

***STONERIDGE CORPORATE PLAZA EXPANSION  
AIR QUALITY ASSESSMENT  
PLEASANTON, CALIFORNIA***

**April 3, 2014**



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## **Introduction**

This report addresses air quality impacts associated with the proposed expansion of the Stoneridge Corporate Plaza in Pleasanton, California. The project proposes to construct a six-story, approximately 430,000 square foot office building, parking garage, and surface parking on the BART property. The project would also construct a parking garage and surface parking on the Stoneridge Corporate Plaza property. The proposed project is located on two sites: the approximately 25.4-acre Stoneridge Corporate Plaza property located at 6120-6160 Stoneridge Mall Road and the approximately 6.9-acre undeveloped BART property located at 6110 Stoneridge Mall Road. The project would change travel patterns in the area and air pollutant emissions. In addition, construction of the project would emit air pollutants, and the community health risk impacts from project construction on nearby sensitive receptors were also assessed. This analysis was conducted following guidance provided by the Bay Area Air Quality Management District (BAAQMD)<sup>1</sup>.

## **Project Description**

As shown in Figure 1, a new six-story office building and five-level parking structure would be constructed east of the existing BART parking garage. A small portion of the office building crosses the southeastern property line onto the Stoneridge Corporate Plaza parcel. The five-level parking garage would be set back approximately 25 ft. from the northern property line along I-580. In addition, a four-level parking garage would be constructed near the southwest corner of the Stoneridge Corporate Plaza site adjacent to the Stoneridge Mall Road and Embarcadero Court intersection.

## **Setting**

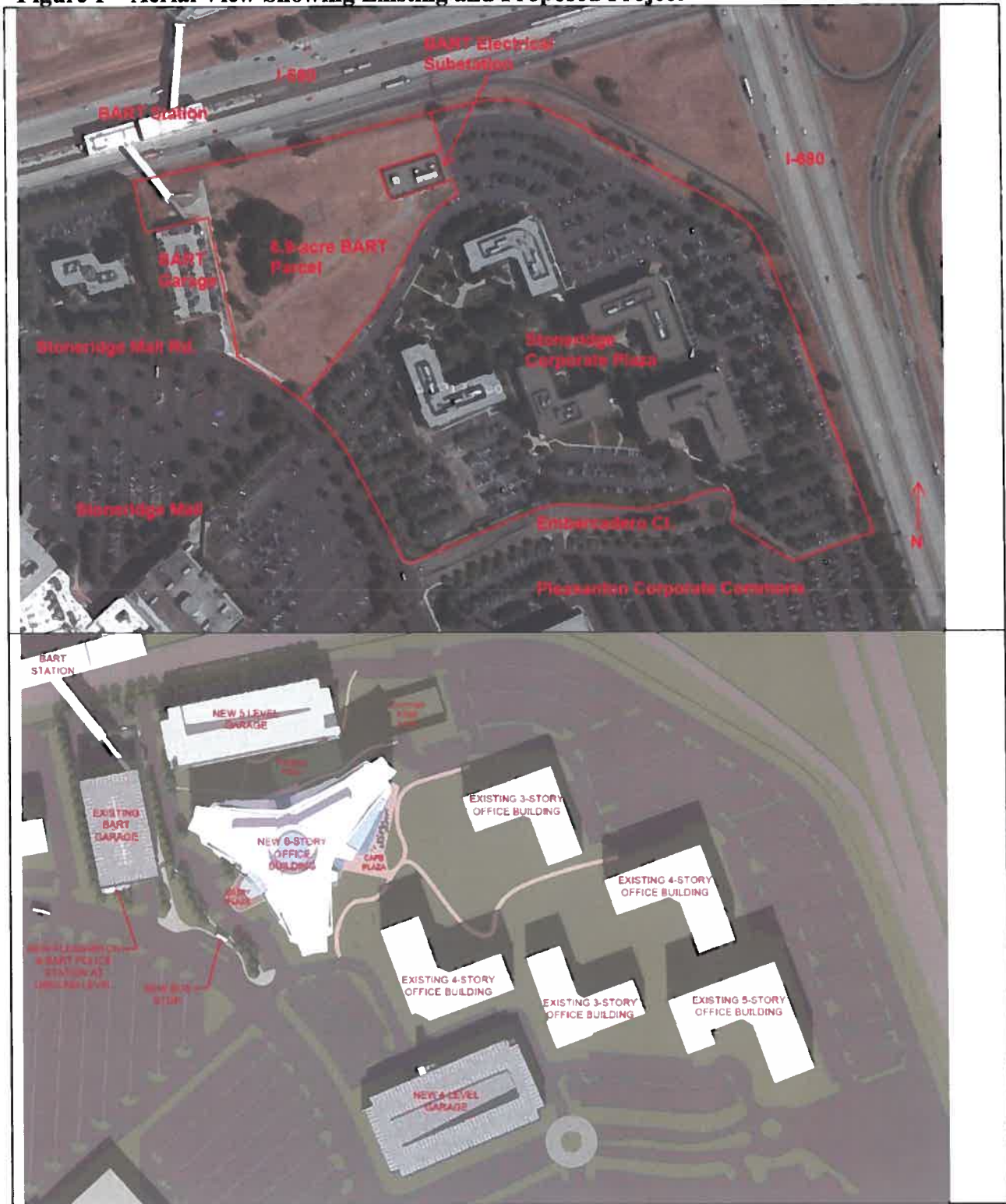
The project is located in the San Francisco Bay Area Air Basin. Ambient air quality standards have been established at both the State and Federal level. The Bay Area meets all ambient air quality standards with the exception of ground-level ozone, respirable particulate matter (PM<sub>10</sub>), and fine particulate matter (PM<sub>2.5</sub>).

High ozone levels are caused by the cumulative emissions of reactive organic gases (ROG) and nitrogen oxides (NO<sub>x</sub>). These precursor pollutants react under certain meteorological conditions to form high ozone levels. Controlling the emissions of these precursor pollutants is the focus of the Bay Area's attempts to reduce ozone levels. Highest ozone levels in the Bay Area occur in the eastern and southern inland valleys that are downwind of air pollutant sources. High ozone levels aggravate respiratory and cardiovascular diseases, reduced lung function, and increase coughing and chest discomfort.

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<sup>1</sup> BAAQMD, 2011. *BAAQMD CEQA Air Quality Guidelines*. May.

**Figure 1 – Aerial View Showing Existing and Proposed Project**



Particulate matter is another problematic air pollutant in the Bay Area. Particulate matter is assessed and measured in terms of respirable particulate matter or particles that have a diameter of 10 micrometers or less ( $PM_{10}$ ) and fine particulate matter where particles have a diameter of 2.5 micrometers or less ( $PM_{2.5}$ ). Elevated concentrations of  $PM_{10}$  and  $PM_{2.5}$  are the result of both region-wide (or cumulative) emissions and localized emissions. High particulate matter levels aggravate respiratory and cardiovascular diseases, reduce lung function, increase mortality (e.g., lung cancer), and result in reduced lung function growth in children.

Dublin is located in the San Ramon Valley, where wind speeds rank as some of the lowest in the Bay Area. Air temperatures are cooler in the winter and warmer in the summer because these valleys are further from the moderating effect of large water bodies, and because the Coast Range blocks marine air flow. In the Diablo Valley during the winter, Concord records daily maximum temperatures in the mid 50's. During the summer, average daily maximum temperatures are in the high 80's to 90 degrees. Average minimum temperatures in winter are in the low-to-mid 40's. Temperatures in the San Ramon Valley would be similar to Concord's. Shielded by the Coast Range to the west, rainfall amounts in the Diablo Valley are relatively low. For example, Martinez, in the north, reports an annual average of 18.5 inches, while Walnut Creek reports 19 inches. Rainfall in the San Ramon Valley is expected to be similar because of the similar orientation of the terrain.

