enclosed Parking with Elevator	1,596.00	Space	0.00	638,400.00	0
City Park	6.83	Acre	6.83	297,514.80	0
Fast Food Restaurant w/o Drive Thru	5.00	1000sqft	0.00	5,000.00	0
Health Club	24.86	1000sqft	0.00	24,860.00	0
High Turnover (Sit Down Restaurant)	2.40	1000sqft	0.00	2,400.00	0
Movie Theater (No Matinee)	8.79	1000sqft	0.00	8,790.00	0
Apartments Mid Rise	961.00	Dwelling Unit	7.67	961,000.00	2748
Convenience Market (24 Hour)	3.13	1000sqft	0.00	3,130.00	0
Strip Mall	3.10	1000sqft	0.00	3,100.00	0
Supermarket	13.50	1000sqft	0.00	13,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	70
Climate Zone	5			**Operational Year**	2025
Utility Company					
CO2 Intensity (lb/MWhr)	249	**CH4 Intensity (lb/MWhr)**	0.026	**N2O Intensity (lb/MWhr)**	0.003

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Intensity factor data provided.

Land Use - Lot acreages adjusted to make total site acreage 14.5.

Demolition -

Grading -

Vehicle Trips - Updated per site-specific traffic data.

Pass-By Trip % updated per site-specific data. Primary and Divert Trip % updated proportionally.

Energy Use - Energy uses updated per percent reduction from 2016 T24 energy uses.

Construction Off-road Equipment Mitigation - Assume all Tier 4 Final equipment.

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	9.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final

tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblEnergyUse	LightingElect	741.44	667.30
tblEnergyUse	LightingElect	4.88	4.36
tblEnergyUse	LightingElect	2.51	2.24
tblEnergyUse	LightingElect	1.75	1.56
tblEnergyUse	LightingElect	5.34	4.77
tblEnergyUse	LightingElect	2.99	2.67
tblEnergyUse	LightingElect	5.34	4.77
tblEnergyUse	LightingElect	2.99	2.67
tblEnergyUse	LightingElect	4.88	4.36
tblEnergyUse	LightingElect	7.42	6.63
tblEnergyUse	T24E	426.45	383.81
tblEnergyUse	T24E	2.24	2.00
tblEnergyUse	T24E	0.66	0.59
tblEnergyUse	T24E	3.92	3.50
tblEnergyUse	T24E	2.67	2.38
tblEnergyUse	T24E	1.21	1.08
tblEnergyUse	T24E	2.67	2.38
tblEnergyUse	T24E	1.21	1.08
tblEnergyUse	T24E	2.24	2.00
tblEnergyUse	T24E	2.72	2.43
tblEnergyUse	T24NG	6,115.43	5,828.00
tblEnergyUse	T24NG	3.90	3.86

tblEnergyUse	T24NG	14.85	14.70
tblEnergyUse	T24NG	39.90	39.50
tblEnergyUse	T24NG	17.85	17.67
tblEnergyUse	T24NG	39.90	39.50
tblEnergyUse	T24NG	17.85	17.67
tblEnergyUse	T24NG	3.90	3.86
tblEnergyUse	T24NG	24.53	24.28
tblLandUse	LotAcreage	0.11	0.00
tblLandUse	LotAcreage	14.36	0.00
tblLandUse	LotAcreage	0.11	0.00
tblLandUse	LotAcreage	0.57	0.00
tblLandUse	LotAcreage	0.06	0.00
tblLandUse	LotAcreage	0.20	0.00
tblLandUse	LotAcreage	25.29	7.67
tblLandUse	LotAcreage	0.07	0.00
tblLandUse	LotAcreage	0.07	0.00
tblLandUse	LotAcreage	0.31	0.00
tblTripsAndVMT	HaulingTripNumber	0.00	14,849.00
tblVehicleTrips	DV_TP	15.00	19.00
tblVehicleTrips	DV_TP	37.00	24.00
tblVehicleTrips	DV_TP	40.00	31.00
tblVehicleTrips	PB_TP	61.00	51.00
tblVehicleTrips	PB_TP	12.00	43.00
tblVehicleTrips	PB_TP	15.00	34.00
tblVehicleTrips	PR_TP	24.00	30.00
tblVehicleTrips	PR_TP	51.00	33.00
tblVehicleTrips	PR_TP	45.00	35.00
tblVehicleTrips	ST_TR	6.39	4.47
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	863.10	287.10

tblVehicleTrips	ST_TR	6.21	39.14
tblVehicleTrips	ST_TR	696.00	259.07
tblVehicleTrips	ST_TR	20.87	0.00
tblVehicleTrips	ST_TR	158.37	259.07
tblVehicleTrips	ST_TR	99.28	23.69
tblVehicleTrips	ST_TR	42.04	31.03
tblVehicleTrips	ST_TR	177.59	287.59
tblVehicleTrips	SU_TR	5.86	4.47
tblVehicleTrips	SU_TR	16.74	0.00
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tblVehicleTrips	SU_TR	26.73	0.00
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tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	737.99	287.10
tblVehicleTrips	WD_TR	74.06	39.14
tblVehicleTrips	WD_TR	716.00	259.07
tblVehicleTrips	WD_TR	32.93	0.00
tblVehicleTrips	WD_TR	127.15	259.07
tblVehicleTrips	WD_TR	78.06	23.69
tblVehicleTrips	WD_TR	44.32	31.03
tblVehicleTrips	WD_TR	102.24	287.59

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					
2019	0.3735	5.5081	3.1884	0.0124	0.6878	0.1145	0.8023	0.2208	0.1067	0.3275	0.0000	1,207.8957	1,207.8957	0.1549	0.0000	1,211.7693
2020	0.7859	6.6475	6.4723	0.0226	1.3209	0.1709	1.4918	0.3566	0.1608	0.5174	0.0000	2,110.6497	2,110.6497	0.1698	0.0000	2,114.8942
2021	7.2533	0.0837	0.1327	3.0000e-004	0.0181	4.4400e-003	0.0225	4.8100e-003	4.1600e-003	8.9700e-003	0.0000	27.0742	27.0742	3.6800e-003	0.0000	27.1661
Maximum	**7.2533**	**6.6475**	**6.4723**	**0.0226**	**1.3209**	**0.1709**	**1.4918**	**0.3566**	**0.1608**	**0.5174**	**0.0000**	**2,110.6497**	**2,110.6497**	**0.1698**	**0.0000**	**2,114.8942**

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					
2019	0.2152	3.7319	3.1960	0.0124	0.6878	0.0213	0.7092	0.2208	0.0205	0.2412	0.0000	1,207.8955	1,207.8955	0.1549	0.0000	1,211.7690
2020	0.5547	4.4474	6.5626	0.0226	1.3209	0.0317	1.3526	0.3566	0.0303	0.3869	0.0000	2,110.6493	2,110.6493	0.1698	0.0000	2,114.8938
2021	7.2465	0.0112	0.1460	3.0000e-004	0.0181	3.4000e-004	0.0184	4.8100e-003	3.3000e-004	5.1400e-003	0.0000	27.0742	27.0742	3.6800e-003	0.0000	27.1661
Maximum	**7.2465**	**4.4474**	**6.5626**	**0.0226**	**1.3209**	**0.0317**	**1.3526**	**0.3566**	**0.0303**	**0.3869**	**0.0000**	**2,110.6493**	**2,110.6493**	**0.1698**	**0.0000**	**2,114.8938**

	ROG	NOx	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	**4.71**	**33.08**	**-1.14**	**0.00**	**0.00**	**81.59**	**10.21**	**0.00**	**81.19**	**25.83**	**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	**8-2-2019**	**11-1-2019**	4.4549	2.9618
2	**11-2-2019**	**2-1-2020**	2.0682	1.4066
3	**2-2-2020**	**5-1-2020**	1.8811	1.2787
4	**5-2-2020**	**8-1-2020**	1.8949	1.2791
5	**8-2-2020**	**11-1-2020**	1.9098	1.2939
6	**11-2-2020**	**2-1-2021**	5.7890	5.3379
7	**2-2-2021**	**5-1-2021**	2.5953	2.5896
		Highest	5.7890	5.3379

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	7.2093	0.1333	10.1973	6.4500e-003		0.4761	0.4761		0.4761	0.4761	43.8117	29.6812	73.4929	0.0817	2.8700e-003	76.3904
Energy	0.0581	0.5047	0.2690	3.1700e-003		0.0402	0.0402		0.0402	0.0402	0.0000	1,514.3728	1,514.3728	0.1091	0.0219	1,523.6145
Mobile	2.0293	5.3572	19.6928	0.0661	6.6736	0.0556	6.7292	1.7936	0.0517	1.8453	0.0000	6,060.7553	6,060.7553	0.2249	0.0000	6,066.3787
Waste						0.0000	0.0000		0.0000	0.0000	165.5168	0.0000	165.5168	9.7818	0.0000	410.0609
Water						0.0000	0.0000		0.0000	0.0000	22.9002	63.7694	86.6696	2.3587	0.0563	162.4168
Total	**9.2967**	**5.9952**	**30.1591**	**0.0757**	**6.6736**	**0.5719**	**7.2455**	**1.7936**	**0.5680**	**2.3616**	**232.2287**	**7,668.5788**	**7,900.8074**	**12.5561**	**0.0810**	**8,238.8613**

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	7.2093	0.1333	10.1973	6.4500e-003		0.4761	0.4761		0.4761	0.4761	43.8117	29.6812	73.4929	0.0817	2.8700e-003	76.3904
Energy	0.0581	0.5047	0.2690	3.1700e-003		0.0402	0.0402		0.0402	0.0402	0.0000	1,514.3728	1,514.3728	0.1091	0.0219	1,523.6145
Mobile	2.0293	5.3572	19.6928	0.0661	6.6736	0.0556	6.7292	1.7936	0.0517	1.8453	0.0000	6,060.7553	6,060.7553	0.2249	0.0000	6,066.3787
Waste						0.0000	0.0000		0.0000	0.0000	165.5168	0.0000	165.5168	9.7818	0.0000	410.0609
Water						0.0000	0.0000		0.0000	0.0000	22.9002	63.7694	86.6696	2.3587	0.0563	162.4168
Total	**9.2967**	**5.9952**	**30.1591**	**0.0757**	**6.6736**	**0.5719**	**7.2455**	**1.7936**	**0.5680**	**2.3616**	**232.2287**	**7,668.5788**	**7,900.8074**	**12.5561**	**0.0810**	**8,238.8613**

	ROG	NOx	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	Demolition	Demolition	8/2/2019	8/29/2019	5	20	
2	Site Preparation	Site Preparation	8/30/2019	9/12/2019	5	10	
3	Grading	Grading	9/13/2019	10/24/2019	5	30	
4	Building Construction	Building Construction	10/25/2019	12/17/2020	5	300	
5	Paving	Paving	12/18/2020	1/14/2021	5	20	
6	Architectural Coating	Architectural Coating	1/15/2021	2/11/2021	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 1,946,025; Residential Outdoor: 648,675; Non-Residential Indoor: 98,070; Non-Residential Outdoor: 32,690; Striped

