

BAYWOOD HOTEL PROJECT GREENHOUSE GAS ASSESSMENT

San José, California

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Introduction

This report presents the results of the greenhouse gas (GHG) emission analysis completed for the proposed Baywood Hotel project in San José, California. The project proposes to demolish the existing two single-family residences and construct an 11-story hotel with 105 rooms, which would be located on the third through 11th floors. The hotel would include two underground parking levels and one above ground parking level (on the second floor) to accommodate 70 parking spaces. The GHG emissions associated with construction and operation of the project were modeled. This analysis was conducted following guidance provided by the Bay Area Air Quality Management District (BAAQMD).¹

Greenhouse Gases

Setting

Gases that trap heat in the atmosphere, GHGs, regulate the earth's temperature. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate. The most common GHGs are carbon dioxide (CO₂) and water vapor but there are also several others, most importantly methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). These are released into the earth's atmosphere through a variety of natural processes and human activities. Sources of GHGs are generally as follows:

- CO₂ and N₂O are byproducts of fossil fuel combustion.
- N₂O is associated with agricultural operations such as fertilization of crops.
- CH₄ is commonly created by off-gassing from agricultural practices (e.g., keeping livestock) and landfill operations.
- Chlorofluorocarbons (CFCs) were widely used as refrigerants, propellants, and cleaning solvents but their production has been stopped by international treaty.
- HFCs are now used as a substitute for CFCs in refrigeration and cooling.
- PFCs and sulfur hexafluoride emissions are commonly created by industries such as aluminum production and semi-conductor manufacturing.

Each GHG has its own potency and effect upon the earth's energy balance. This is expressed in terms of a global warming potential (GWP), with CO₂ being assigned a value of 1 and sulfur hexafluoride being several orders of magnitude stronger. In GHG emission inventories, the weight of each gas is multiplied by its GWP and is measured in units of CO₂ equivalents (CO₂e).

An expanding body of scientific research supports the theory that global climate change is currently affecting changes in weather patterns, average sea level, ocean acidification, chemical reaction rates, and precipitation rates, and that it will increasingly do so in the future. The climate and several naturally occurring resources within California are adversely affected by the global warming trend. Increased precipitation and sea level rise will increase coastal flooding, saltwater intrusion, and degradation of wetlands. Mass migration and/or loss of plant and animal species could also occur. Potential effects of global climate change that could adversely affect human

¹ Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, May 2017.

health include more extreme heat waves and heat-related stress; an increase in climate-sensitive diseases; more frequent and intense natural disasters such as flooding, hurricanes and drought; and increased levels of air pollution.

Recent Regulatory Actions

Assembly Bill 32 (AB 32), California Global Warming Solutions Act (2006)

AB 32, the Global Warming Solutions Act of 2006, codified the State's GHG emissions target by directing CARB to reduce the State's global warming emissions to 1990 levels by 2020. AB 32 was signed and passed into law by Governor Schwarzenegger on September 27, 2006. Since that time, the CARB, CEC, California Public Utilities Commission (CPUC), and Building Standards Commission have all been developing regulations that will help meet the goals of AB 32 and Executive Order S-3-05.

A Scoping Plan for AB 32 was adopted by CARB in December 2008. It contains the State's main strategies to reduce GHGs from business-as-usual emissions projected in 2020 back down to 1990 levels. Business-as-usual (BAU) is the projected emissions in 2020, including increases in emissions caused by growth, without any GHG reduction measures. The Scoping Plan has a range of GHG reduction actions, including direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system.

Senate Bill 375, California's Regional Transportation and Land Use Planning Efforts (2008)

California enacted legislation (SB 375) to expand the efforts of AB 32 by controlling indirect GHG emissions caused by urban sprawl. SB 375 provides incentives for local governments and applicants to implement new conscientiously planned growth patterns. This includes incentives for creating attractive, walkable, and sustainable communities and revitalizing existing communities. The legislation also allows applicants to bypass certain environmental reviews under CEQA if they build projects consistent with the new sustainable community strategies. Development of more alternative transportation options that would reduce vehicle trips and miles traveled, along with traffic congestion, would be encouraged. SB 375 enhances CARB's ability to reach the AB 32 goals by directing the agency in developing regional GHG emission reduction targets to be achieved from the transportation sector for 2020 and 2035. CARB works with the metropolitan planning organizations (e.g. Association of Bay Area Governments [ABAG] and Metropolitan Transportation Commission [MTC]) to align their regional transportation, housing, and land use plans to reduce vehicle miles traveled and demonstrate the region's ability to attain its GHG reduction targets. A similar process is used to reduce transportation emissions of ozone precursor pollutants in the Bay Area.