Pollution potential is relatively high in these valleys. In the winter, light winds at night coupled with a surface-based inversion and terrain blocking to the east and west does not allow much dispersion of pollutants. San Ramon Valley, with its very narrow width, could easily have high pollution buildups from emissions contributed by the major freeway in its center, and by emissions from fireplaces and wood stoves. In the summer months, ozone can be transported into the valleys from both the Central Valley and the central Bay Area.

### National and State Ambient Air Quality Standards

The ambient air quality in a given area depends on the quantities of pollutants emitted within the area, transport of pollutants to and from surrounding areas, local and regional meteorological conditions, as well as the surrounding topography of the air basin. Air quality is described by the concentration of various pollutants in the atmosphere. Units of concentration are generally expressed in parts per million (ppm) or micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ).

As required by the Federal Clean Air Act, National Ambient Air Quality Standards (NAAQS) have been established for six major air pollutants: carbon monoxide (CO), nitrogen dioxide ( $\text{NO}_2$ ), ozone ( $\text{O}_3$ ), particulate matter, including respirable particulate matter ( $PM_{10}$ ) and fine particulate matter ( $PM_{2.5}$ ), sulfur oxides, and lead. Pursuant to the California Clean Air Act, the State of California has established the California Ambient Air Quality Standards (CAAQS). Relevant State and Federal standards are summarized in Table 1. CAAQS are generally the same or more stringent than NAAQS.

### Air Quality Monitoring Data

The significance of a pollutant concentration is determined by comparing the concentration to an appropriate ambient air quality standard. The standards represent the allowable pollutant

concentrations designed to ensure that the public health and welfare are protected, while including a reasonable margin of safety to protect the more sensitive individuals in the population. The San Francisco Bay Area is considered to be one of the cleanest metropolitan areas in the country with respect to air quality. BAAQMD monitors air quality conditions at more than 20 locations throughout the Bay Area. The closest monitoring station to the project site is in Livermore at the 793 Rincon Avenue monitoring station. Summarized air pollutant data for this station is provided in Table 2. This table shows the highest air pollutant concentrations measured at the station over the five year period from 2008 through 2012. Note that BAAQMD discontinued monitoring of carbon monoxide in 2009.

These data show that ozone levels above State or Federal standards are exceeded each year. Over the past 5 years, State ozone standards were exceeded 6 to 9 days annually and Federal standards were exceeded 2 to 3 days. No other ambient air quality standards were exceeded in Livermore.

#### Ambient Air Quality Status

Areas with air pollutant levels that exceed adopted air quality standards are designated as “nonattainment” areas for the relevant air pollutants. Nonattainment areas are sometimes further classified by degree (marginal, moderate, serious, severe, and extreme for ozone, and moderate and serious for carbon monoxide and PM<sub>10</sub>) or status (“nonattainment-transitional”). Areas that comply with air quality standards are designated as “attainment” areas for the relevant air pollutants. “Unclassified” areas are those with insufficient air quality monitoring data to support a designation of attainment or nonattainment, but are generally presumed to meet the ambient air quality standard. State Implementation Plans must be prepared by states for areas designated as federal nonattainment areas to demonstrate how the area will come into attainment of the exceeded federal ambient air quality standard. The Bay Area is considered a marginal nonattainment area for ozone under the NAAQS and nonattainment for ozone under the CAAQS (both 1- and 8-hour standards). The Bay Area is also designated as nonattainment for the 24-hour PM<sub>2.5</sub> standard; however, U.S. Environmental Protection Agency (EPA) has proposed that the Bay Area has met the standard based on the latest 3-year set of monitoring data. The Bay Area is still considered nonattainment for the State annual PM<sub>2.5</sub> standard and the 24-hour PM<sub>10</sub> standard. The region is designated attainment or unclassified for all other ambient air quality standards.

**Table 1. Relevant California and National Ambient Air Quality Standards**

Pollutant	Averaging Time	California Standards	National Standards
Ozone	8-hour	0.070 ppm (137 µg/m <sup>3</sup> )	0.075 ppm (147 µg/m <sup>3</sup> )
	1-hour	0.09 ppm (180 µg/m <sup>3</sup> )	—
Carbon monoxide	1-hour	20 ppm (23 mg/m <sup>3</sup> )	35 ppm (40 mg/m <sup>3</sup> )
	8-hour	9.0 ppm (10 mg/m <sup>3</sup> )	9 ppm (10 mg/m <sup>3</sup> )
Nitrogen dioxide	1-hour	0.18 ppm (339 µg/m <sup>3</sup> )	0.100 ppm (188 µg/m <sup>3</sup> )
	Annual	0.030 ppm (57 µg/m <sup>3</sup> )	0.053 ppm (100 µg/m <sup>3</sup> )
Sulfur Dioxide	1-hour	0.25 ppm (655 µg/m <sup>3</sup> )	0.075 ppm (196 µg/m <sup>3</sup> )
	24-hour	0.04 ppm (105 µg/m <sup>3</sup> )	0.14 ppm (365 µg/m <sup>3</sup> )
	Annual	—	0.03 ppm (56 µg/m <sup>3</sup> )
Particulate Matter (PM <sub>10</sub> )	Annual	20 µg/m <sup>3</sup>	—
	24-hour	50 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>
Particulate Matter (PM <sub>2.5</sub> )	Annual	12 µg/m <sup>3</sup>	12 µg/m <sup>3</sup>
	24-hour	—	35 µg/m <sup>3</sup>

Notes: ppm = parts per million mg/m<sup>3</sup> = milligrams per cubic meter µg/m<sup>3</sup> = micrograms per cubic meter

**Table 2. Highest Measured Air Pollutant Concentrations in Livermore**

Pollutant	Average Time	Measured Air Pollutant Levels				
		2008	2009	2010	2011	2012
Ozone (O <sub>3</sub> )	1-Hour	<b>0.141 ppm</b>	<b>0.113 ppm</b>	<b>0.150 ppm</b>	<b>0.115 ppm</b>	<b>0.102 ppm</b>
	8-Hour	<b>0.111 ppm</b>	<b>0.086 ppm</b>	<b>0.098 ppm</b>	<b>0.085 ppm</b>	<b>0.090 ppm</b>
Carbon Monoxide (CO)	8-Hour	1.4 ppm	1.3 ppm	ND	ND	ND
Nitrogen Dioxide (NO <sub>2</sub> )	1-Hour	0.058 ppm	0.052 ppm	0.058 ppm	0.053 ppm	0.057 ppm
	Annual	0.013 ppm	0.012 ppm	0.011 ppm	0.011 ppm	0.011 ppm
Respirable Particulate Matter (PM <sub>10</sub> )	24-Hour	46.8 ug/m <sup>3</sup>	ND	ND	ND	ND
	Annual	ND	ND	ND	ND	ND
Fine Particulate Matter (PM <sub>2.5</sub> )	24-Hour	<b>52.7 ug/m<sup>3</sup></b>	<b>45.7 ug/m<sup>3</sup></b>	34.7 ug/m <sup>3</sup>	23.6 ug/m <sup>3</sup>	31.1 ug/m <sup>3</sup>
	Annual	10.1 ug/m <sup>3</sup>	9.2 ug/m <sup>3</sup>	7.6 ug/m <sup>3</sup>	7.8 ug/m <sup>3</sup>	6.5 ug/m <sup>3</sup>

Source: CARB, 2013.

Notes: ppm = parts per million and ug/m<sup>3</sup> = micrograms per cubic meter.  
Values reported in bold exceed ambient air quality standard.  
ND = No data.

### Sensitive Receptors

There are groups of people more affected by air pollution than others. The California Air Resources Board (CARB) has identified the following persons who are most likely to be affected by air pollution: children under 14, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, elementary schools, and parks. The closest sensitive receptors are future residences that will be located in Dublin, north of the site across Interstate 580. Existing residences are located about 1,000 feet south of the project site.

### Toxic Air Contaminants

Toxic air contaminants (TAC) are a broad class of compounds known to cause morbidity or mortality (usually because they cause cancer) and include, but are not limited to, the criteria air pollutants listed above. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter near a freeway). Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, state, and Federal level.