OffRoad Equipment

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	750.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	14,849.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	1,110.00	267.00	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	222.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

3.2 Demolition - 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					
Fugitive Dust					0.0812	0.0000	0.0812	0.0123	0.0000	0.0123	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0351	0.3578	0.2206	3.9000e-004		0.0180	0.0180		0.0167	0.0167	0.0000	34.6263	34.6263	9.6300e-003	0.0000	34.8672
Total	**0.0351**	**0.3578**	**0.2206**	**3.9000e-004**	**0.0812**	**0.0180**	**0.0992**	**0.0123**	**0.0167**	**0.0290**	**0.0000**	**34.6263**	**34.6263**	**9.6300e-003**	**0.0000**	**34.8672**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.7600e-003	0.1310	0.0504	3.1000e-004	6.2700e-003	5.2000e-004	6.7900e-003	1.7200e-003	5.0000e-004	2.2200e-003	0.0000	31.7700	31.7700	3.8800e-003	0.0000	31.8669
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	4.4000e-004	3.1000e-004	3.2200e-003	1.0000e-005	1.1800e-003	1.0000e-005	1.1900e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	1.0156	1.0156	2.0000e-005	0.0000	1.0161
Total	**4.2000e-003**	**0.1313**	**0.0536**	**3.2000e-004**	**7.4500e-003**	**5.3000e-004**	**7.9800e-003**	**2.0300e-003**	**5.1000e-004**	**2.5400e-003**	**0.0000**	**32.7856**	**32.7856**	**3.9000e-003**	**0.0000**	**32.8830**

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					0.0812	0.0000	0.0812	0.0123	0.0000	0.0123	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.6200e-003	0.0200	0.2328	3.9000e-004		6.2000e-004	6.2000e-004		6.2000e-004	6.2000e-004	0.0000	34.6263	34.6263	9.6300e-003	0.0000	34.8671
Total	**4.6200e-003**	**0.0200**	**0.2328**	**3.9000e-004**	**0.0812**	**6.2000e-004**	**0.0818**	**0.0123**	**6.2000e-004**	**0.0129**	**0.0000**	**34.6263**	**34.6263**	**9.6300e-003**	**0.0000**	**34.8671**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.7600e-003	0.1310	0.0504	3.1000e-004	6.2700e-003	5.2000e-004	6.7900e-003	1.7200e-003	5.0000e-004	2.2200e-003	0.0000	31.7700	31.7700	3.8800e-003	0.0000	31.8669
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	4.4000e-004	3.1000e-004	3.2200e-003	1.0000e-005	1.1800e-003	1.0000e-005	1.1900e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	1.0156	1.0156	2.0000e-005	0.0000	1.0161
Total	**4.2000e-003**	**0.1313**	**0.0536**	**3.2000e-004**	**7.4500e-003**	**5.3000e-004**	**7.9800e-003**	**2.0300e-003**	**5.1000e-004**	**2.5400e-003**	**0.0000**	**32.7856**	**32.7856**	**3.9000e-003**	**0.0000**	**32.8830**

3.3 Site Preparation - 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					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0217	0.2279	0.1103	1.9000e-004		0.0120	0.0120		0.0110	0.0110	0.0000	17.0843	17.0843	5.4100e-003	0.0000	17.2195
Total	**0.0217**	**0.2279**	**0.1103**	**1.9000e-004**	**0.0903**	**0.0120**	**0.1023**	**0.0497**	**0.0110**	**0.0607**	**0.0000**	**17.0843**	**17.0843**	**5.4100e-003**	**0.0000**	**17.2195**

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	0.0744	2.5929	0.9971	6.1500e-003	0.1242	0.0103	0.1345	0.0341	9.8800e-003	0.0440	0.0000	629.0036	629.0036	0.0768	0.0000	630.9228
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	2.7000e-004	1.9000e-004	1.9300e-003	1.0000e-005	7.1000e-004	0.0000	7.1000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6093	0.6093	1.0000e-005	0.0000	0.6097
Total	**0.0746**	**2.5931**	**0.9991**	**6.1600e-003**	**0.1249**	**0.0103**	**0.1352**	**0.0343**	**9.8800e-003**	**0.0442**	**0.0000**	**629.6129**	**629.6129**	**0.0768**	**0.0000**	**631.5325**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3300e-003	0.0101	0.1043	1.9000e-004		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004	0.0000	17.0843	17.0843	5.4100e-003	0.0000	17.2195
Total	**2.3300e-003**	**0.0101**	**0.1043**	**1.9000e-004**	**0.0903**	**3.1000e-004**	**0.0906**	**0.0497**	**3.1000e-004**	**0.0500**	**0.0000**	**17.0843**	**17.0843**	**5.4100e-003**	**0.0000**	**17.2195**

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	0.0744	2.5929	0.9971	6.1500e-003	0.1242	0.0103	0.1345	0.0341	9.8800e-003	0.0440	0.0000	629.0036	629.0036	0.0768	0.0000	630.9228
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	2.7000e-004	1.9000e-004	1.9300e-003	1.0000e-005	7.1000e-004	0.0000	7.1000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.6093	0.6093	1.0000e-005	0.0000	0.6097
Total	**0.0746**	**2.5931**	**0.9991**	**6.1600e-003**	**0.1249**	**0.0103**	**0.1352**	**0.0343**	**9.8800e-003**	**0.0442**	**0.0000**	**629.6129**	**629.6129**	**0.0768**	**0.0000**	**631.5325**

3.4 Grading - 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					
Fugitive Dust					0.1301	0.0000	0.1301	0.0540	0.0000	0.0540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0711	0.8178	0.5007	9.3000e-004		0.0357	0.0357		0.0329	0.0329	0.0000	83.5520	83.5520	0.0264	0.0000	84.2129
Total	**0.0711**	**0.8178**	**0.5007**	**9.3000e-004**	**0.1301**	**0.0357**	**0.1658**	**0.0540**	**0.0329**	**0.0868**	**0.0000**	**83.5520**	**83.5520**	**0.0264**	**0.0000**	**84.2129**

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	8.9000e-004	6.2000e-004	6.4400e-003	2.0000e-005	2.3600e-003	2.0000e-005	2.3800e-003	6.3000e-004	1.0000e-005	6.4000e-004	0.0000	2.0311	2.0311	4.0000e-005	0.0000	2.0322
Total	**8.9000e-004**	**6.2000e-004**	**6.4400e-003**	**2.0000e-005**	**2.3600e-003**	**2.0000e-005**	**2.3800e-003**	**6.3000e-004**	**1.0000e-005**	**6.4000e-004**	**0.0000**	**2.0311**	**2.0311**	**4.0000e-005**	**0.0000**	**2.0322**

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					0.1301	0.0000	0.1301	0.0540	0.0000	0.0540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0114	0.0495	0.4950	9.3000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	83.5519	83.5519	0.0264	0.0000	84.2128
Total	**0.0114**	**0.0495**	**0.4950**	**9.3000e-004**	**0.1301**	**1.5200e-003**	**0.1316**	**0.0540**	**1.5200e-003**	**0.0555**	**0.0000**	**83.5519**	**83.5519**	**0.0264**	**0.0000**	**84.2128**

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	8.9000e-004	6.2000e-004	6.4400e-003	2.0000e-005	2.3600e-003	2.0000e-005	2.3800e-003	6.3000e-004	1.0000e-005	6.4000e-004	0.0000	2.0311	2.0311	4.0000e-005	0.0000	2.0322
Total	**8.9000e-004**	**6.2000e-004**	**6.4400e-003**	**2.0000e-005**	**2.3600e-003**	**2.0000e-005**	**2.3800e-003**	**6.3000e-004**	**1.0000e-005**	**6.4000e-004**	**0.0000**	**2.0311**	**2.0311**	**4.0000e-005**	**0.0000**	**2.0322**

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	0.0567	0.5059	0.4119	6.5000e-004		0.0310	0.0310		0.0291	0.0291	0.0000	56.4250	56.4250	0.0138	0.0000	56.7687
Total	**0.0567**	**0.5059**	**0.4119**	**6.5000e-004**		**0.0310**	**0.0310**		**0.0291**	**0.0291**	**0.0000**	**56.4250**	**56.4250**	**0.0138**	**0.0000**	**56.7687**

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	0.0304	0.8182	0.3142	1.7300e-003	0.0418	5.6500e-003	0.0474	0.0121	5.4100e-003	0.0175	0.0000	171.4171	171.4171	0.0151	0.0000	171.7955
Worker	0.0788	0.0555	0.5716	1.9900e-003	0.2097	1.3500e-003	0.2111	0.0558	1.2400e-003	0.0571	0.0000	180.3614	180.3614	3.8600e-003	0.0000	180.4579
Total	**0.1092**	**0.8737**	**0.8858**	**3.7200e-003**	**0.2515**	**7.0000e-003**	**0.2585**	**0.0679**	**6.6500e-003**	**0.0745**	**0.0000**	**351.7785**	**351.7785**	**0.0190**	**0.0000**	**352.2534**

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	7.8700e-003	0.0536	0.4191	6.5000e-004		9.8000e-004	9.8000e-004		9.8000e-004	9.8000e-004	0.0000	56.4249	56.4249	0.0138	0.0000	56.7686
Total	**7.8700e-003**	**0.0536**	**0.4191**	**6.5000e-004**		**9.8000e-004**	**9.8000e-004**		**9.8000e-004**	**9.8000e-004**	**0.0000**	**56.4249**	**56.4249**	**0.0138**	**0.0000**	**56.7686**

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	0.0304	0.8182	0.3142	1.7300e-003	0.0418	5.6500e-003	0.0474	0.0121	5.4100e-003	0.0175	0.0000	171.4171	171.4171	0.0151	0.0000	171.7955
Worker	0.0788	0.0555	0.5716	1.9900e-003	0.2097	1.3500e-003	0.2111	0.0558	1.2400e-003	0.0571	0.0000	180.3614	180.3614	3.8600e-003	0.0000	180.4579
Total	**0.1092**	**0.8737**	**0.8858**	**3.7200e-003**	**0.2515**	**7.0000e-003**	**0.2585**	**0.0679**	**6.6500e-003**	**0.0745**	**0.0000**	**351.7785**	**351.7785**	**0.0190**	**0.0000**	**352.2534**

3.5 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	0.2671	2.4174	2.1229	3.3900e-003		0.1408	0.1408		0.1323	0.1323	0.0000	291.8286	291.8286	0.0712	0.0000	293.6085
Total	**0.2671**	**2.4174**	**2.1229**	**3.3900e-003**		**0.1408**	**0.1408**		**0.1323**	**0.1323**	**0.0000**	**291.8286**	**291.8286**	**0.0712**	**0.0000**	**293.6085**