SB 350 Renewable Portfolio Standards

In September 2015, the California Legislature passed SB 350, which increases the states Renewables Portfolio Standard (RPS) for content of electrical generation from the 33 percent target for 2020 to a 50 percent renewables target by 2030.

Executive Order EO-B-30-15 (2015) and SB 32 GHG Reduction Targets

In April 2015, Governor Brown signed Executive Order which extended the goals of AB 32, setting a greenhouse gas emissions target at 40 percent of 1990 levels by 2030. On September 8, 2016, Governor Brown signed SB 32, which legislatively established the GHG reduction target of 40 percent of 1990 levels by 2030. In November 2017, CARB issued *California's 2017 Climate Change Scoping Plan*. While the State is on track to exceed the AB 32 scoping plan 2020 targets, this plan is an update to reflect the enacted SB 32 reduction target.

The new Scoping Plan establishes a strategy that will reduce GHG emissions in California to meet the 2030 target (note that the AB 32 Scoping Plan only addressed 2020 targets and a long-term goal). Key features of this plan are:

- Cap and Trade program places a firm limit on 80 percent of the State's emissions;
- Achieving a 50-percent Renewable Portfolio Standard by 2030 (currently at about 29 percent statewide);
- Increase energy efficiency in existing buildings (note that new
- Develop fuels with an 18-percent reduction in carbon intensity;
- Develop more high-density, transit-oriented housing;
- Develop walkable and bikeable communities
- Greatly increase the number of electric vehicles on the road and reduce oil demand in half;
- Increase zero-emissions transit so that 100 percent of new buses are zero emissions;
- Reduce freight-related emissions by transitioning to zero emissions where feasible and near-zero emissions with renewable fuels everywhere else; and
- Reduce "super pollutants" by reducing methane and hydrofluorocarbons or HFCs by 40 percent.

In the updated Scoping Plan, CARB recommends statewide targets of no more than 6 metric tons CO_{2e} per capita (statewide) by 2030 and no more than 2 metric tons CO_{2e} per capita by 2050. The statewide per capita targets account for all emissions sectors in the State, statewide population forecasts, and the statewide reductions necessary to achieve the 2030 statewide target under SB 32 and the longer-term State emissions reduction goal of 80 percent below 1990 levels by 2050.

Significance Thresholds

The BAAQMD's CEQA Air Quality Guidelines recommended a GHG threshold of 1,100 metric tons or 4.6 metric tons (MT) per capita. These thresholds were developed based on meeting the 2020 GHG targets set in the scoping plan that addressed AB 32. Development of the project would occur beyond 2020, so a threshold that addresses a future target is appropriate. Although BAAQMD has not published a quantified threshold for 2030 yet, this assessment uses a 660 MT CO_{2e}/year, which is 40 percent below the 2020 target. This is calculated for 2030 based on the GHG reduction goals of EO B-30-15.²

² Association of Environmental Professionals, 2016. *Beyond 2020 and Newhall: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California*. April.

CalEEMod Modeling

GHG emissions associated with development of the proposed project would occur over the short-term from construction activities, consisting primarily of emissions from equipment exhaust and worker and vendor trips. There would also be long-term operational emissions associated with vehicular traffic within the project vicinity, energy and water usage, and solid waste disposal. Emissions for the proposed project are discussed below and were analyzed using the methodology recommended in the BAAQMD CEQA Air Quality Guidelines.

The California Emissions Estimator Model (CalEEMod) Version 2016.3.2 was used to predict GHG emissions from construction and operation of the site assuming full build-out of the project in 2030. The project land use types and size and other project-specific information provided by the applicant were input to the model. The proposed project land uses were input into CalEEMod, which included 105 rooms entered as “Hotel” and 70 spaces entered as “Enclosed Parking with Elevator”. The earliest possible construction start date of February 2019 was used and construction is expected to occur over 21 months. The model output from CalEEMod is included in *Attachment 1*.

Model Year

Emissions associated with vehicle travel depend on the year of analysis because emission control technology requirements are phased-in over time. Therefore, the earlier the year analyzed in the model, the higher the emission rates utilized by CalEEMod. The earliest the project could possibly be constructed and begin operating would be 2021. Therefore, the 2030 660 MT of CO₂e threshold will be used. Emissions associated with build-out later than 2030 would be lower.