Diesel exhaust is the predominant TAC in urban air and is estimated to represent about three-quarters of the cancer risk from TACs (based on the Bay Area average). According to the CARB, diesel exhaust is a complex mixture of gases, vapors, and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the CARB, and are listed as carcinogens either under the state's Proposition 65 or under the Federal Hazardous Air Pollutants programs.

CARB has adopted and implemented a number of regulations for stationary and mobile sources to reduce emissions of diesel particulate matter (DPM). Several of these regulatory programs affect medium and heavy duty diesel trucks that represent the bulk of DPM emissions from California highways. These regulations include the solid waste collection vehicle (SWCV) rule, in-use public and utility fleets, and the heavy-duty diesel truck and bus regulations. In 2008, CARB approved a new regulation to reduce emissions of DPM and nitrogen oxides from existing on-road heavy-duty diesel fueled vehicles<sup>2</sup>. The regulation requires affected vehicles to meet specific performance requirements between 2012 and 2023, with all affected diesel vehicles required to have 2010 model-year engines or equivalent by 2023. These requirements are phased in over the compliance period and depend on the model year of the vehicle.

The BAAQMD is the regional agency tasked with managing air quality in the region. At the State level, CARB (a part of the California Environmental Protection Agency) oversees regional air district activities and regulates air quality at the State level. The BAAQMD published the *California Environmental Quality Act (CEQA) Air Quality Guidelines*, which are used in this assessment to evaluate air quality impacts of projects<sup>3</sup>.

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<sup>2</sup> Available online: <http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm>. Accessed: April 3, 2012.

<sup>3</sup> BAAQMD, 2011, op. cit.

## Significance Thresholds

The BAAQMD provides guidance for assessing the impact of projects on air quality. In 2011, BAAQMD issued the *CEQA Air Quality Guidelines*<sup>4</sup> which provided procedures for analyzing air quality impacts of land use projects, including construction projects, and also includes thresholds of significance to compare impacts against. These thresholds are identified in Table 3. The methodology contained in the BAAQMD CEQA Air Quality Guidelines were generally followed. The exception is that the South Coast Air Quality Management District, along with a collaboration of other air districts, developed the California Emissions Estimator Model (CalEEMod) in late 2011 that superseded the URBEMIS2007 model recommended in the BAAQMD CEQA Air Quality Guidelines<sup>5</sup>. In addition, CARB updated their on-road motor vehicle emission factor model to EMFAC2011. This model provides the best estimate of motor vehicle, including truck, emission factors.

BAAQMD's adoption of significance thresholds contained in the 2011 CEQA Air Quality Guidelines was called into question by an order issued March 5, 2012, in *California Building Industry Association (CBIA) v. BAAQMD* (Alameda Superior Court Case No. RGI0548693). The order requires BAAQMD to set aside its approval of the thresholds until it has conducted environmental review under CEQA. The ruling made in the case concerned the environmental impacts of adopting the thresholds and how the thresholds would indirectly affect land use development patterns. In August 2013, the Appellate Court struck down the lower court's order to set aside the thresholds. However, this litigation remains pending as the California Supreme Court recently accepted a portion of CBIA's petition to review the appellate court's decision to uphold BAAQMD's adoption of the thresholds. The specific portion of the argument to be considered is in regard to whether CEQA requires consideration of the effects of the environment on a project (as contrasted to the effects of a proposed project on the environment). Therefore, the significance thresholds contained in the 2011 CEQA Air Quality Guidelines are applied to this project.

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<sup>4</sup> BAAQMD. 2011. *op. cit.*

<sup>5</sup> BAAQMD has recommend use of the latest version of CalEEMod in August 2013. See <http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES.aspx>, accessed April 3, 2014.



**Table 3. Air Quality Significance Thresholds**

Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (lbs./day)	Average Daily Emissions (lbs./day)	Annual Average Emissions (tons/year)
<b>Criteria Air Pollutants</b>			
ROG	54	54	10
NO <sub>x</sub>	54	54	10
PM <sub>10</sub>	82	82	15
PM <sub>2.5</sub>	54	54	10
CO	Not Applicable	California Ambient Air Quality Standards, which are 9.0 ppm (8-hour average) or 20.0 ppm (1-hour average)	
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices	Not Applicable	
<b>Health Risks and Hazards for New Sources</b>			
Excess Cancer Risk	10 per one million	10 per one million	
Chronic or Acute Hazard Index	1.0	1.0	
Incremental annual average PM <sub>2.5</sub>	0.3 µg/m <sup>3</sup>	0.3 µg/m <sup>3</sup>	
<b>Health Risks and Hazards for Sensitive Receptors (Cumulative from all sources within 1,000 foot zone of influence) and Cumulative Thresholds for New Sources</b>			
Excess Cancer Risk	100 per one million		
Chronic Hazard Index	10.0		
Annual Average PM <sub>2.5</sub>	0.8 µg/m <sup>3</sup>		
<b>Greenhouse Gas Emissions</b>			
GHG Annual Emissions	Compliance with a Qualified GHG Reduction Strategy or 1,100 metric tons or 4.6 metric tons per capita		
<p>Note: ROG = reactive organic gases, NO<sub>x</sub> = nitrogen oxides, PM<sub>10</sub> = coarse particulate matter or particulates with an aerodynamic diameter of 10 micrometers (µm) or less, PM<sub>2.5</sub> = fine particulate matter or particulates with an aerodynamic diameter of 2.5µm or less; and GHG = greenhouse gas. Dwelling units are du and 1,000 square feet are ksf.</p>			

BAAQMD, 2011. *BAAQMD CEQA Air Quality Guidelines*. May.

**Impact 1: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?**

The Bay Area is considered a non-attainment area for ground-level ozone and PM<sub>2.5</sub> under both the Federal Clean Air Act and the California Clean Air Act. The area is also considered non-attainment for PM<sub>10</sub> under the California Clean Air Act, but not the Federal act. The area has attained both State and Federal ambient air quality standards for carbon monoxide.

The California Emissions Estimator Model (CalEEMod) Version 2013.2.2 was used to predict emissions from construction and operation of the site assuming full build out of the project. The project land use types and size, and trip generation rate were input to CalEEMod.

Construction Fugitive Dust

During grading and construction activities, dust would be generated. Most of the dust would result during grading activities. The amount of dust generated would be highly variable and is dependent on the size of the area disturbed at any given time, amount of activity, soil conditions, and meteorological conditions. Typical winds during late spring through summer are from the south or southwest. Nearby receptors could be adversely affected by dust generated during construction activities. The BAAQMD CEQA Air Quality Guidelines consider these impacts to be less than significant if best management practices are employed to reduce these emissions. This impact is considered significant unless appropriate measures are implemented to reduce fugitive dust generated by the project. *Implementation of Mitigation Measure AQ-1 would reduce this impact to a level of less-than-significant.*

Construction Emissions Modeling Methodology

CalEEMod provided average daily and annual emissions for each phase of construction. CalEEMod provides emission estimates for both on-site and off-site construction activities. On-site activities are primarily made up of construction equipment emissions, while off-site activity includes worker and vendor traffic. A construction build-out scenario, including anticipated equipment to be used, was provided by the project applicant. *Attachment 1* includes the CalEEMod output for construction and operational emissions. Refined emissions modeling of PM<sub>2.5</sub> exhaust from of on-site activities was conducted as part of the construction health risk assessment addressed later in this report.

*Land Use Descriptions*

The land uses input to CalEEMod included 430,000 square feet (s.f.) “General Office Building”, 700-space “Unenclosed Parking with Elevator”, and 900-space “Unenclosed Parking with Elevator”. The project size entered was 6.9 acres for work on the BART property (office building and parking structure) and 2 acres for the Stoneridge Plaza site (parking structure).

*Schedule, Phases and Equipment*

The modeling scenario assumes that the project would be built out over a period of approximately 16 months beginning in early summer of 2015. Equipment type, quantity, number of days, and hours per day were input to the CalEEMod model. The applicant provided the phased construction schedule that was input to CalEEMod.