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	0.1304	3.9011	1.5530	8.9500e-003	0.2193	0.0195	0.2387	0.0634	0.0186	0.0820	0.0000	891.4923	891.4923	0.0775	0.0000	893.4287
Worker	0.3814	0.2585	2.7217	0.0101	1.1010	6.9200e-003	1.1080	0.2930	6.3700e-003	0.2994	0.0000	916.8231	916.8231	0.0179	0.0000	917.2700
Total	**0.5118**	**4.1596**	**4.2747**	**0.0191**	**1.3203**	**0.0264**	**1.3467**	**0.3564**	**0.0250**	**0.3814**	**0.0000**	**1,808.3154**	**1,808.3154**	**0.0953**	**0.0000**	**1,810.6987**

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	0.0413	0.2816	2.2000	3.3900e-003		5.1400e-003	5.1400e-003		5.1400e-003	5.1400e-003	0.0000	291.8282	291.8282	0.0712	0.0000	293.6081
Total	**0.0413**	**0.2816**	**2.2000**	**3.3900e-003**		**5.1400e-003**	**5.1400e-003**		**5.1400e-003**	**5.1400e-003**	**0.0000**	**291.8282**	**291.8282**	**0.0712**	**0.0000**	**293.6081**

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	0.1304	3.9011	1.5530	8.9500e-003	0.2193	0.0195	0.2387	0.0634	0.0186	0.0820	0.0000	891.4923	891.4923	0.0775	0.0000	893.4287
Worker	0.3814	0.2585	2.7217	0.0101	1.1010	6.9200e-003	1.1080	0.2930	6.3700e-003	0.2994	0.0000	916.8231	916.8231	0.0179	0.0000	917.2700
Total	**0.5118**	**4.1596**	**4.2747**	**0.0191**	**1.3203**	**0.0264**	**1.3467**	**0.3564**	**0.0250**	**0.3814**	**0.0000**	**1,808.3154**	**1,808.3154**	**0.0953**	**0.0000**	**1,810.6987**

3.6 Paving - 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	6.7800e-003	0.0703	0.0733	1.1000e-004		3.7600e-003	3.7600e-003		3.4600e-003	3.4600e-003	0.0000	10.0141	10.0141	3.2400e-003	0.0000	10.0951
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.7800e-003**	**0.0703**	**0.0733**	**1.1000e-004**		**3.7600e-003**	**3.7600e-003**		**3.4600e-003**	**3.4600e-003**	**0.0000**	**10.0141**	**10.0141**	**3.2400e-003**	**0.0000**	**10.0951**

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-004	1.4000e-004	1.4600e-003	1.0000e-005	5.9000e-004	0.0000	5.9000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.4917	0.4917	1.0000e-005	0.0000	0.4919
Total	**2.0000e-004**	**1.4000e-004**	**1.4600e-003**	**1.0000e-005**	**5.9000e-004**	**0.0000**	**5.9000e-004**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.4917**	**0.4917**	**1.0000e-005**	**0.0000**	**0.4919**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.4000e-003	6.0800e-003	0.0865	1.1000e-004		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	10.0141	10.0141	3.2400e-003	0.0000	10.0951
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.4000e-003**	**6.0800e-003**	**0.0865**	**1.1000e-004**		**1.9000e-004**	**1.9000e-004**		**1.9000e-004**	**1.9000e-004**	**0.0000**	**10.0141**	**10.0141**	**3.2400e-003**	**0.0000**	**10.0951**

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-004	1.4000e-004	1.4600e-003	1.0000e-005	5.9000e-004	0.0000	5.9000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.4917	0.4917	1.0000e-005	0.0000	0.4919
Total	**2.0000e-004**	**1.4000e-004**	**1.4600e-003**	**1.0000e-005**	**5.9000e-004**	**0.0000**	**5.9000e-004**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.4917**	**0.4917**	**1.0000e-005**	**0.0000**	**0.4919**

3.6 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.2800e-003	0.0646	0.0733	1.1000e-004		3.3900e-003	3.3900e-003		3.1200e-003	3.1200e-003	0.0000	10.0117	10.0117	3.2400e-003	0.0000	10.0927
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.2800e-003**	**0.0646**	**0.0733**	**1.1000e-004**		**3.3900e-003**	**3.3900e-003**		**3.1200e-003**	**3.1200e-003**	**0.0000**	**10.0117**	**10.0117**	**3.2400e-003**	**0.0000**	**10.0927**

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	1.9000e-004	1.2000e-004	1.3500e-003	1.0000e-005	5.9000e-004	0.0000	5.9000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.4742	0.4742	1.0000e-005	0.0000	0.4744
Total	**1.9000e-004**	**1.2000e-004**	**1.3500e-003**	**1.0000e-005**	**5.9000e-004**	**0.0000**	**5.9000e-004**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.4742**	**0.4742**	**1.0000e-005**	**0.0000**	**0.4744**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.4000e-003	6.0800e-003	0.0865	1.1000e-004		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	10.0117	10.0117	3.2400e-003	0.0000	10.0927
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.4000e-003**	**6.0800e-003**	**0.0865**	**1.1000e-004**		**1.9000e-004**	**1.9000e-004**		**1.9000e-004**	**1.9000e-004**	**0.0000**	**10.0117**	**10.0117**	**3.2400e-003**	**0.0000**	**10.0927**

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	1.9000e-004	1.2000e-004	1.3500e-003	1.0000e-005	5.9000e-004	0.0000	5.9000e-004	1.6000e-004	0.0000	1.6000e-004	0.0000	0.4742	0.4742	1.0000e-005	0.0000	0.4744
Total	**1.9000e-004**	**1.2000e-004**	**1.3500e-003**	**1.0000e-005**	**5.9000e-004**	**0.0000**	**5.9000e-004**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**0.4742**	**0.4742**	**1.0000e-005**	**0.0000**	**0.4744**

3.7 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	7.2389					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1900e-003	0.0153	0.0182	3.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	2.5533	2.5533	1.8000e-004	0.0000	2.5576
Total	**7.2411**	**0.0153**	**0.0182**	**3.0000e-005**		**9.4000e-004**	**9.4000e-004**		**9.4000e-004**	**9.4000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.8000e-004**	**0.0000**	**2.5576**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.6600e-003	3.6800e-003	0.0399	1.6000e-004	0.0175	1.1000e-004	0.0176	4.6500e-003	1.0000e-004	4.7500e-003	0.0000	14.0351	14.0351	2.5000e-004	0.0000	14.0415
Total	**5.6600e-003**	**3.6800e-003**	**0.0399**	**1.6000e-004**	**0.0175**	**1.1000e-004**	**0.0176**	**4.6500e-003**	**1.0000e-004**	**4.7500e-003**	**0.0000**	**14.0351**	**14.0351**	**2.5000e-004**	**0.0000**	**14.0415**

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	7.2389					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.0000e-004	1.2900e-003	0.0183	3.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.5533	2.5533	1.8000e-004	0.0000	2.5576
Total	**7.2392**	**1.2900e-003**	**0.0183**	**3.0000e-005**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**2.5533**	**2.5533**	**1.8000e-004**	**0.0000**	**2.5576**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.6600e-003	3.6800e-003	0.0399	1.6000e-004	0.0175	1.1000e-004	0.0176	4.6500e-003	1.0000e-004	4.7500e-003	0.0000	14.0351	14.0351	2.5000e-004	0.0000	14.0415
Total	**5.6600e-003**	**3.6800e-003**	**0.0399**	**1.6000e-004**	**0.0175**	**1.1000e-004**	**0.0176**	**4.6500e-003**	**1.0000e-004**	**4.7500e-003**	**0.0000**	**14.0351**	**14.0351**	**2.5000e-004**	**0.0000**	**14.0415**

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	2.0293	5.3572	19.6928	0.0661	6.6736	0.0556	6.7292	1.7936	0.0517	1.8453	0.0000	6,060.7553	6,060.7553	0.2249	0.0000	6,066.3787
Unmitigated	2.0293	5.3572	19.6928	0.0661	6.6736	0.0556	6.7292	1.7936	0.0517	1.8453	0.0000	6,060.7553	6,060.7553	0.2249	0.0000	6,066.3787

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	4,295.67	4,295.67	4295.67	9,921,311	9,921,311
City Park	0.00	0.00	0.00		
Convenience Market (24 Hour)	898.62	898.62	898.62	848,700	848,700
Day-Care Center	180.04	180.04	180.04	212,025	212,025
Enclosed Parking with Elevator	0.00	0.00	0.00		
Fast Food Restaurant w/o Drive Thru	1,295.35	1,295.35	1295.35	1,368,725	1,368,725
Health Club	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	621.77	621.77	621.77	721,415	721,415
Movie Theater (No Matinee)	208.24	208.24	208.24	392,106	392,106
Strip Mall	96.19	96.19	96.19	115,928	115,928
Supermarket	3,882.47	3,882.47	3882.47	4,416,085	4,416,085
Total	11,478.35	11,478.35	11,478.35	17,996,295	17,996,295

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-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Convenience Market (24 Hour)	9.50	7.30	7.30	0.90	80.10	19.00	30	19	51
Day-Care Center	9.50	7.30	7.30	12.70	82.30	5.00	28	58	14
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Fast Food Restaurant w/o Drive	9.50	7.30	7.30	1.50	79.50	19.00	33	24	43
Health Club	9.50	7.30	7.30	16.90	64.10	19.00	52	39	9
High Turnover (Sit Down	9.50	7.30	7.30	8.50	72.50	19.00	37	20	43
Movie Theater (No Matinee)	9.50	7.30	7.30	1.80	79.20	19.00	66	17	17
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	35	31	34
Supermarket	9.50	7.30	7.30	6.50	74.50	19.00	34	30	36