Trip Generation Rates

CalEEMod allows the user to enter specific vehicle trip generation rates, which were input to the model using the daily trip generation rate provided in the project trip generation table.³ For each land use type, the forecasted daily trip rate with trip reductions applied was divided by the quantity of that land use to identify the weekday daily trip rate. The Saturday and Sunday trip rates were assumed to be the weekday rate adjusted by multiplying the ratio of the CalEEMod default rates for Saturday and Sunday trips. The default trip lengths and trip types specified by CalEEMod were used.

Energy

CalEEMod defaults for energy use were used, which include the 2016 Title 24 Building Standards. Indirect emissions from electricity were computed in CalEEMod. The model has a default rate of 641.3 pounds of CO₂ per megawatt of electricity produced, which is based on PG&E’s 2008 emissions rate. The rate was adjusted to account for PG&E’s projected 2020 CO₂ intensity rate. This 2020 rate is based, in part, on the requirement of a renewable energy portfolio standard of 33

³ Hexagon Transportation Consultants, Inc., “Baywood Avenue Hotel Traffic Impact Analysis”, May 2018.

percent by the year 2020. The derived 2020 rate for PG&E was estimated at 290 pounds of CO₂ per megawatt of electricity delivered.⁴

Other Inputs

Default model assumptions for emissions associated with solid waste generation and water/wastewater use were applied to the project. Water/wastewater use were changed to 100% aerobic conditions to represent wastewater treatment plant conditions.

Service Population Emissions

The project service population efficiency rate is based on the number of future employees. Based on information provided by the applicant, there would be 21 future employees at the hotel.

Construction Emissions

GHG emissions associated with construction were computed to be 248 MT of CO₂e for the total construction period. These are the emissions from on-site operation of construction equipment, vendor and hauling truck trips, and worker trips. Neither the City nor BAAQMD have an adopted threshold of significance for construction-related GHG emissions, though BAAQMD recommends quantifying emissions and disclosing that GHG emissions would occur during construction. BAAQMD also encourages the incorporation of best management practices to reduce GHG emissions during construction where feasible and applicable. Best management practices assumed to be incorporated into construction of the proposed project include but are not limited to: using local building materials of at least 10 percent and recycling or reusing at least 50 percent of construction waste or demolition materials.

Operational Emissions

The CalEEMod model, along with the project vehicle trip generation rates, was used to estimate daily emissions associated with operation of the fully-developed site under the proposed project. In 2030 as shown in Table 1, annual emissions resulting from operation of the proposed project are predicted to be 839 MT of CO₂e, with the implementation of the Transportation Demand Management (TDM) measures and parking reduction listed on the following page.

Table 1. Annual Project GHG Emissions (CO₂e) in Metric Tons

Source Category	Proposed Project in 2030
Area	0.0033
Energy Consumption	331
Mobile	475
Solid Waste Generation	29
Water Usage	4
Total	839
Significance Threshold / Exceed?	660 in 2030 / Yes

⁴ Pacific Gas & Electric, 2015. *Greenhouse Gas Emission Factors: Guidance for PG&E Customers*. November.

Transportation Demand Measures

Transportation Demand Management (TDM) measures will be implemented for the proposed project to reduce traffic and also reduce GHG emissions. These measures are in place to encourage walking, biking, and use of transit instead of driving and parking. Additionally, the project would include specific measures to ensure that the TDM plan would be maintained for the life of the project. These measures include:

- Design features – Entrance passenger zone,
- Bicycle parking,
- Guest Shuttle services,
- On-site bicycles for guest use,
- On-site access to car-share vehicles for hotel employees and guests,
- Free annual VTA Eco Pass for employees,
- Financial Incentives for employees who bike or walk to work, and
- On-site TDM coordinator and services.

The primary purpose of the TDM measures is to reduce the proposed project's parking demand by 38 percent. CalEEMod defaults predict that approximately 80 percent of trip types for the project are from employees and hotel guests. The project would provide approximately 70 parking spaces, which is a 38 reduction of the normal parking code and would reduce vehicle miles traveled. The parking reduction was incorporated into the modeling. Given the project's operational emissions would exceed the 660 MT of CO₂e threshold for 2030, the project's GHG emissions would be considered a *significant* impact.

Supporting Documentation

Attachment 1 includes the CalEEMod output for project construction and operational GHG emissions. Also included are any modeling assumptions as well as the trip generation table from the project's traffic report.