*Construction Traffic*

CalEEMod construction traffic defaults were used. In addition, vendor truck trips were added to reflect the import of 3,325 cubic yards of cement and 2,667 cubic yards of asphalt anticipated.

Construction Period Emissions

Table 4 shows estimated average daily construction emissions of ROG, NO<sub>x</sub>, PM<sub>10</sub> exhaust, and PM<sub>2.5</sub> exhaust during construction of both sites. As indicated in Table 4, predicted project emissions would not exceed the BAAQMD recommended significance thresholds.

**Table 4. Construction Period Emissions, Average Daily Emissions (pounds per day)**

Scenario	ROG	NO <sub>x</sub>	PM <sub>10</sub> Exhaust	PM <sub>2.5</sub> Exhaust
2014 Construction emissions (tons)	0.33 tons	2.60 tons	0.13 tons	0.12 tons
2015 Construction emissions (tons)	8.24 tons	5.88 tons	0.27 tons	0.25 tons
Average daily emissions (pounds) <sup>1</sup>	51.0 lbs.	50.5 lbs.	2.4 lbs.	2.2 lbs.
BAAQMD Thresholds (pounds per day)	54 lbs.	54 lbs.	82 lbs.	54 lbs.
Exceed Threshold?	No	No	No	No
Notes: <sup>1</sup> Assumes 336 workdays.				

Operational Period Emissions Modeling Methodology

Operational air emissions from the project would be generated primarily from autos driven by employees and delivery trucks. Evaporative emissions from architectural coatings and maintenance products are other typical emissions from commercial uses. CalEEMod was used to predict emissions from operation of the site assuming full build out of the proposed expansion. The project land use types and size, and trip generation rate were input to CalEEMod. Adjustments to the model are described below. Model output worksheets are included in Attachment 1.

Year of Analysis:

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 CalEEMod uses. The earliest year the project could possibly be constructed and begin operating would be 2017. Use of this date is considered conservative, as emissions associated with build-out later than 2017 would be lower.

Trip Generation Rates:

CalEEMod allows the user to enter specific trip generation rates. Hexagon Transportation Consultants provided trip generation rates for the project by land use type, which were entered

into the model. Hexagon also provided specific transit reductions of 3 percent for the proposed for the project, which were input to the model. The resulting daily trip rate was 8.97 trips per thousand square feet of office uses.

Trip Characteristics

The default trip lengths and trip types specified by CalEEMod were used.

Project Annual and Daily Emissions

Table 5 reports the predicted 2017 annual emissions (in tons per year) and average daily operational emissions (in pounds per day). As shown in Table 5, average daily and annual emissions of ROG, NOx, PM<sub>10</sub> or PM<sub>2.5</sub> emissions associated with operation would not exceed the BAAQMD significance thresholds.

**Table 5. Air Pollutant Emissions from Operation of the Project**

<b>Scenario</b>	<b>ROG</b>	<b>NOx</b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>
2017 Annual	6.57 tons	4.61 tons	2.68 tons	0.78 tons
<i>Annual Emission Thresholds</i>	<i>10</i>	<i>10</i>	<i>15</i>	<i>10</i>
<b>Exceed Threshold?</b>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>
2017 Average Daily Emissions	36.0 pounds	25.3 pounds	14.7 pounds	4.3 pounds
<i>Daily Emission Thresholds</i>	<i>54</i>	<i>54</i>	<i>82</i>	<i>54</i>
<b>Exceed Threshold?</b>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>

**Mitigation Measure AQ-1: Include basic measures to control dust and exhaust during construction.**

During any construction ground disturbance, implement measures to control dust and exhaust. Implementation of the measures recommended by BAAQMD and listed below would reduce the air quality impacts associated with grading and new construction to a less than significant. The contractors shall implement the following Best Management Practices that are required of all construction projects:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
4. All vehicle speeds on unpaved roads shall be limited to 15 mph.

5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
8. Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

**Impact 2: Violate any air quality standard or contribute substantially to an existing or projected air quality violation?**

As discussed under Impact 1, the project would not have operational ROG and NO<sub>x</sub> emissions that exceed the significance thresholds adopted by BAAQMD. Therefore, the project would not contribute substantially to existing or projected violations of those standards. Carbon monoxide emissions from traffic generated by the project would be the pollutant of greatest concern at the local level. Congested intersections with a large volume of traffic have the greatest potential to cause high-localized concentrations of carbon monoxide. Air pollutant monitoring data indicate that carbon monoxide levels have been at healthy levels (i.e., below State and Federal standards) in the Bay Area since the early 1990s. As a result, the region has been designated as attainment for the standard. There is an ambient air quality monitoring station in Livermore that measures carbon monoxide concentrations. The highest measured level over any 8-hour averaging period during the last 3 years is less than 2.0 parts per million (ppm), compared to the ambient air quality standard of 9.0 ppm. The roadways affected by the proposed project have relatively low traffic volumes compared to the busier intersections in the Bay Area. BAAQMD screening guidance indicates that projects would have a less than significant impact to carbon monoxide levels if project traffic projections indicate traffic levels would not increase at any affected intersection to more than 44,000 vehicles per hour. The intersections affected by the proposed project have much lower traffic volumes (less than 10,000 vehicles per hour). Therefore, the change in traffic caused by the proposed project would be minimal and the project would not cause or contribute to a violation of an ambient air quality standard. As a result, the project would have a *less-than-significant* impact.

**Impact 3: Expose sensitive receptors to substantial pollutant concentrations?**

Project impacts related to increased health risk can occur either by introducing a new sensitive receptor, such as a residential use, in proximity to an existing source of TACs or by introducing a

new source of TACs with the potential to adversely affect existing sensitive receptors in the project vicinity. The BAAQMD recommends using a 1,000-foot screening radius around a project site for purposes of identifying community health risk from siting a new sensitive receptor or a new source of TACs. The proposed project would not introduce new sensitive receptors (residences) to the project site. Typical operation of the project would not expose sensitive receptors to TAC emissions. However, construction activities would temporarily have TAC emissions that could affect sensitive receptors in the project vicinity.

### Construction Period

Emissions from construction of the proposed project would expose nearby sensitive receptors (i.e., residences) to elevated levels of TACs. Construction equipment and trucks fueled by diesel emit DPM, which is a TAC. The closest existing residences to the project site are located north of the project site, in Dublin across Interstate 580 (see Figure 2). Residences are also located south of the project site along Stoneridge Mall Road. A health risk assessment of the project construction activities was conducted that evaluated potential health effects at nearby sensitive receptors from construction emissions of DPM. A dispersion model was used to predict the off-site concentrations resulting from project construction so that lifetime cancer risks could be predicted. Figure 2 shows the project site and sensitive receptor locations (residences) used in the air quality dispersion modeling analysis where potential health impacts were evaluated.

### On-Site Construction TAC Emissions

This refined health risk assessment focused on modeling on-site construction activity using construction fleet information included in the project design. Construction period emissions were modeled using the California Emissions Estimator Model, Version 2013.2.2 (CalEEMod) along with projected construction activity. The number and types of construction equipment and diesel vehicles, along with the anticipated length of their use for different phases of construction, were based on the provided site-specific construction activity schedule. Construction of the project is expected to occur over about a 16-month period beginning in June of 2015.

The CalEEMod model provided total annual PM<sub>2.5</sub> exhaust emissions (assumed to be DPM) for the off-road construction equipment and for exhaust emissions from on-road vehicles (haul trucks, vendor trucks, and worker vehicles), with total emissions of 0.3278 tons (656 pounds) over the construction period. The on-road emissions are the result of haul truck travel during demolition, grading, and construction activities, and from worker travel and vendor deliveries during building construction. A trip length of 0.3 miles was used to represent vehicle travel while at or near the construction site. It was assumed that these emissions from on-road vehicles traveling at or near the site would occur at the construction site. Fugitive PM<sub>2.5</sub> dust emissions were calculated by CalEEMod as 0.0103 tons (21 pounds) over the entire construction period. The project health risk calculations are provided in *Attachment 2*.