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.461846	0.050659	0.270877	0.142577	0.017053	0.007214	0.025153	0.006646	0.004299	0.003035	0.009295	0.000522	0.000824
City Park	0.461846	0.050659	0.270877	0.142577	0.017053	0.007214	0.025153	0.006646	0.004299	0.003035	0.009295	0.000522	0.000824
Convenience Market (24 Hour)	0.461846	0.050659	0.270877	0.142577	0.017053	0.007214	0.025153	0.006646	0.004299	0.003035	0.009295	0.000522	0.000824
Day-Care Center	0.461846	0.050659	0.270877	0.142577	0.017053	0.007214	0.025153	0.006646	0.004299	0.003035	0.009295	0.000522	0.000824
Enclosed Parking with Elevator	0.461846	0.050659	0.270877	0.142577	0.017053	0.007214	0.025153	0.006646	0.004299	0.003035	0.009295	0.000522	0.000824
Fast Food Restaurant w/o Drive Thru	0.461846	0.050659	0.270877	0.142577	0.017053	0.007214	0.025153	0.006646	0.004299	0.003035	0.009295	0.000522	0.000824
Health Club	0.461846	0.050659	0.270877	0.142577	0.017053	0.007214	0.025153	0.006646	0.004299	0.003035	0.009295	0.000522	0.000824
High Turnover (Sit Down Restaurant)	0.461846	0.050659	0.270877	0.142577	0.017053	0.007214	0.025153	0.006646	0.004299	0.003035	0.009295	0.000522	0.000824
Movie Theater (No Matinee)	0.461846	0.050659	0.270877	0.142577	0.017053	0.007214	0.025153	0.006646	0.004299	0.003035	0.009295	0.000522	0.000824
Strip Mall	0.461846	0.050659	0.270877	0.142577	0.017053	0.007214	0.025153	0.006646	0.004299	0.003035	0.009295	0.000522	0.000824
Supermarket	0.461846	0.050659	0.270877	0.142577	0.017053	0.007214	0.025153	0.006646	0.004299	0.003035	0.009295	0.000522	0.000824

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	938.9655	938.9655	0.0980	0.0113	944.7878
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	938.9655	938.9655	0.0980	0.0113	944.7878
NaturalGas Mitigated	0.0581	0.5047	0.2690	3.1700e-003		0.0402	0.0402		0.0402	0.0402	0.0000	575.4074	575.4074	0.0110	0.0106	578.8268
NaturalGas Unmitigated	0.0581	0.5047	0.2690	3.1700e-003		0.0402	0.0402		0.0402	0.0402	0.0000	575.4074	575.4074	0.0110	0.0106	578.8268

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	8.11372e+006	0.0438	0.3739	0.1591	2.3900e-003		0.0302	0.0302		0.0302	0.0302	0.0000	432.9792	432.9792	8.3000e-003	7.9400e-003	435.5521
City Park	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
Convenience Market (24 Hour)	14272.8	8.0000e-005	7.0000e-004	5.9000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.7617	0.7617	1.0000e-005	1.0000e-005	0.7662
Day-Care Center	75072	4.0000e-004	3.6800e-003	3.0900e-003	2.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	4.0061	4.0061	8.0000e-005	7.0000e-005	4.0299
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
Fast Food Restaurant w/o Drive Thru	837600	4.5200e-003	0.0411	0.0345	2.5000e-004		3.1200e-003	3.1200e-003		3.1200e-003	3.1200e-003	0.0000	44.6975	44.6975	8.6000e-004	8.2000e-004	44.9631
Health Club	610810	3.2900e-003	0.0299	0.0252	1.8000e-004		2.2800e-003	2.2800e-003		2.2800e-003	2.2800e-003	0.0000	32.5952	32.5952	6.2000e-004	6.0000e-004	32.7889
High Turnover (Sit Down Restaurant)	402048	2.1700e-003	0.0197	0.0166	1.2000e-004		1.5000e-003	1.5000e-003		1.5000e-003	1.5000e-003	0.0000	21.4548	21.4548	4.1000e-004	3.9000e-004	21.5823
Movie Theater (No Matinee)	215970	1.1600e-003	0.0106	8.8900e-003	6.0000e-005		8.0000e-004	8.0000e-004		8.0000e-004	8.0000e-004	0.0000	11.5250	11.5250	2.2000e-004	2.1000e-004	11.5935
Strip Mall	14136	8.0000e-005	6.9000e-004	5.8000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.7544	0.7544	1.0000e-005	1.0000e-005	0.7588
Supermarket	499095	2.6900e-003	0.0245	0.0206	1.5000e-004		1.8600e-003	1.8600e-003		1.8600e-003	1.8600e-003	0.0000	26.6336	26.6336	5.1000e-004	4.9000e-004	26.7919
Total		**0.0581**	**0.5047**	**0.2690**	**3.1700e-003**		**0.0402**	**0.0402**		**0.0402**	**0.0402**	**0.0000**	**575.4074**	**575.4074**	**0.0110**	**0.0105**	**578.8268**

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	8.11372e+006	0.0438	0.3739	0.1591	2.3900e-003		0.0302	0.0302		0.0302	0.0302	0.0000	432.9792	432.9792	8.3000e-003	7.9400e-003	435.5521
City Park	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
Convenience Market (24 Hour)	14272.8	8.0000e-005	7.0000e-004	5.9000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.7617	0.7617	1.0000e-005	1.0000e-005	0.7662
Day-Care Center	75072	4.0000e-004	3.6800e-003	3.0900e-003	2.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	4.0061	4.0061	8.0000e-005	7.0000e-005	4.0299
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
Fast Food Restaurant w/o Drive Thru	837600	4.5200e-003	0.0411	0.0345	2.5000e-004		3.1200e-003	3.1200e-003		3.1200e-003	3.1200e-003	0.0000	44.6975	44.6975	8.6000e-004	8.2000e-004	44.9631
Health Club	610810	3.2900e-003	0.0299	0.0252	1.8000e-004		2.2800e-003	2.2800e-003		2.2800e-003	2.2800e-003	0.0000	32.5952	32.5952	6.2000e-004	6.0000e-004	32.7889
High Turnover (Sit Down Restaurant)	402048	2.1700e-003	0.0197	0.0166	1.2000e-004		1.5000e-003	1.5000e-003		1.5000e-003	1.5000e-003	0.0000	21.4548	21.4548	4.1000e-004	3.9000e-004	21.5823
Movie Theater (No Matinee)	215970	1.1600e-003	0.0106	8.8900e-003	6.0000e-005		8.0000e-004	8.0000e-004		8.0000e-004	8.0000e-004	0.0000	11.5250	11.5250	2.2000e-004	2.1000e-004	11.5935
Strip Mall	14136	8.0000e-005	6.9000e-004	5.8000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.7544	0.7544	1.0000e-005	1.0000e-005	0.7588
Supermarket	499095	2.6900e-003	0.0245	0.0206	1.5000e-004		1.8600e-003	1.8600e-003		1.8600e-003	1.8600e-003	0.0000	26.6336	26.6336	5.1000e-004	4.9000e-004	26.7919
Total		**0.0581**	**0.5047**	**0.2690**	**3.1700e-003**		**0.0402**	**0.0402**		**0.0402**	**0.0402**	**0.0000**	**575.4074**	**575.4074**	**0.0110**	**0.0105**	**578.8268**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	3.94511e+006	445.5781	0.0465	5.3700e-003	448.3411
City Park	0	0.0000	0.0000	0.0000	0.0000
Convenience Market (24 Hour)	30423.6	3.4362	3.6000e-004	4.0000e-005	3.4575
Day-Care Center	18860	2.1301	2.2000e-004	3.0000e-005	2.1433
Enclosed Parking with Elevator	3.3516e+006	378.5448	0.0395	4.5600e-003	380.8921
Fast Food Restaurant w/o Drive Thru	140600	15.8800	1.6600e-003	1.9000e-004	15.9785
Health Club	176755	19.9635	2.0800e-003	2.4000e-004	20.0873
High Turnover (Sit Down Restaurant)	67488	7.6224	8.0000e-004	9.0000e-005	7.6697
Movie Theater (No Matinee)	62496.9	7.0587	7.4000e-004	9.0000e-005	7.1025
Strip Mall	30132	3.4032	3.6000e-004	4.0000e-005	3.4244
Supermarket	490050	55.3485	5.7800e-003	6.7000e-004	55.6917
Total		**938.9655**	**0.0981**	**0.0113**	**944.7878**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	3.94511e+006	445.5781	0.0465	5.3700e-003	448.3411
City Park	0	0.0000	0.0000	0.0000	0.0000
Convenience Market (24 Hour)	30423.6	3.4362	3.6000e-004	4.0000e-005	3.4575
Day-Care Center	18860	2.1301	2.2000e-004	3.0000e-005	2.1433
Enclosed Parking with Elevator	3.3516e+006	378.5448	0.0395	4.5600e-003	380.8921
Fast Food Restaurant w/o Drive Thru	140600	15.8800	1.6600e-003	1.9000e-004	15.9785
Health Club	176755	19.9635	2.0800e-003	2.4000e-004	20.0873
High Turnover (Sit Down Restaurant)	67488	7.6224	8.0000e-004	9.0000e-005	7.6697
Movie Theater (No Matinee)	62496.9	7.0587	7.4000e-004	9.0000e-005	7.1025
Strip Mall	30132	3.4032	3.6000e-004	4.0000e-005	3.4244
Supermarket	490050	55.3485	5.7800e-003	6.7000e-004	55.6917
Total		**938.9655**	**0.0981**	**0.0113**	**944.7878**

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	7.2093	0.1333	10.1973	6.4500e-003		0.4761	0.4761		0.4761	0.4761	43.8117	29.6812	73.4929	0.0817	2.8700e-003	76.3904
Unmitigated	7.2093	0.1333	10.1973	6.4500e-003		0.4761	0.4761		0.4761	0.4761	43.8117	29.6812	73.4929	0.0817	2.8700e-003	76.3904

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	0.7239					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.0526					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.2173	0.0510	3.0533	6.0800e-003		0.4365	0.4365		0.4365	0.4365	43.8117	17.9956	61.8073	0.0704	2.8700e-003	64.4238
Landscaping	0.2155	0.0823	7.1441	3.8000e-004		0.0396	0.0396		0.0396	0.0396	0.0000	11.6856	11.6856	0.0112	0.0000	11.9666
Total	**7.2093**	**0.1333**	**10.1973**	**6.4600e-003**		**0.4761**	**0.4761**		**0.4761**	**0.4761**	**43.8117**	**29.6812**	**73.4929**	**0.0817**	**2.8700e-003**	**76.3904**

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	0.7239					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.0526					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.2173	0.0510	3.0533	6.0800e-003		0.4365	0.4365		0.4365	0.4365	43.8117	17.9956	61.8073	0.0704	2.8700e-003	64.4238
Landscaping	0.2155	0.0823	7.1441	3.8000e-004		0.0396	0.0396		0.0396	0.0396	0.0000	11.6856	11.6856	0.0112	0.0000	11.9666
Total	**7.2093**	**0.1333**	**10.1973**	**6.4600e-003**		**0.4761**	**0.4761**		**0.4761**	**0.4761**	**43.8117**	**29.6812**	**73.4929**	**0.0817**	**2.8700e-003**	**76.3904**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	86.6696	2.3587	0.0563	162.4168
Unmitigated	86.6696	2.3587	0.0563	162.4168