Attachment 1: CalEEMod Modeling Output & Trip Generation Table

Baywood Hotel Project - Santa Clara County, Annual

**Baywood Hotel Project
Santa Clara County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	70.00	Space	0.00	32,959.00	0
Hotel	105.00	Room	0.30	90,161.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	4	Operational Year		2030	
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - 290 lb/MWh CO2 is based on PG&E's current intensity factor

Land Use - lot acreage is acreage of the project site

Construction Phase - Construction phasing based on information provided by applicant

Vehicle Trips - Based on trip rates in the TIA 12.23, 12.26, 8.91

Energy Use -

Water And Wastewater - WTP Treatment

Mobile Land Use Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	153.00

tblConstructionPhase	NumDays	100.00	174.00
tblConstructionPhase	NumDays	10.00	41.00
tblConstructionPhase	NumDays	2.00	43.00
tblConstructionPhase	NumDays	1.00	45.00
tblGrading	AcresOfGrading	22.50	0.50
tblLandUse	LandUseSquareFeet	28,000.00	32,959.00
tblLandUse	LandUseSquareFeet	152,460.00	90,161.00
tblLandUse	LotAcreage	0.63	0.00
tblLandUse	LotAcreage	3.50	0.30
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	UsageHours	8.00	7.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	VendorTripNumber	20.00	0.00
tblTripsAndVMT	WorkerTripNumber	13.00	52.00
tblTripsAndVMT	WorkerTripNumber	52.00	18.00
tblVehicleTrips	ST_TR	8.19	12.26
tblVehicleTrips	SU_TR	5.95	8.91
tblVehicleTrips	WD_TR	8.17	12.23
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.1 Overall Construction Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.1322	1.2680	0.9981	1.7700e-003	0.0329	0.0698	0.1027	0.0133	0.0651	0.0785	0.0000	156.0458	156.0458	0.0372	0.0000	156.9750
2020	0.5535	0.6488	0.6113	1.0600e-003	0.0123	0.0369	0.0492	3.2700e-003	0.0348	0.0380	0.0000	90.7085	90.7085	0.0201	0.0000	91.2103
Maximum	0.5535	1.2680	0.9981	1.7700e-003	0.0329	0.0698	0.1027	0.0133	0.0651	0.0785	0.0000	156.0458	156.0458	0.0372	0.0000	156.9750

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	0.1322	1.2680	0.9981	1.7700e-003	0.0329	0.0698	0.1027	0.0133	0.0651	0.0785	0.0000	156.0456	156.0456	0.0372	0.0000	156.9749
2020	0.5535	0.6488	0.6113	1.0600e-003	0.0123	0.0369	0.0492	3.2700e-003	0.0348	0.0380	0.0000	90.7084	90.7084	0.0201	0.0000	91.2102
Maximum	0.5535	1.2680	0.9981	1.7700e-003	0.0329	0.0698	0.1027	0.0133	0.0651	0.0785	0.0000	156.0456	156.0456	0.0372	0.0000	156.9749

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	2-1-2019	4-30-2019	0.3064	0.3064
2	5-1-2019	7-31-2019	0.3166	0.3166
3	8-1-2019	10-31-2019	0.4659	0.4659
4	11-1-2019	1-31-2020	0.4607	0.4607
5	2-1-2020	4-30-2020	0.4240	0.4240
6	5-1-2020	7-31-2020	0.2700	0.2700
7	8-1-2020	9-30-2020	0.1790	0.1790
		Highest	0.4659	0.4659

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	0.4021	1.0000e-005	1.6000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.1300e-003	3.1300e-003	1.0000e-005	0.0000	3.3300e-003
Energy	0.0215	0.1958	0.1645	1.1800e-003		0.0149	0.0149		0.0149	0.0149	0.0000	328.9689	328.9689	0.0157	6.3000e-003	331.2391
Mobile	0.1729	0.7389	1.8403	7.6600e-003	0.8722	5.2200e-003	0.8774	0.2334	4.8500e-003	0.2383	0.0000	705.1888	705.1888	0.0210	0.0000	705.7128
Waste						0.0000	0.0000		0.0000	0.0000	11.6700	0.0000	11.6700	0.6897	0.0000	28.9118
Water						0.0000	0.0000		0.0000	0.0000	0.9424	2.0321	2.9744	3.4500e-003	2.0900e-003	3.6838
Total	0.5965	0.9347	2.0064	8.8400e-003	0.8722	0.0201	0.8923	0.2334	0.0197	0.2532	12.6123	1,036.1929	1,048.8052	0.7298	8.3900e-003	1,069.5508