### Dispersion Modeling

The U.S. EPA ISCST3 dispersion model was used to predict concentrations of DPM at existing sensitive receptors in the vicinity of the project site. The ISCST3 modeling utilized area sources

to represent the on-site construction emissions in different construction areas of the project site. Two area sources were used to model DPM exhaust emissions and two area sources were used for fugitive PM<sub>2.5</sub> dust emissions. Emissions were distributed evenly across the each of the area sources. These areas are shown on Figure 2. To represent the construction equipment exhaust emissions, an emission release height of six meters (20 feet) was used for the area sources. The elevated source height reflects the height of the equipment exhaust pipes and buoyancy of the exhaust plume. For modeling fugitive PM<sub>2.5</sub> emissions, a near ground level release height of two meters (6.6 feet) was used for the area sources. Emissions from truck travel at the project site were included in the area sources. Emissions were modeled as occurring daily between 7 am - 4 pm.

A five-year set of hourly meteorological data (2001 - 2005) for Pleasanton obtained from BAAQMD was used in the modeling. Annual DPM concentrations from construction activities were predicted for 2015 and 2016, with the annual average concentrations based on the five years of meteorological data. DPM concentrations were calculated in the nearest residential areas using receptors with a height of 1.5 meters (4.9 feet).

### Cancer Risk and Hazards

The maximum-modeled annual DPM concentration occurred in the southeast corner of the residential area north of I-580 north of the project site. The location of this receptor is identified on Figure 2. Increased cancer risks were calculated using the modeled annual concentrations and BAAQMD recommended risk assessment methods for a child exposure (3<sup>rd</sup> trimester through 2 years of age), student exposure (9 years), and for an adult exposure<sup>6</sup>. Since the modeling was conducted under the conservative assumption that emissions occurred for a full year during each construction year, the default BAAQMD exposure period of 350 days per year was used<sup>7</sup>.

Results of this assessment indicate that for project construction the incremental child cancer risk at the maximally exposed individual (MEI) receptor would be 3.6 in one million and the adult incremental cancer risk would be 0.2 in one million. The increased cancer risk for both the child and adult exposures would be lower than the BAAQMD significance threshold of a cancer risk of 10 in one million and would not be considered a significant impact.

Potential non-cancer health effects due to chronic exposure to DPM were also evaluated. The chronic inhalation reference exposure level (REL) for DPM is 5 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ). The maximum predicted annual DPM concentration was  $0.027 \mu\text{g}/\text{m}^3$ , which is much lower than the REL. The Hazard Index (HI), which is the ratio of the annual DPM concentration to the REL, is 0.005. This HI is much lower than the BAAQMD significance criterion of a HI greater than 1.0. The modeled maximum annual PM<sub>2.5</sub> concentration was  $0.028 \mu\text{g}/\text{m}^3$ , occurring at the same location as the maximum cancer risk. This PM<sub>2.5</sub> concentration is below the BAAQMD threshold of  $0.3 \mu\text{g}/\text{m}^3$  used to judge the significance of impacts for PM<sub>2.5</sub>.

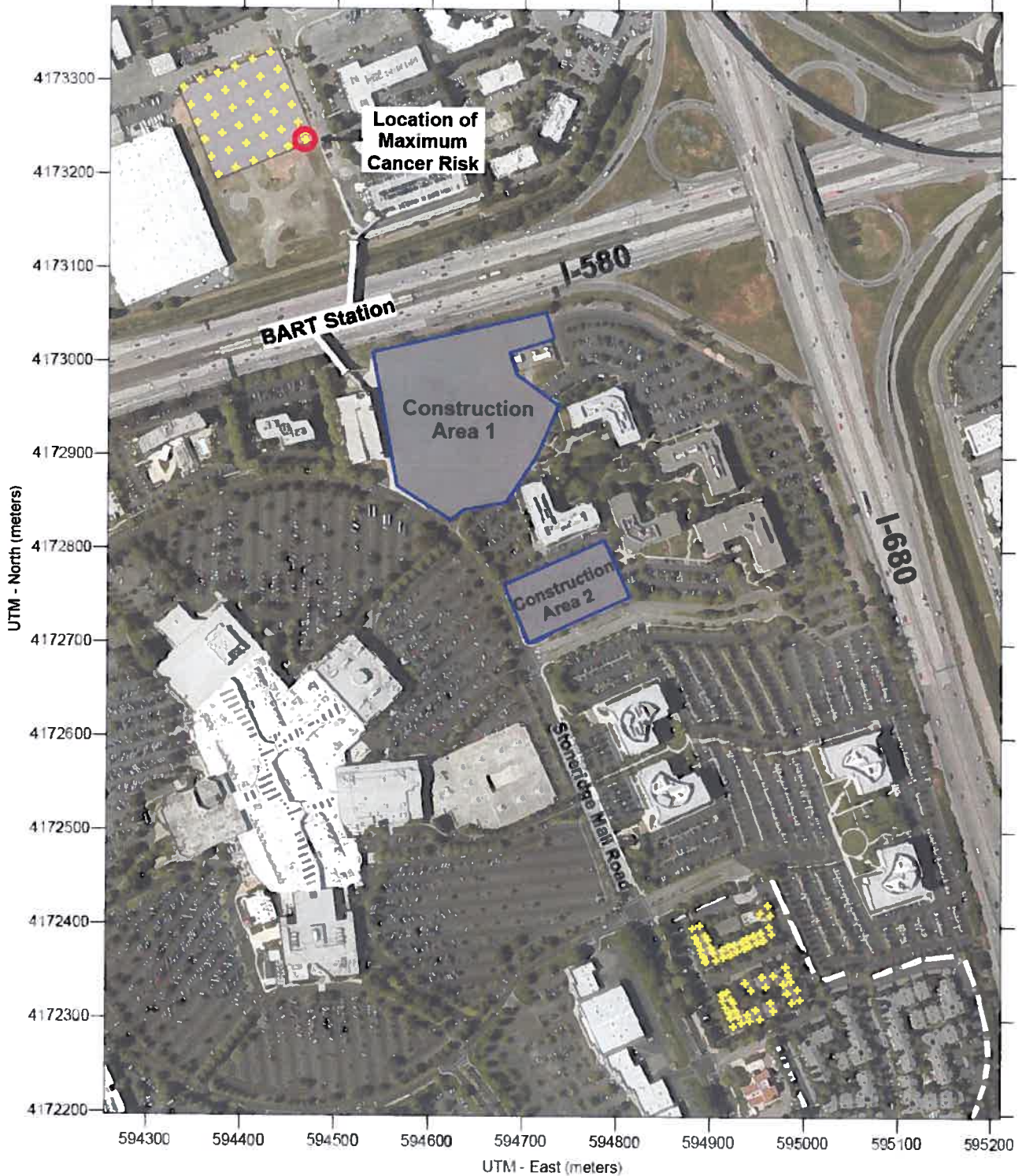
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<sup>6</sup> Bay Area Air Quality Management District (BAAQMD), 2012, *Recommended Methods for Screening and Modeling Local Risks and Hazards*, May.

<sup>7</sup> Bay Area Air Quality Management District (BAAQMD), 2010a, *Air Toxics NSR Program Health Risk Screening Analysis Guidelines*, January.

Results indicate that excess cancer risks, annual PM2.5 concentrations, and Hazard Index are below the significance thresholds. As a result, the project would have a *less-than-significant* impact.