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	62.613 / 39.4734	73.7338	2.0459	0.0488	139.4300
City Park	0 / 8.13782	3.2169	3.4000e-004	4.0000e-005	3.2369
Convenience Market (24 Hour)	0.231847 / 0.1421	0.2714	7.5800e-003	1.8000e-004	0.5147
Day-Care Center	0.197292 / 0.507322	0.3837	6.4600e-003	1.6000e-004	0.5917
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	1.51767 / 0.0968725	1.4473	0.0496	1.1800e-003	3.0376
Health Club	1.4703 / 0.901151	1.7213	0.0480	1.1500e-003	3.2639
High Turnover (Sit Down Restaurant)	0.728481 / 0.0464988	0.6947	0.0238	5.7000e-004	1.4580
Movie Theater (No Matinee)	3.53008 / 0.225324	3.3664	0.1153	2.7400e-003	7.0654
Strip Mall	0.229625 / 0.140738	0.2688	7.5000e-003	1.8000e-004	0.5097
Supermarket	1.66412 / 0.0514677	1.5653	0.0543	1.2900e-003	3.3089
Total		**86.6696**	**2.3587**	**0.0563**	**162.4168**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	62.613 / 39.4734	73.7338	2.0459	0.0488	139.4300
City Park	0 / 8.13782	3.2169	3.4000e-004	4.0000e-005	3.2369
Convenience Market (24 Hour)	0.231847 / 0.1421	0.2714	7.5800e-003	1.8000e-004	0.5147
Day-Care Center	0.197292 / 0.507322	0.3837	6.4600e-003	1.6000e-004	0.5917
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	1.51767 / 0.0968725	1.4473	0.0496	1.1800e-003	3.0376
Health Club	1.4703 / 0.901151	1.7213	0.0480	1.1500e-003	3.2639
High Turnover (Sit Down Restaurant)	0.728481 / 0.0464988	0.6947	0.0238	5.7000e-004	1.4580
Movie Theater (No Matinee)	3.53008 / 0.225324	3.3664	0.1153	2.7400e-003	7.0654
Strip Mall	0.229625 / 0.140738	0.2688	7.5000e-003	1.8000e-004	0.5097
Supermarket	1.66412 / 0.0514677	1.5653	0.0543	1.2900e-003	3.3089
Total		**86.6696**	**2.3587**	**0.0563**	**162.4168**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	165.5168	9.7818	0.0000	410.0609
Unmitigated	165.5168	9.7818	0.0000	410.0609

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	442.06	89.7342	5.3031	0.0000	222.3127
City Park	0.59	0.1198	7.0800e-003	0.0000	0.2967
Convenience Market (24 Hour)	9.41	1.9101	0.1129	0.0000	4.7323
Day-Care Center	5.98	1.2139	0.0717	0.0000	3.0074
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	57.59	11.6903	0.6909	0.0000	28.9621
Health Club	141.7	28.7638	1.6999	0.0000	71.2612
High Turnover (Sit Down Restaurant)	28.56	5.7974	0.3426	0.0000	14.3629
Movie Theater (No Matinee)	50.1	10.1699	0.6010	0.0000	25.1954
Strip Mall	3.26	0.6618	0.0391	0.0000	1.6395
Supermarket	76.14	15.4557	0.9134	0.0000	38.2909
Total		**165.5168**	**9.7818**	**0.0000**	**410.0609**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	442.06	89.7342	5.3031	0.0000	222.3127
City Park	0.59	0.1198	7.0800e-003	0.0000	0.2967
Convenience Market (24 Hour)	9.41	1.9101	0.1129	0.0000	4.7323
Day-Care Center	5.98	1.2139	0.0717	0.0000	3.0074
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Fast Food Restaurant w/o Drive Thru	57.59	11.6903	0.6909	0.0000	28.9621
Health Club	141.7	28.7638	1.6999	0.0000	71.2612
High Turnover (Sit Down Restaurant)	28.56	5.7974	0.3426	0.0000	14.3629
Movie Theater (No Matinee)	50.1	10.1699	0.6010	0.0000	25.1954
Strip Mall	3.26	0.6618	0.0391	0.0000	1.6395
Supermarket	76.14	15.4557	0.9134	0.0000	38.2909
Total		**165.5168**	**9.7818**	**0.0000**	**410.0609**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX B
PROJECT DESCRIPTION AND TRAFFIC STUDY

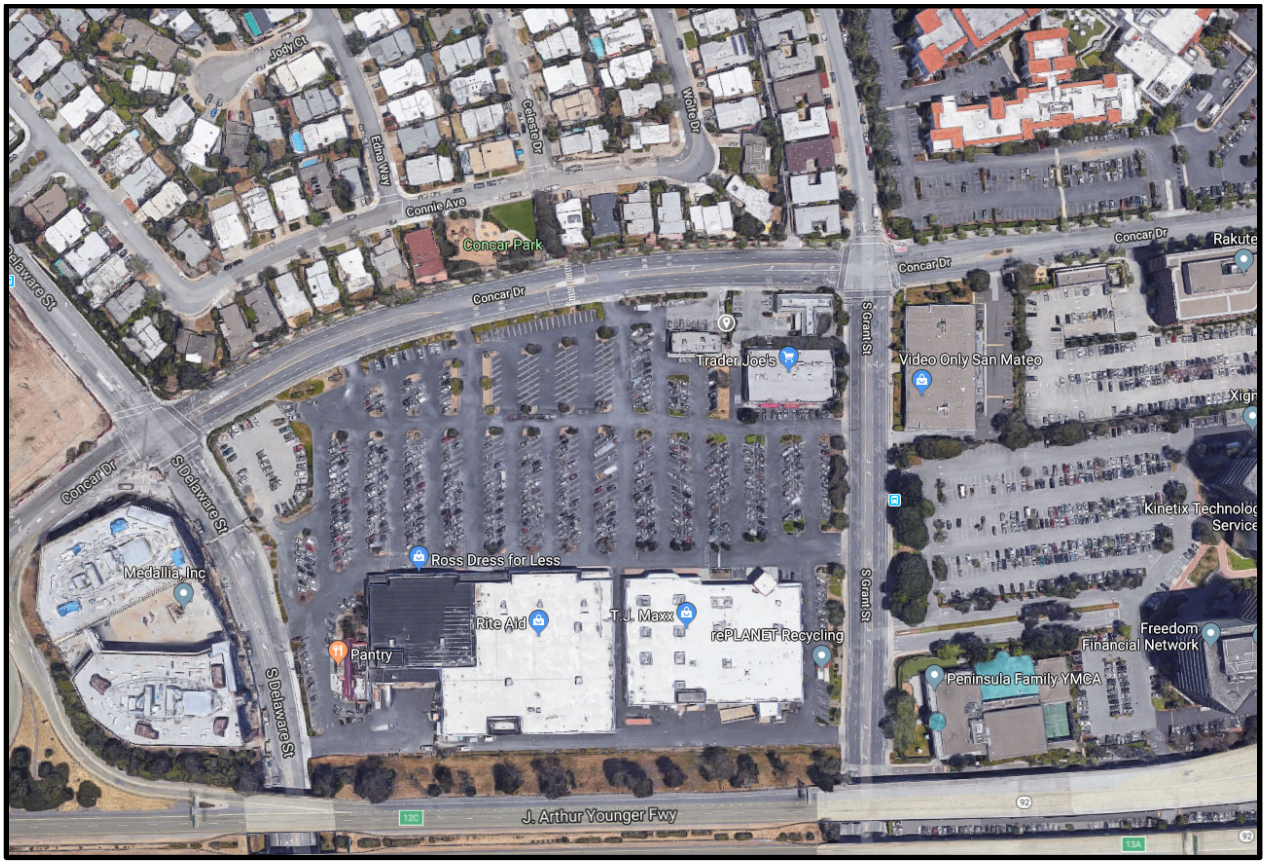
Passage at San Mateo
Project Description

November 12, 2018

Project Site Location

The project site is the approximately 14.5 acre (631,854 square feet) Concar Shopping Center and surface parking lot. It consists of the following APNs: 035-242-140, 035-242-170, 035-242-200, 035-242-210, 035-242-190, 035-242-220, 035-242-160 (Project Site). It is bounded by Concar Drive to the north, S. Grant Street to the east, Passage Way (currently an unnamed road) and State Route 92 to the south, and S. Delaware Street to the west.

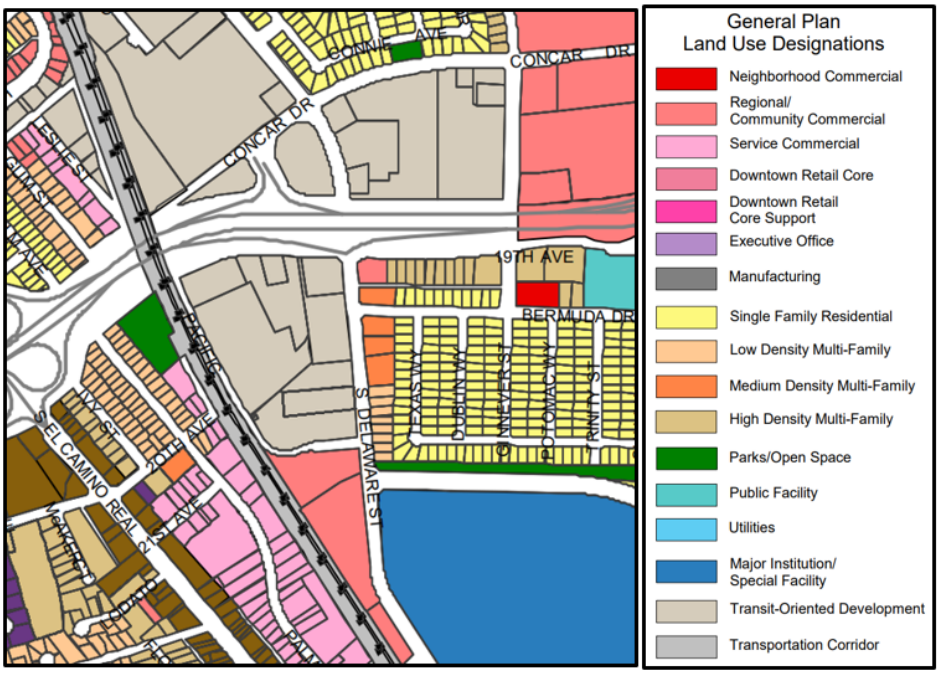
Existing Site Conditions



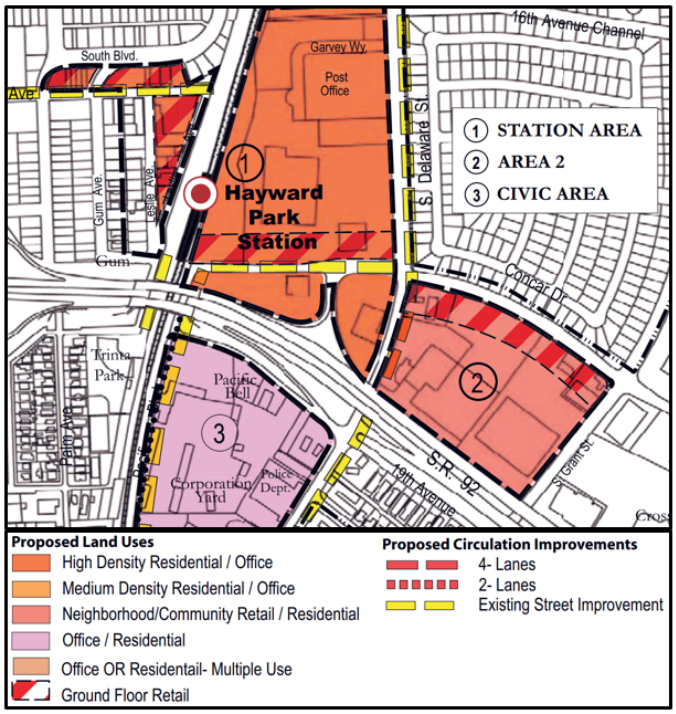
The Project Site is surrounded by residential uses to the north along Concar Drive, office uses to the northeast, retail uses and a YMCA to the east along S. Grant Street, State Route 92 to the south, more office uses to the west along Delaware Street, and a vacant lot to the northwest.