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	0.4021	1.0000e-005	1.6000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.1300e-003	3.1300e-003	1.0000e-005	0.0000	3.3300e-003
Energy	0.0215	0.1958	0.1645	1.1800e-003		0.0149	0.0149		0.0149	0.0149	0.0000	328.9689	328.9689	0.0157	6.3000e-003	331.2391
Mobile	0.1530	0.6408	1.3630	5.1600e-003	0.5586	3.6900e-003	0.5623	0.1495	3.4300e-003	0.1529	0.0000	475.0642	475.0642	0.0155	0.0000	475.4508
Waste						0.0000	0.0000		0.0000	0.0000	11.6700	0.0000	11.6700	0.6897	0.0000	28.9118
Water						0.0000	0.0000		0.0000	0.0000	0.9424	2.0321	2.9744	3.4500e-003	2.0900e-003	3.6838
Total	0.5767	0.8366	1.5291	6.3400e-003	0.5586	0.0186	0.5772	0.1495	0.0183	0.1678	12.6123	806.0683	818.6806	0.7243	8.3900e-003	839.2888

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	3.32	10.50	23.79	28.28	35.95	7.61	35.31	35.95	7.19	33.71	0.00	22.21	21.94	0.75	0.00	21.53

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	2/1/2019	3/31/2019	5	41	
2	Site Preparation	Site Preparation	4/1/2019	5/31/2019	5	45	
3	Grading	Grading	6/1/2019	7/31/2019	5	43	
4	Trenching	Trenching	8/1/2019	8/31/2019	5	22	
5	Building Construction	Building Construction	9/1/2019	4/30/2020	5	174	
6	Architectural Coating	Architectural Coating	5/1/2020	12/1/2020	5	153	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 135,242; Non-Residential Outdoor: 45,081; Striped Parking

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	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Trenching	Cranes	1	4.00	231	0.29

Trenching	Forklifts	2	6.00	89	0.20
Trenching	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cement and Mortar Mixers	4	6.00	9	0.56
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Pavers	1	7.00	130	0.42
Building Construction	Rollers	1	7.00	80	0.38
Building Construction	Tractors/Loaders/Backhoes	1	7.00	97	0.37
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	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	5	52.00	20.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	10	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	10.00	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

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Off-Road	0.0195	0.1764	0.1577	2.5000e-004		0.0110	0.0110		0.0105	0.0105	0.0000	21.5665	21.5665	4.1100e-003	0.0000	21.6693

Total	0.0195	0.1764	0.1577	2.5000e-004		0.0110	0.0110		0.0105	0.0105	0.0000	21.5665	21.5665	4.1100e-003	0.0000	21.6693
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Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.4000e-004	5.5000e-004	5.7300e-003	2.0000e-005	1.6300e-003	1.0000e-005	1.6400e-003	4.3000e-004	1.0000e-005	4.4000e-004	0.0000	1.4393	1.4393	4.0000e-005	0.0000	1.4403
Total	7.4000e-004	5.5000e-004	5.7300e-003	2.0000e-005	1.6300e-003	1.0000e-005	1.6400e-003	4.3000e-004	1.0000e-005	4.4000e-004	0.0000	1.4393	1.4393	4.0000e-005	0.0000	1.4403

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	0.0195	0.1764	0.1577	2.5000e-004		0.0110	0.0110		0.0105	0.0105	0.0000	21.5665	21.5665	4.1100e-003	0.0000	21.6693
Total	0.0195	0.1764	0.1577	2.5000e-004		0.0110	0.0110		0.0105	0.0105	0.0000	21.5665	21.5665	4.1100e-003	0.0000	21.6693

Mitigated Construction Off-Site

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	3.0000e-004	3.1400e-003	1.0000e-005	8.9000e-004	1.0000e-005	9.0000e-004	2.4000e-004	1.0000e-005	2.4000e-004	0.0000	0.7898	0.7898	2.0000e-005	0.0000	0.7904
Total	4.1000e-004	3.0000e-004	3.1400e-003	1.0000e-005	8.9000e-004	1.0000e-005	9.0000e-004	2.4000e-004	1.0000e-005	2.4000e-004	0.0000	0.7898	0.7898	2.0000e-005	0.0000	0.7904

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0162	0.2006	0.0932	2.2000e-004		8.2600e-003	8.2600e-003		7.6000e-003	7.6000e-003	0.0000	19.7007	19.7007	6.2300e-003	0.0000	19.8565
Total	0.0162	0.2006	0.0932	2.2000e-004	2.7000e-004	8.2600e-003	8.5300e-003	3.0000e-005	7.6000e-003	7.6300e-003	0.0000	19.7007	19.7007	6.2300e-003	0.0000	19.8565