**Figure 2 – Project Site Construction Areas and Off-Site Residential Receptors**





**Attachment 1: CalEEMod Output for Construction and Operational Emissions**

**Stoneridge Corporate Plaza Expansion  
Bay Area AQMD Air District, Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	430.00	1000sqft	6.90	430,000.00	0
Unenclosed Parking with Elevator	700.00	Space	0.00	280,000.00	0
Unenclosed Parking with Elevator	900.00	Space	2.00	360,000.00	0

**1.2 Other Project Characteristics**

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	64
Climate Zone	4			Operational Year	2017
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	349	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

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

Project Characteristics - Using PG&E CPUC forecasted emission rate for 2018

Land Use - From Traffic Report. 700-space parking structure included in 6.9-acre site

Construction Phase - Based on provided construction schedule

Off-road Equipment - Based on Construction list provided

Off-road Equipment - Based on Construction list provided

Off-road Equipment - Based on provided construction list

Off-road Equipment - Based on provided construction list

Off-road Equipment - Based on construction list

Off-road Equipment - Based on Construction list provided

Off-road Equipment - Based on provided construction list

Off-road Equipment - Based on provided construction list

Trips and VMT - No export haul trips, but simulating 100 miles of water truck travel during grading = 5 trips (at 20 mi) \* 55 days Cement trucks entered at vendor trip lengths

Demolition - Based on construction list provided

Grading - Entered amount of material moved, but not exported

Architectural Coating - Reduced VOC Paint content per BAAQMD Regulations

Vehicle Trips - Entered trip generation rate from traffic with 3% transit reduction and applied to weekends

Construction Off-road Equipment Mitigation - Tier 2 and BMPs for fugitive dust

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	150.00
tblArchitecturalCoating	EF_Residential_Interior	100.00	150.00
tblConstructionPhase	NumDays	20.00	80.00
tblConstructionPhase	NumDays	230.00	250.00
tblConstructionPhase	NumDays	20.00	15.00
tblConstructionPhase	NumDays	20.00	25.00
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	PhaseEndDate	1/16/2017	6/13/2016
tblConstructionPhase	PhaseEndDate	9/30/2016	9/26/2016

tblConstructionPhase	PhaseEndDate	8/4/2015	8/21/2015
tblConstructionPhase	PhaseEndDate	7/18/2016	6/6/2016
tblConstructionPhase	PhaseEndDate	7/22/2015	7/7/2015
tblConstructionPhase	PhaseEndDate	10/30/2015	10/16/2015
tblConstructionPhase	PhaseStartDate	9/27/2016	2/23/2016
tblConstructionPhase	PhaseStartDate	10/17/2015	10/13/2015
tblConstructionPhase	PhaseStartDate	7/8/2015	7/27/2015
tblConstructionPhase	PhaseStartDate	6/14/2016	5/3/2016
tblConstructionPhase	PhaseStartDate	6/25/2015	6/10/2015
tblConstructionPhase	PhaseStartDate	8/22/2015	8/10/2015
tblGrading	AcresOfGrading	9.00	10.00
tblGrading	MaterialExported	0.00	14,800.00
tblLandUse	LotAcreage	9.87	6.90
tblLandUse	LotAcreage	6.30	0.00
tblLandUse	LotAcreage	8.10	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblOffRoadEquipment	UsageHours	8.00	5.30
tblOffRoadEquipment	UsageHours	7.00	6.40
tblOffRoadEquipment	UsageHours	8.00	5.10
tblOffRoadEquipment	UsageHours	8.00	4.80
tblOffRoadEquipment	UsageHours	8.00	3.60
tblOffRoadEquipment	UsageHours	8.00	4.80
tblOffRoadEquipment	UsageHours	8.00	4.80
tblOffRoadEquipment	UsageHours	8.00	4.80
tblOffRoadEquipment	UsageHours	8.00	5.30
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	8.00	1.30
tblProjectCharacteristics	CO2IntensityFactor	641.35	349
tblProjectCharacteristics	OperationalYear	2014	2017
tblTripsAndVMT	HaulingTripLength	20.00	7.30
tblTripsAndVMT	HaulingTripNumber	1,463.00	275.00
tblTripsAndVMT	HaulingTripNumber	0.00	6,650.00
tblVehicleTrips	ST_TR	2.37	1.93
tblVehicleTrips	SU_TR	0.98	0.80
tblVehicleTrips	WD_TR	11.01	8.97

## 2.0 Emissions Summary

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**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	4.7387	1.8000e-004	0.0190	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.0363	0.0363	1.0000e-004	0.0000	0.0384
Energy	0.0399	0.3630	0.3049	2.1800e-003		0.0276	0.0276		0.0276	0.0276	0.0000	2,022.5159	2,022.5159	0.1428	0.0352	2,036.4335
Mobile	1.7916	4.2438	18.3995	0.0372	2.5985	0.0550	2.6535	0.6974	0.0506	0.7480	0.0000	2,866.6989	2,866.6989	0.1190	0.0000	2,869.1969
Waste						0.0000	0.0000		0.0000	0.0000	81.1761	0.0000	81.1761	4.7974	0.0000	181.9208
Water						0.0000	0.0000		0.0000	0.0000	24.2463	91.4178	115.6641	2.4979	0.0604	186.8363
<b>Total</b>	<b>6.5702</b>	<b>4.6070</b>	<b>18.7234</b>	<b>0.0394</b>	<b>2.5985</b>	<b>0.0827</b>	<b>2.6812</b>	<b>0.6974</b>	<b>0.0783</b>	<b>0.7756</b>	<b>105.4224</b>	<b>4,980.6688</b>	<b>5,086.0912</b>	<b>7.5572</b>	<b>0.0956</b>	<b>5,274.4260</b>

## 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	4.7387	1.8000e-004	0.0190	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.0363	0.0363	1.0000e-004	0.0000	0.0384
Energy	0.0399	0.3630	0.3049	2.1800e-003		0.0276	0.0276		0.0276	0.0276	0.0000	2,022.5159	2,022.5159	0.1428	0.0352	2,036.4335
Mobile	1.7916	4.2438	18.3995	0.0372	2.5985	0.0550	2.6535	0.6974	0.0506	0.7480	0.0000	2,866.6989	2,866.6989	0.1190	0.0000	2,869.1969
Waste						0.0000	0.0000		0.0000	0.0000	81.1761	0.0000	81.1761	4.7974	0.0000	181.9208
Water						0.0000	0.0000		0.0000	0.0000	24.2463	91.4178	115.6641	2.4975	0.0603	186.7976
<b>Total</b>	<b>6.5702</b>	<b>4.6070</b>	<b>18.7234</b>	<b>0.0394</b>	<b>2.5985</b>	<b>0.0827</b>	<b>2.6812</b>	<b>0.6974</b>	<b>0.0783</b>	<b>0.7756</b>	<b>105.4224</b>	<b>4,980.6688</b>	<b>5,086.0912</b>	<b>7.5567</b>	<b>0.0955</b>	<b>5,274.3873</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
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	0.01	0.09	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	6/4/2015	6/24/2015	5	15	
2	Site Preparation	Site Preparation	6/10/2015	7/7/2015	5	20	
3	Grading	Grading	7/27/2015	8/21/2015	5	20	
4	Trenching	Trenching	8/10/2015	10/16/2015	5	50	
5	Building Construction	Building Construction	10/13/2015	9/26/2016	5	250	
6	Interior Construction	Architectural Coating	2/23/2016	6/13/2016	5	80	
7	Paving	Paving	5/3/2016	6/6/2016	5	25	

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

**Acres of Grading (Grading Phase): 10**

**Acres of Paving: 0**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 1,605,000; Non-Residential Outdoor: 535,000 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	5.30	81	0.73
Demolition	Excavators	1	8.00	162	0.38
Demolition	Rubber Tired Dozers	1	5.30	255	0.40
Site Preparation	Rubber Tired Dozers	0	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	5.10	162	0.38
Grading	Graders	2	3.60	174	0.41
Grading	Rubber Tired Dozers	0	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Trenching	Trenchers	2	8.00	80	0.50
Building Construction	Cranes	2	6.40	226	0.29
Building Construction	Forklifts	2	4.80	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Building Construction	Welders	4	1.30	46	0.45
Interior Construction	Aerial Lifts	4	7.50	62	0.31
Interior Construction	Air Compressors	2	8.00	78	0.48
Paving	Pavers	2	4.80	125	0.42
Paving	Paving Equipment	3	4.80	130	0.36
Paving	Rollers	2	4.80	80	0.38
Paving	Tractors/Loaders/Backhoes	4	8.00	97	0.37