Land Use Designations

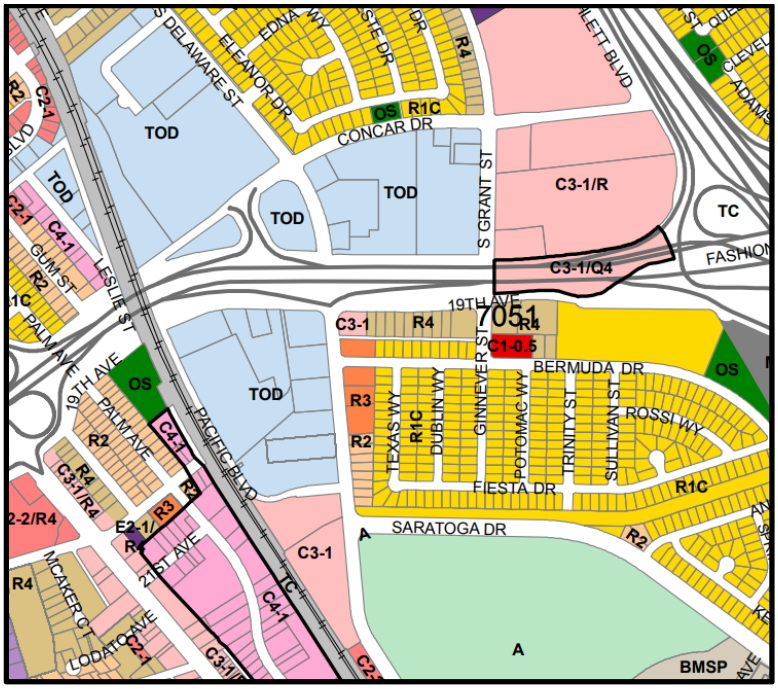
The General Plan designates the Project Site as Transit-Oriented Development ("TOD").



The Project Site is located in Area 2 of the Hayward Park Station TOD Overlay Zone of the San Mateo Rail Corridor Transit Oriented Development Plan (Rail Corridor Plan), and is designated as Neighborhood/Commercial Retail/Residential with a band of Ground Floor Retail along Concar Drive. The applicant has prepared a detailed analysis demonstrating consistency with all policies in the Rail Corridor Plan.



The Project Site has a Zoning Code designation of TOD-Transit Oriented Development ("TOD").



Proposed Project

The proposed project would replace the existing 165,000 square foot (sf) retail strip center and adjoining surface parking with a residential mixed-use transportation oriented development walkable to the Hayward Park CalTrain Station (Proposed Project or Project).

The Project is consistent with the General Plan, Rail Corridor Plan, Zoning Code, Climate Action Plan and the height limits imposed Measures H & P.

The Proposed Project is depicted in the Site Plan below.

The following table summarizes the Proposed Project uses:

		PROPOSED NEW USES	
Building	**Residential Unit Count**	**Residential Interior Amenities**	**Commercial Area**
Building 1	155 units	2,340 sf *(Bike Depot)*	-
Building 2	303 units	12,970 sf *(Depot Lounge, Leasing, Work Space, Fitness)*	*3,100 sf (Performance Space)* *2,400 sf (Restaurant)* *5,000 sf (Seed Food Hall)* *4,550 sf (Ballet Admin.)* *3,100 sf (Retail)*
Building 3	155 units	9,480 sf *(Fitness, Roof Deck)*	-
Building 4	275 units	2,480 sf *(Roof Deck)*	-
Building 5	73 units	1,460 sf *(Resident Lounge)*	4,600 sf *(Day Care)*
Trader Joe's	-	-	13,700 sf
7-Eleven	-	-	3,130 sf
TOTAL	**961 units**	**31,080 sf**	**39,580 sf**

Residential

The Proposed Project includes 961-units (including 954 apartments and 7 live-work units). Seventy-three (73) apartments, or 10% of the base density units, will be offered at rents affordable to Very Low income (50% of AMI) families. Additionally, as an additional community benefit proposed to be included in a Development Agreement, the applicant proposes to make an additional thirty-six (36) units, or 5% of the base density units, available for workforce housing at Moderate income levels (120% of AMI) throughout the Project Site.

The Project will also provide 31,080 sf of residential amenities, including lounge areas, fitness and yoga centers, and bike depots.

Commercial

The Project also includes approximately 40,000 sf of retail uses, including the "SEED" food hall, restaurant, retail, Peninsula Ballet Theater administrative space, performance space, and a day care center.

The Trader Joe's, 7-Eleven, and the Ballet Theatre will remain as tenants within reconstructed spaces.

With respect to the Peninsula Ballet Theater, the applicant has been working with operators to support the community amenity. The applicant is proposing a 4,500 sf commercial space on Concar Drive for daily administrative operations and an additional 3,100 sf performance space on S. Delaware that will be available to the Ballet.

The day care center will be located in a separate building along Grant Street, adjacent to the YMCA. It will include a 4,600 sf day care facility for 60-70 children and 4,800 sf of protected play area dedicated to the day care.

To ensure viability of the continued 7-Eleven use and convenience to customers, the applicant requests the ability to allow the 7-Eleven to operate 24 hours a day as currently occurs. Continuation of this use is supported by the Rail Corridor Plan which say that "existing uses" are allowed to remain. (Rail Corridor Plan, p. 5-2) The Rail Corridor Plan further encourages "uses that are more convenience oriented." (Rail Corridor Plan, p. 5-2)

In total, the Project will provide a net increase of 961 units (including 31,080 sf in interior amenities) and net decrease of 125,600 sf commercial, as summarized in the table below.

NET CHANGE IN USES			
	Existing	Proposed	Net

Residential	-	961 units (including 31,080 sf interior amenities)	+ 961 units (including 31,080 sf interior amenities)
Commercial	165,100 sf commercial	39,580 sf commercial	-125,520 sf commercial

Height

The residential buildings will be 4-5 stories and below the 55 foot height limit with massing along Concar Drive reduced to 35 feet.

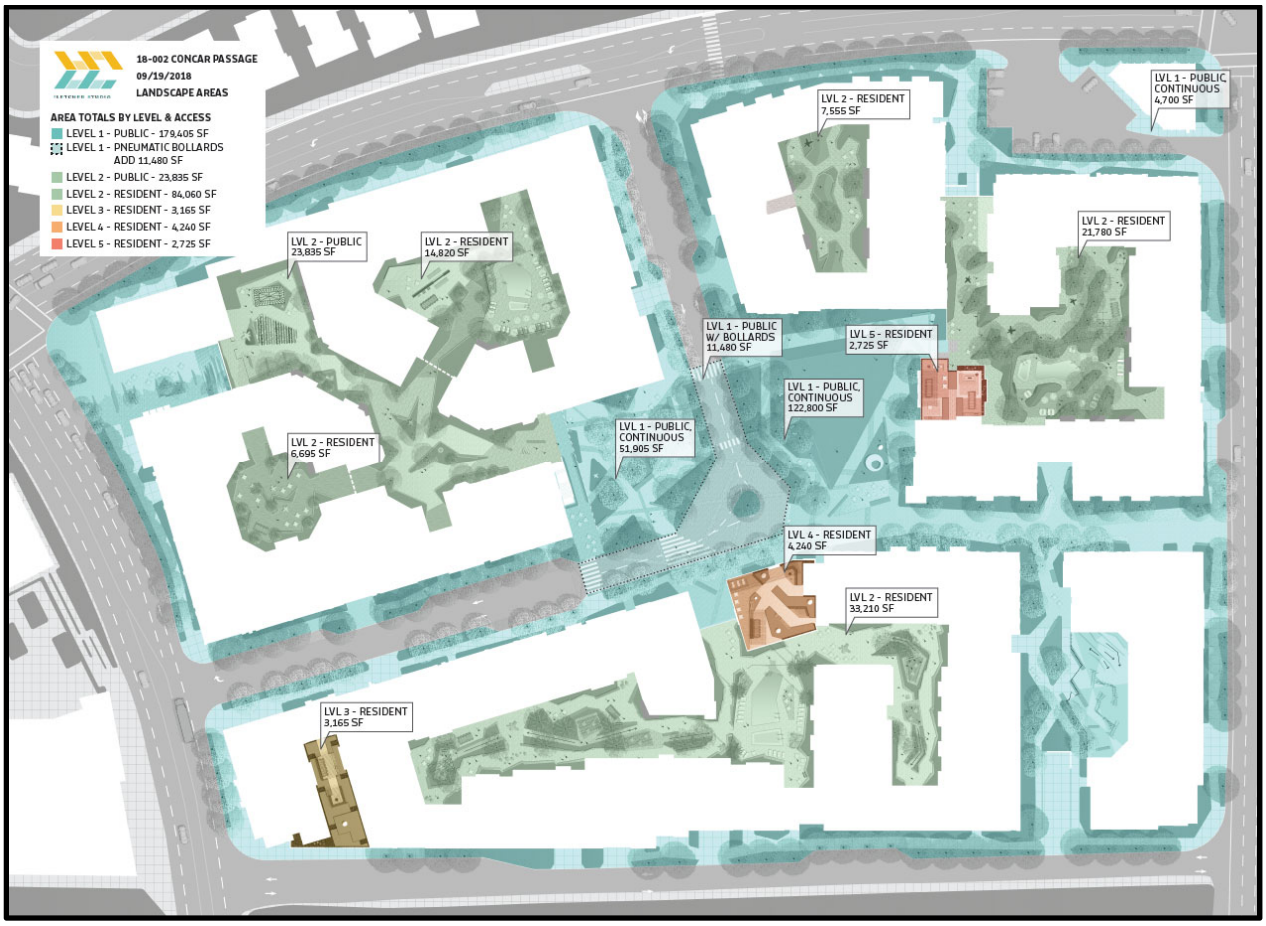
Transportation-Oriented Development

The Project Site is located within ½ mile of the Hayward Park Station TOD Overlay Zone of the Rail Corridor Plan. The centerpiece for the proposed community is public/private mobility hub called The Depot that will facilitate a non-auto dependent style of living for the residents of Passage and for all the surrounding neighborhoods. The Depot will combine with the public passages intersecting the site from all directions to frame the Hub that will total over 4 acres of publicly accessible parks and paseos.