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	3.0000e-004	3.1400e-003	1.0000e-005	8.9000e-004	1.0000e-005	9.0000e-004	2.4000e-004	1.0000e-005	2.4000e-004	0.0000	0.7898	0.7898	2.0000e-005	0.0000	0.7904
Total	4.1000e-004	3.0000e-004	3.1400e-003	1.0000e-005	8.9000e-004	1.0000e-005	9.0000e-004	2.4000e-004	1.0000e-005	2.4000e-004	0.0000	0.7898	0.7898	2.0000e-005	0.0000	0.7904

3.4 Grading - 2019

Unmitigated Construction On-Site

Off-Road	0.0205	0.1850	0.1654	2.6000e-004		0.0116	0.0116		0.0110	0.0110	0.0000	22.6185	22.6185	4.3100e-003	0.0000	22.7263
Total	0.0205	0.1850	0.1654	2.6000e-004	0.0162	0.0116	0.0277	8.9000e-003	0.0110	0.0199	0.0000	22.6185	22.6185	4.3100e-003	0.0000	22.7263

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr											MT/yr				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.8000e-004	5.8000e-004	6.0100e-003	2.0000e-005	1.7100e-003	1.0000e-005	1.7200e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.5095	1.5095	4.0000e-005	0.0000	1.5105
Total	7.8000e-004	5.8000e-004	6.0100e-003	2.0000e-005	1.7100e-003	1.0000e-005	1.7200e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.5095	1.5095	4.0000e-005	0.0000	1.5105

3.5 Trenching - 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	0.0105	0.1080	0.0830	1.3000e-004		6.6600e-003	6.6600e-003		6.1300e-003	6.1300e-003	0.0000	11.2531	11.2531	3.5600e-003	0.0000	11.3421
Total	0.0105	0.1080	0.0830	1.3000e-004		6.6600e-003	6.6600e-003		6.1300e-003	6.1300e-003	0.0000	11.2531	11.2531	3.5600e-003	0.0000	11.3421

Unmitigated Construction Off-Site

Vendor	1.0800e-003	0.0278	7.4600e-003	6.0000e-005	1.4500e-003	2.0000e-004	1.6500e-003	4.2000e-004	1.9000e-004	6.1000e-004	0.0000	5.7871	5.7871	2.9000e-004	0.0000	5.7943
Worker	2.0800e-003	1.5500e-003	0.0160	4.0000e-005	4.5400e-003	3.0000e-005	4.5700e-003	1.2100e-003	3.0000e-005	1.2300e-003	0.0000	4.0159	4.0159	1.1000e-004	0.0000	4.0187
Total	3.1600e-003	0.0293	0.0234	1.0000e-004	5.9900e-003	2.3000e-004	6.2200e-003	1.6300e-003	2.2000e-004	1.8400e-003	0.0000	9.8031	9.8031	4.0000e-004	0.0000	9.8130

3.6 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	0.0575	0.5651	0.4387	7.1000e-004		0.0320	0.0320		0.0296	0.0296	0.0000	61.8681	61.8681	0.0183	0.0000	62.3257
Total	0.0575	0.5651	0.4387	7.1000e-004		0.0320	0.0320		0.0296	0.0296	0.0000	61.8681	61.8681	0.0183	0.0000	62.3257

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	2.8400e-003	2.1200e-003	0.0219	6.0000e-005	6.2100e-003	4.0000e-005	6.2500e-003	1.6500e-003	4.0000e-005	1.6900e-003	0.0000	5.4973	5.4973	1.5000e-004	0.0000	5.5011
Total	2.8400e-003	2.1200e-003	0.0219	6.0000e-005	6.2100e-003	4.0000e-005	6.2500e-003	1.6500e-003	4.0000e-005	1.6900e-003	0.0000	5.4973	5.4973	1.5000e-004	0.0000	5.5011

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	0.0575	0.5651	0.4387	7.1000e-004		0.0320	0.0320		0.0296	0.0296	0.0000	61.8680	61.8680	0.0183	0.0000	62.3256
Total	0.0575	0.5651	0.4387	7.1000e-004		0.0320	0.0320		0.0296	0.0296	0.0000	61.8680	61.8680	0.0183	0.0000	62.3256