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	3	8.00	0.00	247.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	4	10.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	275.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	2	5.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	12	406.00	175.00	6,650.00	12.40	7.30	7.30	LD_Mix	HDT_Mix	HHDT
Interior Construction	6	81.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	11	28.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

- Replace Ground Cover
- Water Exposed Area
- Reduce Vehicle Speed on Unpaved Roads

**3.2 Demolition - 2015**

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					0.0268	0.0000	0.0268	4.0500e-003	0.0000	4.0500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0130	0.1328	0.0992	1.1000e-004		7.0600e-003	7.0600e-003		6.6500e-003	6.6500e-003	0.0000	10.6612	10.6612	2.6700e-003	0.0000	10.7173
<b>Total</b>	<b>0.0130</b>	<b>0.1328</b>	<b>0.0992</b>	<b>1.1000e-004</b>	<b>0.0268</b>	<b>7.0600e-003</b>	<b>0.0338</b>	<b>4.0500e-003</b>	<b>6.6500e-003</b>	<b>0.0107</b>	<b>0.0000</b>	<b>10.6612</b>	<b>10.6612</b>	<b>2.6700e-003</b>	<b>0.0000</b>	<b>10.7173</b>

**3.2 Demolition - 2015**

**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	3.3100e-003	0.0429	0.0343	9.0000e-005	2.0800e-003	6.4000e-004	2.7200e-003	5.7000e-004	5.9000e-004	1.1600e-003	0.0000	8.5722	8.5722	7.0000e-005	0.0000	8.5737
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	2.5000e-004	3.7000e-004	3.5800e-003	1.0000e-005	5.4000e-004	0.0000	5.5000e-004	1.4000e-004	0.0000	1.5000e-004	0.0000	0.5114	0.5114	3.0000e-005	0.0000	0.5121
<b>Total</b>	<b>3.5600e-003</b>	<b>0.0433</b>	<b>0.0379</b>	<b>1.0000e-004</b>	<b>2.6200e-003</b>	<b>6.4000e-004</b>	<b>3.2700e-003</b>	<b>7.1000e-004</b>	<b>5.9000e-004</b>	<b>1.3100e-003</b>	<b>0.0000</b>	<b>9.0837</b>	<b>9.0837</b>	<b>1.0000e-004</b>	<b>0.0000</b>	<b>9.0858</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.4200e-003	0.0000	5.4200e-003	8.2000e-004	0.0000	8.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0130	0.1328	0.0992	1.1000e-004		7.0600e-003	7.0600e-003		6.6500e-003	6.6500e-003	0.0000	10.6612	10.6612	2.6700e-003	0.0000	10.7173
<b>Total</b>	<b>0.0130</b>	<b>0.1328</b>	<b>0.0992</b>	<b>1.1000e-004</b>	<b>5.4200e-003</b>	<b>7.0600e-003</b>	<b>0.0125</b>	<b>8.2000e-004</b>	<b>6.6500e-003</b>	<b>7.4700e-003</b>	<b>0.0000</b>	<b>10.6612</b>	<b>10.6612</b>	<b>2.6700e-003</b>	<b>0.0000</b>	<b>10.7173</b>

**3.2 Demolition - 2015**

**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	3.3100e-003	0.0429	0.0343	9.0000e-005	2.0800e-003	6.4000e-004	2.7200e-003	5.7000e-004	5.9000e-004	1.1600e-003	0.0000	8.5722	8.5722	7.0000e-005	0.0000	8.5737
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	2.5000e-004	3.7000e-004	3.5800e-003	1.0000e-005	5.4000e-004	0.0000	5.5000e-004	1.4000e-004	0.0000	1.5000e-004	0.0000	0.5114	0.5114	3.0000e-005	0.0000	0.5121
<b>Total</b>	<b>3.5600e-003</b>	<b>0.0433</b>	<b>0.0379</b>	<b>1.0000e-004</b>	<b>2.6200e-003</b>	<b>6.4000e-004</b>	<b>3.2700e-003</b>	<b>7.1000e-004</b>	<b>5.9000e-004</b>	<b>1.3100e-003</b>	<b>0.0000</b>	<b>9.0837</b>	<b>9.0837</b>	<b>1.0000e-004</b>	<b>0.0000</b>	<b>9.0858</b>

**3.3 Site Preparation - 2015**

**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					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0144	0.1373	0.0970	1.2000e-004		0.0108	0.0108		9.8900e-003	9.8900e-003	0.0000	11.8837	11.8837	3.5500e-003	0.0000	11.9582
<b>Total</b>	<b>0.0144</b>	<b>0.1373</b>	<b>0.0970</b>	<b>1.2000e-004</b>	<b>0.0000</b>	<b>0.0108</b>	<b>0.0108</b>	<b>0.0000</b>	<b>9.8900e-003</b>	<b>9.8900e-003</b>	<b>0.0000</b>	<b>11.8837</b>	<b>11.8837</b>	<b>3.5500e-003</b>	<b>0.0000</b>	<b>11.9582</b>

**3.3 Site Preparation - 2015**  
**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.2000e-004	6.1000e-004	5.9600e-003	1.0000e-005	9.1000e-004	1.0000e-005	9.2000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.8524	0.8524	5.0000e-005	0.0000	0.8534
<b>Total</b>	<b>4.2000e-004</b>	<b>6.1000e-004</b>	<b>5.9600e-003</b>	<b>1.0000e-005</b>	<b>9.1000e-004</b>	<b>1.0000e-005</b>	<b>9.2000e-004</b>	<b>2.4000e-004</b>	<b>1.0000e-005</b>	<b>2.5000e-004</b>	<b>0.0000</b>	<b>0.8524</b>	<b>0.8524</b>	<b>5.0000e-005</b>	<b>0.0000</b>	<b>0.8534</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0144	0.1373	0.0970	1.2000e-004		0.0108	0.0108		9.8900e-003	9.8900e-003	0.0000	11.8837	11.8837	3.5500e-003	0.0000	11.9582
<b>Total</b>	<b>0.0144</b>	<b>0.1373</b>	<b>0.0970</b>	<b>1.2000e-004</b>	<b>0.0000</b>	<b>0.0108</b>	<b>0.0108</b>	<b>0.0000</b>	<b>9.8900e-003</b>	<b>9.8900e-003</b>	<b>0.0000</b>	<b>11.8837</b>	<b>11.8837</b>	<b>3.5500e-003</b>	<b>0.0000</b>	<b>11.9582</b>

### 3.3 Site Preparation - 2015

#### 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	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	0.0000
Worker	4.2000e-004	6.1000e-004	5.9600e-003	1.0000e-005	9.1000e-004	1.0000e-005	9.2000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.8524	0.8524	5.0000e-005	0.0000	0.8534	
<b>Total</b>	<b>4.2000e-004</b>	<b>6.1000e-004</b>	<b>5.9600e-003</b>	<b>1.0000e-005</b>	<b>9.1000e-004</b>	<b>1.0000e-005</b>	<b>9.2000e-004</b>	<b>2.4000e-004</b>	<b>1.0000e-005</b>	<b>2.5000e-004</b>	<b>0.0000</b>	<b>0.8524</b>	<b>0.8524</b>	<b>5.0000e-005</b>	<b>0.0000</b>	<b>0.8534</b>	

### 3.4 Grading - 2015

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3000e-003	0.0000	5.3000e-003	5.7000e-004	0.0000	5.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0293	0.2971	0.1857	2.5000e-004		0.0193	0.0193		0.0178	0.0178	0.0000	23.6743	23.6743	7.0700e-003	0.0000	23.8227
<b>Total</b>	<b>0.0293</b>	<b>0.2971</b>	<b>0.1857</b>	<b>2.5000e-004</b>	<b>5.3000e-003</b>	<b>0.0193</b>	<b>0.0246</b>	<b>5.7000e-004</b>	<b>0.0178</b>	<b>0.0183</b>	<b>0.0000</b>	<b>23.6743</b>	<b>23.6743</b>	<b>7.0700e-003</b>	<b>0.0000</b>	<b>23.8227</b>