Open Space and Greenbelt

The Project provides 6.83 acres of open space area (4.67 accessible to the public and 2.16 acres available to residents). Specifically, modifications were made to address comments from the Planning Commission and community to substantially increase the central "Hub" public park space. To increase accessibility to the Hub park from surrounding neighborhoods, the parkway on the east side of Depot Way as it connects to Depot Way has been widened, and a new signalized intersection with improved crosswalk at the intersection of Depot Way and Concar Drive has been designed into the Project.

The Project also includes an enhanced greenbelt connection to the 19th Avenue neighborhood to the north, the Medalia office to the west and the YMCA/Office buildings to the east.



Proposed Building Design

The Project now consists of nine buildings, each with unique character.

Specifically, four diverse, yet complimentary architectural styles, are proposed among the buildings. The site plan below details where each architectural style is applied. The Passage Style (Style 1) is focused in the center of the Project, providing enhanced materials and horizontal movement along the public paseos, courtyards and plazas. The remaining three architectural styles are envisioned to be complimentary of the Passage Style with similar hues and materials.

Both the SEED food hall and 7-Eleven buildings on the corners of Delaware and Grant Street have been inspired by Eichler architecture to complement the surrounding neighborhoods.

Proposed Parking

The Project will replace the large surface parking with subterranean and ground-level parking that will be located behind the residential and retail uses, except the 17 parking spaces associated with the 7-Eleven will be surface parking spaces adjacent to that use. The Project will provide a total of 1,343 parking spaces for the residential uses, including visitor parking, and 255 parking spaces for the retail uses.

RESIDENTIAL PARKING PROVIDED							
Building #	**Standard**	**Compact**	**Tandem**	**Accessible**	**Van Accessible**	**EV Charging**	**Total**
Building 1	150	20	24	2	1	6	203
Building 2	360	1	61	8	2	13	445
Building 3	198	36	16	5	0	9	264
Building 4	260	65	17	4	1	10	357
Building 5	56	16	0	0	0	2	74
TOTAL	**1,024**	**138**	**118**	**19**	**4**	**40**	**1,343**

RETAIL PARKING PROVIDED							
Building #	**Standard**	**Compact**	**Tandem**	**Accessible**	**Van Accessible**	**EV Charging**	**Total**
Building 1	45	30	0	2	2	2	81
Building 2	108	18	0	3	3	4	136
Building 5	17	1	0	1	0	2	21
7-Eleven	15	0	0	0	1	1	17
TOTAL	**185**	**49**	**0**	**6**	**6**	**9**	**255**

The Project will also provide 1,032 secured long-term bicycle spaces and 78 short-term spaces.

BICYCLE PARKING PROVIDED		
Building #	**Long-Term Spaces**	**Short-Term Spaces**
Building 1	170	17
Building 2	319	28
Building 3	168	10
Building 4	292	17
Building 5	83	6
TOTAL	**1,032**	**78**

Site Access

Vehicle access is provided to the Project Site from Delaware Street, Concar Drive and Grant Street with a private road connecting Delaware and Concar though the Site called Depot Way.

Bicycle and pedestrian access is provided to the Project Site as stated above, with a potential of protected bike intersections at Concar/Delaware and Concar/Grant, as well as a mid-block pedestrian crossing on Grant Street. These improvements are proposed as a public benefit through a Development Agreement.

Delivery vehicle access is provided to the Project Site from Delaware Street and Grant Street with a private road connecting both streets through the site called Passage Way.

Transportation Demand Management

The Project proposes to implement the following transportation demand management ("TDM") strategies, among others, in order to achieve a 25% trip reduction compared to existing entitled trips and further reduce traffic impacts to neighbors:

- High-quality pedestrian spaces
- Bay Bike share hub
- Secure bicycle storage
- Ride-hailing credits
- Emergency ride home

- Public/Private shuttle program
- Transportation Information Center

Circulation Improvements

The Project will provide the following circulation improvements:

- Street Improvements: The Project will provide two new private streets called Depot Way (900 feet in length and 28 feet wide) and Passage Way (850 feet in length and 26 feet wide).
- Sidewalk improvements: On Delaware, Concar and Grant Streets.

Utilities

As part of the Project, the following improvements will be made to the existing conditions:

	Existing Conditions	Proposed Improvements
Sanitary Sewer	There are two 6" VCP lateral connections to the Site along Delaware Street, three 6" VCP lateral connections to the Site along Concar Drive, and three 6" VCP lateral connections to the Site along Grant Street.	New sanitary sewer lateral connections to the proposed parallel relief line will be provided from the Site along Delaware Street, Concar Drive, and Grant Street.
Storm Drain	There are two 12" RCP storm drain lateral connections to the Site along Concar Drive and two, 12" RCP and 18" RCP storm drain lateral connections to the Site along Grant Street.	The Project Site will incorporate bio-retentions and podium planters to treat 45 percent of the overall impervious area and mechanical treatment to treat 55 percent of the overall site impervious area. Storm drainage from the bio-retention basins, podium planters, and mechanical treatments will be connected to the existing catch basins on Grant Street and Concar Drive.
Domestic, Irrigation, and Recycled Water	The Project Site is served by an 8" and 4" fire service lateral from the 10" AC main along Grant Street and a 10" fire service lateral from the 10" AC main along Delaware Street.	The Project Site will be served by separate lateral connections to the water main for both domestic and irrigation services along Concar Drive, Delaware Street, and Grant Street. Recycled water is not feasible for the Site and will not be used.
Fire Service	The Project Site is served by an 8" and 4" fire service lateral from the 10" AC main along Grant Street and a 10" fire service lateral from the 10" AC main along Delaware Street.	The Project Site will be served by separate lateral connections to the water main for both fire sprinkler and fire hydrant services along Concar Drive, Delaware Street, and Grant Street.

Joint Trench	There are existing overhead power lines along the western boundary of the Project Site. There are underground electrical services located at the northeast, southeast, and southwest corners of the site. A 2" gas distribution line is located along the development frontage of Grant Street and a 1¼" gas distribution line is located the east side of Concar Drive. A 4" distribution line is located in Delaware Street. Delaware Street also contains a 24" gas transmission line. Additionally, there are underground cables and overhead telephone lines that serve the Site.	The new buildings will provide surface mounted/exterior transformers and interior electrical rooms on-site. The Project proposes to take part in the ECO100 Program with Peninsula Clean Energy (partnership with PG&E), which will allow the Project to receive 100% renewable and carbon-free energy. The Project will provide 36,000 sf of Solar Zone. The proposed project may be able to reuse some of the existing gas service laterals if needed or they will be abandoned or removed per City's and PG&E's direction. If existing underground and overhead telephone lines are not reused, new service lines will be provided per AT&T and Comcast's directions.

Grading/Excavation

The Project requires grading and proposes the following Erosion Control Measures: fiber rolls, sand bags, silt fences, storm drain inlet protection, stabilized construction entrance, entrance/outlet tire wash, and concrete waste management.

The grading is estimated to include the following:

- Total cut: 117,820 cubic yards
- Total fill: 970 cubic yards
- Maximum depth of cut: +/- 10 feet
- Maximum depth of fill: +/- 3.5 feet
- Maximum slope of cut and fill (horizontal:vertical): 3:1

Planning Application Requests

The applicant requests the following approvals:

- Development Review
- Site Plan and Architectural Review
- Site Development Permit
- Development Agreement
- Vesting Tentative Map
- Public Works Permits (e.g., grading, building, encroachment)

State Density Bonus Law

The application submittal included an updated Density Bonus Request Letter, dated September 10, 2018. It explains that the applicant's proposal to make 73 (10%) units affordable to Very Low income families qualifies the Project under the State Density Bonus Law ("SDBL")(Gov't. Code Section 65915) and San Mateo Municipal Code ("SMMC")(Section 27.16.060).[1]

Density Bonus – The applicant requests the 32.5% bonus permitted under SDBL. This bonus allows an additional 236 units above the 725 units allowed under the General Plan and Rail Corridor Plan, for a total of 961 units.

Concessions – The Project qualifies for two concessions concessions/incentives for the provision of 10% Very Low income units. (Govt. Code § 65915(d)(2); SMMC § 27.16.060(d)) As one concession, the applicant requests the ability to locate all affordable units in one building, rather than throughout the development project, as provided in the City of San Mateo Below Market Rate (Inclusionary) Program Guidelines (Section VII(b)).

Development Standard Waiver – Separate from requests for concessions/incentives, density bonus law allows a qualifying applicant to request a waiver or reduction of development standards. (Govt. Code §65915(e); SMMC § 27.16.060(e)) No development standard waiver or modification is currently requested.

Reduced Parking – The SDBL states that, upon the request of the developer, no city shall require a vehicular parking ratio that exceeds the parking ratios set forth in Government Code Section 65915(p)(1)(1 space for 0-1 bedroom units; 2 spaces for 2-3 bedroom units (inclusive of guest parking and handicapped parking)). The SDBL provides further reduced parking ratios for certain qualifying projects within one half mile of a major transit stop. (Govt. Code §65915(p)(2) (requiring 0.5 parking spaces per bedroom); (Govt. Code §65915(p)(3) (requiring 0.5 parking spaces per unit). The applicant intends to ensure consistency with the Rail Corridor Plan through the submittal of, and compliance with, a customized parking plan. (See Rail Corridor Plan, Policies 7.19, 7.20, 7.21, 7.22) Nonetheless, it is noted that the Project's proposed parking (described above) is also consistent with the reduced parking ratios provided under the SDBL, specifically, those provided in Section 65915(p)(1). Specifically, the Project's proposed parking spaces exceeds the requirement for 1,161 spaces[2] pursuant to SDBL Government Code Section 65915(p)(1).

[1] It is noted that, as an additional community benefit proposed to be included in a Development Agreement, the applicant proposes to make an additional thirty-six (36) units, or 5% of base density units, available for workforce housing at Moderate income levels (120% of AMI) throughout the Project Site.

[2] 709 0-1 bedroom units x 1 space/unit = 709 spaces; 226 2-3 bedrooms units x 2 spaces/unit = 452 spaces

CEQA Compliance

Given the Project's consistency with the General Plan and San Mateo Transit Oriented Rail Corridor Plan, the applicant requests the preparation of a robust Initial Study pursuant to the California Environmental Quality Act (CEQA). Specifically, the applicant requests that an Initial Study is prepared to evaluate the ability to tier from the General Plan EIR and Rail Corridor Plan EIR.