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	2.8400e-003	2.1200e-003	0.0219	6.0000e-005	6.2100e-003	4.0000e-005	6.2500e-003	1.6500e-003	4.0000e-005	1.6900e-003	0.0000	5.4973	5.4973	1.5000e-004	0.0000	5.5011
Total	2.8400e-003	2.1200e-003	0.0219	6.0000e-005	6.2100e-003	4.0000e-005	6.2500e-003	1.6500e-003	4.0000e-005	1.6900e-003	0.0000	5.4973	5.4973	1.5000e-004	0.0000	5.5011

3.6 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	0.0528	0.5163	0.4324	7.1000e-004		0.0283	0.0283		0.0262	0.0262	0.0000	60.6474	60.6474	0.0183	0.0000	61.1049

Total	0.0528	0.5163	0.4324	7.1000e-004		0.0283	0.0283		0.0262	0.0262	0.0000	60.6474	60.6474	0.0183	0.0000	61.1049
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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	2.6000e-003	1.8700e-003	0.0196	6.0000e-005	6.2100e-003	4.0000e-005	6.2500e-003	1.6500e-003	4.0000e-005	1.6900e-003	0.0000	5.3256	5.3256	1.3000e-004	0.0000	5.3288
Total	2.6000e-003	1.8700e-003	0.0196	6.0000e-005	6.2100e-003	4.0000e-005	6.2500e-003	1.6500e-003	4.0000e-005	1.6900e-003	0.0000	5.3256	5.3256	1.3000e-004	0.0000	5.3288

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	0.0528	0.5163	0.4324	7.1000e-004		0.0283	0.0283		0.0262	0.0262	0.0000	60.6473	60.6473	0.0183	0.0000	61.1048
Total	0.0528	0.5163	0.4324	7.1000e-004		0.0283	0.0283		0.0262	0.0262	0.0000	60.6473	60.6473	0.0183	0.0000	61.1048

Mitigated Construction Off-Site

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	2.5400e-003	1.8300e-003	0.0192	6.0000e-005	6.0700e-003	4.0000e-005	6.1100e-003	1.6100e-003	4.0000e-005	1.6500e-003	0.0000	5.2031	5.2031	1.3000e-004	0.0000	5.2063
Total	2.5400e-003	1.8300e-003	0.0192	6.0000e-005	6.0700e-003	4.0000e-005	6.1100e-003	1.6100e-003	4.0000e-005	1.6500e-003	0.0000	5.2031	5.2031	1.3000e-004	0.0000	5.2063

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	0.4770					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0185	0.1288	0.1401	2.3000e-004		8.4900e-003	8.4900e-003		8.4900e-003	8.4900e-003	0.0000	19.5324	19.5324	1.5100e-003	0.0000	19.5702
Total	0.4955	0.1288	0.1401	2.3000e-004		8.4900e-003	8.4900e-003		8.4900e-003	8.4900e-003	0.0000	19.5324	19.5324	1.5100e-003	0.0000	19.5702

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	2.5400e-003	1.8300e-003	0.0192	6.0000e-005	6.0700e-003	4.0000e-005	6.1100e-003	1.6100e-003	4.0000e-005	1.6500e-003	0.0000	5.2031	5.2031	1.3000e-004	0.0000	5.2063
Total	2.5400e-003	1.8300e-003	0.0192	6.0000e-005	6.0700e-003	4.0000e-005	6.1100e-003	1.6100e-003	4.0000e-005	1.6500e-003	0.0000	5.2031	5.2031	1.3000e-004	0.0000	5.2063

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Transit Accessibility

Limit Parking Supply

	ROG	NOx	CO	SO2	Fugitive 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	0.1530	0.6408	1.3630	5.1600e-003	0.5586	3.6900e-003	0.5623	0.1495	3.4300e-003	0.1529	0.0000	475.0642	475.0642	0.0155	0.0000	475.4508
Unmitigated	0.1729	0.7389	1.8403	7.6600e-003	0.8722	5.2200e-003	0.8774	0.2334	4.8500e-003	0.2383	0.0000	705.1888	705.1888	0.0210	0.0000	705.7128

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Hotel	1,284.15	1,287.30	935.55	2,346,035	1,502,614
Total	1,284.15	1,287.30	935.55	2,346,035	1,502,614

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Hotel	9.50	7.30	7.30	19.40	61.60	19.00	58	38	4

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651

Hotel	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651
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5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	115.7787	115.7787	0.0116	2.4000e-003	116.7820
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	115.7787	115.7787	0.0116	2.4000e-003	116.7820
NaturalGas Mitigated	0.0215	0.1958	0.1645	1.1800e-003		0.0149	0.0149		0.0149	0.0149	0.0000	213.1902	213.1902	4.0900e-003	3.9100e-003	214.4571
NaturalGas Unmitigated	0.0215	0.1958	0.1645	1.1800e-003		0.0149	0.0149		0.0149	0.0149	0.0000	213.1902	213.1902	4.0900e-003	3.9100e-003	214.4571

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					
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
Hotel	3.99503e+006	0.0215	0.1958	0.1645	1.1800e-003		0.0149	0.0149		0.0149	0.0149	0.0000	213.1902	213.1902	4.0900e-003	3.9100e-003	214.4571
Total		0.0215	0.1958	0.1645	1.1800e-003		0.0149	0.0149		0.0149	0.0149	0.0000	213.1902	213.1902	4.0900e-003	3.9100e-003	214.4571

Mitigated

	Natural Gas 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					
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
Hotel	3.99503e+006	0.0215	0.1958	0.1645	1.1800e-003		0.0149	0.0149		0.0149	0.0149	0.0000	213.1902	213.1902	4.0900e-003	3.9100e-003	214.4571
Total		0.0215	0.1958	0.1645	1.1800e-003		0.0149	0.0149		0.0149	0.0149	0.0000	213.1902	213.1902	4.0900e-003	3.9100e-003	214.4571

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	193140	25.4060	2.5400e-003	5.3000e-004	25.6261
Hotel	687027	90.3727	9.0400e-003	1.8700e-003	91.1559
Total		115.7787	0.0116	2.4000e-003	116.7820

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			

Enclosed Parking with Elevator	193140	25.4060	2.5400e-003	5.3000e-004	25.6261
Hotel	687027	90.3727	9.0400e-003	1.8700e-003	91.1559
Total		115.7787	0.0116	2.4000e-003	116.7820

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	0.4021	1.0000e-005	1.6000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.1300e-003	3.1300e-003	1.0000e-005	0.0000	3.3300e-003
Unmitigated	0.4021	1.0000e-005	1.6000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.1300e-003	3.1300e-003	1.0000e-005	0.0000	3.3300e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0477					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3543					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.5000e-004	1.0000e-005	1.6000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.1300e-003	3.1300e-003	1.0000e-005	0.0000	3.3300e-003

Total	0.4021	1.0000e-005	1.6000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.1300e-003	3.1300e-003	1.0000e-005	0.0000	3.3300e-003
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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	0.0477					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3543					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.5000e-004	1.0000e-005	1.6000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.1300e-003	3.1300e-003	1.0000e-005	0.0000	3.3300e-003
Total	0.4021	1.0000e-005	1.6000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.1300e-003	3.1300e-003	1.0000e-005	0.0000	3.3300e-003

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	2.9744	3.4500e-003	2.0900e-003	3.6838
Unmitigated	2.9744	3.4500e-003	2.0900e-003	3.6838

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Hotel	2.66351 / 0.295946	2.9744	3.4500e-003	2.0900e-003	3.6838
Total		2.9744	3.4500e-003	2.0900e-003	3.6838

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Hotel	2.66351 / 0.295946	2.9744	3.4500e-003	2.0900e-003	3.6838
Total		2.9744	3.4500e-003	2.0900e-003	3.6838

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
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	MT/yr			
Mitigated	11.6700	0.6897	0.0000	28.9118
Unmitigated	11.6700	0.6897	0.0000	28.9118

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Hotel	57.49	11.6700	0.6897	0.0000	28.9118
Total		11.6700	0.6897	0.0000	28.9118

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Hotel	57.49	11.6700	0.6897	0.0000	28.9118
Total		11.6700	0.6897	0.0000	28.9118

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

**Table 6
Project Trip Generation Estimates**

Land Use	ITE Land Use Code	Size	Daily		AM Peak Hour						PM Peak Hour					
			Rate	Trip	Pk-Hr Rate	Split In Out		Trip In Out		Total	Pk-Hr Rate	Split In Out		Trip In Out		Total
Proposed Land Use																
Hotel	#310 - Occupied Hotel Rooms	105 Rooms	12.23	1,284	0.62	58%	42%	38	27	65	0.73	49%	51%	38	39	77
Existing Land Use																
Residential	#210 - Single-Family Detached Housing	2 Dwelling Units	9.44	19	0.74	25%	75%	0	1	1	0.99	63%	37%	1	1	2
Net Project Trips (Proposed - Existing)				1,265				38	26	64				37	38	75
Source: ITE Trip Generation Manual, 10 th Edition 2017 (Average Rates)																