Tiering off the earlier EIRs ensures the incorporation of regional and local policy considerations and applicable mitigation that reduce impacts. Pursuant to CEQA Guidelines Section 15168, a program EIR can be used to examine later activities to determine the appropriate level of additional environmental review. The Applicant requests that request for proposals for the preparation of an Initial Study considering earlier EIRs is prepared as soon as possible.

Finally, we note that the Project may qualify for additional tiering, streamlining and exemptions pursuant to CEQA, including: Streamlining for Mixed-Use Residential Projects (PRC § 21159.28); Streamlining for Transit Priority Projects (PRC §§ 21155 and 21155.2); Streamlining for residential/mixed use and employment center project (PRC § 21155.4); Streamlining for mixed use residential projects (PRC §21159.28); and Exemption for Transit Priority Projects (PRC §§ 21155.1 and 21155). The applicant requests the right to consider applicability of these mechanisms further.

Net Project Trip Generation Estimates on External Roadway Network

Land Use	Size	Unit	Daily Rate	Daily Trips	AM Peak Hour Rate	AM Peak Hour % In	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour Rate	PM Peak Hour % In	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total
Proposed Uses														
Residential [1]	961	d.u.	5.44	5,228	0.36	26%	90	256	346	0.44	61%	258	165	423
Mixed-Use Reduction [3]				(931)			(14)	(38)	(52)			(42)	(27)	(69)
Residential Trips (Resi)				4,297			76	218	294			216	138	354
General Commercial [2]	3.1	ksf	37.75	117	0.94	62%	2	1	3	3.81	48%	6	6	12
Mixed-Use Reduction [3]				(21)			0	0	0			(1)	(1)	(2)
PM Pass-By Reduction (34%) [4]				(16)			0	0	0			(2)	(2)	(4)
Retail Trips (Com)				80			2	1	3			3	3	6
Restaurant [7]	7.4	ksf	315.17	2,332	2.07	67%	10	5	15	14.13	55%	58	47	105
Mixed-Use Reduction [3]				(415)			(1)	(1)	(2)			(9)	(8)	(17)
PM Pass-By Reduction (43%) [8]				(412)			0	0	0			(21)	(17)	(38)
Restaurant Trips (Rest)				1,505			9	4	13			28	22	50
Ballet / Performance Space [9]	7.65	ksf	28.82	220	1.76	66%	9	4	13	2.31	47%	8	10	18
Mixed-Use Reduction [3]				(39)			(1)	(1)	(2)			(1)	(2)	(3)
Ballet / Performance Trips (BPS)				181			8	3	11			7	8	15
Day Care [10]	4.6	ksf	47.62	219	11.00	53%	27	24	51	11.12	47%	24	27	51
Mixed-Use Reduction [3]				(39)			(4)	(4)	(8)			(4)	(4)	(8)
Day Care Trips (DC)				180			23	20	43			20	23	43
Trader Joe's [13]	13.7	ksf	287.59	3,940	4.55	60%	37	25	62	28.76	51%	201	193	394
PM Pass-By Reduction (36%) [5]				(709)			0	0	0			(72)	(69)	(141)
Trader Joe's Trips (TJ)				3,231			37	25	62			129	124	253
7-Eleven [13]	3.1	ksf	287.10	890	32.87	50%	51	51	102	28.67	51%	45	44	89
PM Pass-By Reduction (51%) [6]				(227)			0	0	0			(23)	(22)	(45)
7-Eleven Trips (7E)				663			51	51	102			22	22	44
Project Trips (P = Resi + Com + Rest + BPS + DC + TJ + 7E)				**10,137**			**206**	**322**	**528**			**425**	**340**	**765**
Existing Use														
Shopping Center [11]				5,250			138	121	259			213	312	525
PM Pass-By Reduction (34%) [4]				(893)			0	0	0			(72)	(106)	(178)
Existing Shopping Center Trips				4,357			138	121	259			141	206	347
Trader Joe's [12]				3,290			31	21	52			168	161	329
PM Pass-By Reduction (36%) [5]				(592)			0	0	0			(60)	(58)	(118)
Existing Trader Joe's Trips				2,698			31	21	52			108	103	211
7-Eleven [12]				820			47	47	94			42	40	82
PM Pass-By Reduction (51%) [6]				(209)			0	0	0			(21)	(20)	(41)
Existing 7-Eleven Trips				611			47	47	94			21	20	41
Existing Trips (E)				**4,357**			**216**	**189**	**405**			**270**	**329**	**599**
Net Project Trip Generation (Net = P - E)				**5,780**			**(10)**	**133**	**123**			**155**	**11**	**166**

Notes:

All rates are from: Institute of Transportation Engineers, *Trip Generation, 10th Edition*

1. Land Use Code 221: Multifamily Housing (Mid-Rise), General Urban/Suburban (average rates, expressed in trips per dwelling unit)
2. Land Use Code 820: Shopping Center, General Urban/Suburban (average rates, expressed in trips per 1,000 s.f.).
3. Trip reduction of 15% in the AM and 16.3% in the PM, daily reduction calculated at 17.8%. Based on MXD model developed by Fehr & Peers for the US EPA to account for internal capture and external walking, biking, and transit trips due to mixed-use development and local area characteristics. (Mixed Use Trip Generation Model v 4.0, 2010)
4. Pass-by trip reduction for Land Use Code 820: Shopping Center is based on the average pass-by trip reduction rate published in the ITE *Trip Generation Handbook, 3rd Edition.* Hexagon assumes no pass-by trip reduction during the AM peak hour and half of the PM peak pass-by reduction for daily trip generation.
5. Pass-by trip reduction for Land Use Code 850: Supermarket is based on the average pass-by trip reduction rate published in the ITE *Trip Generation Handbook, 3rd Edition.* Hexagon assumes no pass-by trip reduction during the AM peak hour and half of the PM peak pass-by reduction for daily trip generation.
6. Pass-by trip reduction for Land Use Code 851: Convenience Market (Open 24 Hours) is based on the average pass-by trip reduction rate published in the ITE *Trip Generation Handbook, 3rd Edition.* Hexagon assumes no pass-by trip reduction during the AM peak hour and half of the PM peak pass-by reduction for daily trip generation.
7. Land Use Code 930: Fast Casual Restaurant, General Urban/Suburban (average rates, expressed in trips per 1,000 s.f.)
8. Pass-by trip reduction for Fast Casual Restaurant is based on the average pass-by trip rate for High-Turnover Restaurant (ITE 932) as published in the ITE *Trip Generation Handbook, 3rd Edition.* Hexagon assumes no pass-by trip reduction during the AM peak hour and half of the PM peak pass-by reduction for daily trip generation.
9. Land Use Code 495: Recreational Community Center, General Urban/Suburban (average rates, expressed in trips per 1,000 s.f.)
10. Land Use Code 565: Day Care Center, General Urban/Suburban (average rates, expresed in trips per 1,000 s.f.)
11. Peak-hour trips from driveway counts conducted on Thursday, April 26th, 2018. Daily trips were estimated by assuming PM peak hour trips to be 10% of daily trips.
12. Peak-hour inbound trips from trip generation counts conducted on Thursday, April 26th, 2018. Outbound trips were estimated using directional distribution percentages provided by ITE's Trip Generation, 10th Edition. Daily trips were estimated by assuming PM peak hour trips to be 10% of daily trips.
13. Peak-hour trip rates based on counts conducted on Thursday, April 26th, 2018. Mixed-Use Reduction was not applied. Daily trips were estimated by assuming PM peak hour trips to be 10% of daily trips.

Study Int	Intersection Name	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	El Camino Real & 17th Ave	0	97	0	0	92	0	0	0	0	0	0	0
2	El Camino Real & SR 92 WB Ramps	0	0	0	0	92	0	0	0	0	24	0	97
3	El Camino Real & SR 92 EB Ramps	0	0	27	0	24	92	0	0	0	0	0	0
4	El Camino Real & 20th Avenue	0	27	0	0	24	0	0	0	0	0	0	0
5	El Camino Real & 25th Avenue	0	23	9	0	20	4	4	6	0	8	6	0
6	Delaware Street & Sunnybrae Avenue	0	131	0	0	127	0	0	0	0	0	0	0
7	Delaware Street & 16th Avenue	0	131	0	0	127	0	0	0	0	0	0	0
8	Delaware Street & Charles Lane	0	131	0	0	127	0	0	0	0	0	0	0
9	SR 92 WB Ramps & Concar Drive	0	0	169	0	0	0	0	0	0	195	0	0
10	Delaware Street & Concar Drive	122	69	46	74	52	0	0	91	78	40	71	62
11	Delaware Street & 19th Avenue	0	92	6	106	46	0	160	39	0	0	0	0
12	Delaware Street & Bermuda Drive	0	47	10	6	40	0	0	0	0	15	0	51
13	Delaware Street & Saratoga Drive	0	40	0	16	39	0	0	0	0	0	0	17
14	Delaware Street & 25th Avenue	0	25	0	0	24	14	15	0	0	0	0	0
15	Grant Street & Concar Drive	19	17	0	0	15	9	10	0	26	0	0	0
16	Grant Street & 19th Avenue	0	25	0	123	53	0	39	21	0	23	0	71
17	Ginnever Street & Bermuda Drive	0	0	0	20	0	56	10	6	0	0	9	15
18	YMCA Driveway & 19th Avenue	0	0	0	0	0	0	0	145	0	0	94	0
19	US 101 SB Ramps & Fashion Island Boulevard	0	0	0	0	0	36	0	118	26	0	59	0
20	US 101 NB On-Ramp & Fashion Island Boulevard	0	0	0	0	0	0	58	60	0	0	59	0
21	Norfolk Street & Fashion Island Boulevard	10	0	0	0	0	14	16	33	11	0	35	0
22	Delaware Street & Depot Way/Shopping Center Dwy	0	143	93	0	171	0	0	0	0	0	0	91
23	Depot Way/Park Crosswalk & Concar Drive	54	0	18	0	0	0	0	119	92	34	119	0
24	El Camino Real SB Ramps & Hillsdale Boulevard	0	0	0	0	0	2	0	4	0	4	0	0
25	El Camino Real NB Ramps & Hillsdale Boulevard	0	0	4	0	0	0	4	0	0	0	4	0
26	Saratoga Drive & Franklin Parkway	0	17	0	0	16	0	0	0	0	0	0	0
27	Saratoga Drive & Hillsdale Boulevard	0	10	0	6	11	0	0	0	0	0	0	7

APPENDIX C
AERMOD INPUT FILES (PROVIDED ELECTRONICALLY)