**3.4 Grading - 2015**

**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	3.6800e-003	0.0478	0.0382	1.0000e-004	2.3200e-003	7.1000e-004	3.0300e-003	6.4000e-004	6.5000e-004	1.2900e-003	0.0000	9.5440	9.5440	8.0000e-005	0.0000	9.5457
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	8.5000e-004	1.2300e-003	0.0119	2.0000e-005	1.8100e-003	2.0000e-005	1.8300e-003	4.8000e-004	1.0000e-005	5.0000e-004	0.0000	1.7048	1.7048	1.0000e-004	0.0000	1.7068
<b>Total</b>	<b>4.5300e-003</b>	<b>0.0490</b>	<b>0.0501</b>	<b>1.2000e-004</b>	<b>4.1300e-003</b>	<b>7.3000e-004</b>	<b>4.8600e-003</b>	<b>1.1200e-003</b>	<b>6.6000e-004</b>	<b>1.7900e-003</b>	<b>0.0000</b>	<b>11.2487</b>	<b>11.2487</b>	<b>1.8000e-004</b>	<b>0.0000</b>	<b>11.2525</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0700e-003	0.0000	1.0700e-003	1.2000e-004	0.0000	1.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0293	0.2971	0.1857	2.5000e-004		0.0193	0.0193		0.0178	0.0178	0.0000	23.6743	23.6743	7.0700e-003	0.0000	23.8227
<b>Total</b>	<b>0.0293</b>	<b>0.2971</b>	<b>0.1857</b>	<b>2.5000e-004</b>	<b>1.0700e-003</b>	<b>0.0193</b>	<b>0.0204</b>	<b>1.2000e-004</b>	<b>0.0178</b>	<b>0.0179</b>	<b>0.0000</b>	<b>23.6743</b>	<b>23.6743</b>	<b>7.0700e-003</b>	<b>0.0000</b>	<b>23.8227</b>



**3.4 Grading - 2015**

**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	3.6800e-003	0.0478	0.0382	1.0000e-004	2.3200e-003	7.1000e-004	3.0300e-003	6.4000e-004	6.5000e-004	1.2900e-003	0.0000	9.5440	9.5440	8.0000e-005	0.0000	9.5457
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	8.5000e-004	1.2300e-003	0.0119	2.0000e-005	1.8100e-003	2.0000e-005	1.8300e-003	4.8000e-004	1.0000e-005	5.0000e-004	0.0000	1.7048	1.7048	1.0000e-004	0.0000	1.7068
<b>Total</b>	<b>4.5300e-003</b>	<b>0.0490</b>	<b>0.0501</b>	<b>1.2000e-004</b>	<b>4.1300e-003</b>	<b>7.3000e-004</b>	<b>4.8600e-003</b>	<b>1.1200e-003</b>	<b>6.6000e-004</b>	<b>1.7900e-003</b>	<b>0.0000</b>	<b>11.2487</b>	<b>11.2487</b>	<b>1.8000e-004</b>	<b>0.0000</b>	<b>11.2525</b>

**3.5 Trenching - 2015**

**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	0.0288	0.2532	0.1416	1.7000e-004		0.0198	0.0198		0.0182	0.0182	0.0000	16.4927	16.4927	4.9200e-003	0.0000	16.5961
<b>Total</b>	<b>0.0288</b>	<b>0.2532</b>	<b>0.1416</b>	<b>1.7000e-004</b>		<b>0.0198</b>	<b>0.0198</b>		<b>0.0182</b>	<b>0.0182</b>	<b>0.0000</b>	<b>16.4927</b>	<b>16.4927</b>	<b>4.9200e-003</b>	<b>0.0000</b>	<b>16.5961</b>

**3.5 Trenching - 2015**

**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	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	0.0000
Worker	5.3000e-004	7.7000e-004	7.4500e-003	1.0000e-005	1.1300e-003	1.0000e-005	1.1400e-003	3.0000e-004	1.0000e-005	3.1000e-004	0.0000	1.0655	1.0655	6.0000e-005	0.0000	1.0668	
<b>Total</b>	<b>5.3000e-004</b>	<b>7.7000e-004</b>	<b>7.4500e-003</b>	<b>1.0000e-005</b>	<b>1.1300e-003</b>	<b>1.0000e-005</b>	<b>1.1400e-003</b>	<b>3.0000e-004</b>	<b>1.0000e-005</b>	<b>3.1000e-004</b>	<b>0.0000</b>	<b>1.0655</b>	<b>1.0655</b>	<b>6.0000e-005</b>	<b>0.0000</b>	<b>1.0668</b>	

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0288	0.2532	0.1416	1.7000e-004		0.0198	0.0198		0.0182	0.0182	0.0000	16.4926	16.4926	4.9200e-003	0.0000	16.5960
<b>Total</b>	<b>0.0288</b>	<b>0.2532</b>	<b>0.1416</b>	<b>1.7000e-004</b>		<b>0.0198</b>	<b>0.0198</b>		<b>0.0182</b>	<b>0.0182</b>	<b>0.0000</b>	<b>16.4926</b>	<b>16.4926</b>	<b>4.9200e-003</b>	<b>0.0000</b>	<b>16.5960</b>

**3.5 Trenching - 2015**

**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	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	0.0000
Worker	5.3000e-004	7.7000e-004	7.4500e-003	1.0000e-005	1.1300e-003	1.0000e-005	1.1400e-003	3.0000e-004	1.0000e-005	3.1000e-004	0.0000	1.0655	1.0655	6.0000e-005	0.0000	1.0668	
<b>Total</b>	<b>5.3000e-004</b>	<b>7.7000e-004</b>	<b>7.4500e-003</b>	<b>1.0000e-005</b>	<b>1.1300e-003</b>	<b>1.0000e-005</b>	<b>1.1400e-003</b>	<b>3.0000e-004</b>	<b>1.0000e-005</b>	<b>3.1000e-004</b>	<b>0.0000</b>	<b>1.0655</b>	<b>1.0655</b>	<b>6.0000e-005</b>	<b>0.0000</b>	<b>1.0668</b>	

**3.6 Building Construction - 2015**

**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	0.0964	0.9142	0.5064	7.2000e-004		0.0588	0.0588		0.0544	0.0544	0.0000	68.0076	68.0076	0.0202	0.0000	68.4319
<b>Total</b>	<b>0.0964</b>	<b>0.9142</b>	<b>0.5064</b>	<b>7.2000e-004</b>		<b>0.0588</b>	<b>0.0588</b>		<b>0.0544</b>	<b>0.0544</b>	<b>0.0000</b>	<b>68.0076</b>	<b>68.0076</b>	<b>0.0202</b>	<b>0.0000</b>	<b>68.4319</b>

**3.6 Building Construction - 2015**

**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	0.0142	0.1097	0.1763	2.2000e-004	0.0165	1.5000e-003	0.0180	4.2000e-003	1.3800e-003	5.5800e-003	0.0000	20.3400	20.3400	1.9000e-004	0.0000	20.3439
Vendor	0.0725	0.5849	0.8047	1.2100e-003	0.0327	9.4800e-003	0.0421	9.3700e-003	8.7200e-003	0.0181	0.0000	111.0418	111.0418	1.0000e-003	0.0000	111.0628
Worker	0.0499	0.0722	0.7017	1.2700e-003	0.1068	9.5000e-004	0.1078	0.0284	8.7000e-004	0.0293	0.0000	100.3590	100.3590	5.8600e-003	0.0000	100.4820
<b>Total</b>	<b>0.1366</b>	<b>0.7668</b>	<b>1.6827</b>	<b>2.7000e-003</b>	<b>0.1560</b>	<b>0.0119</b>	<b>0.1679</b>	<b>0.0420</b>	<b>0.0110</b>	<b>0.0529</b>	<b>0.0000</b>	<b>231.7407</b>	<b>231.7407</b>	<b>7.0500e-003</b>	<b>0.0000</b>	<b>231.8887</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0964	0.9142	0.5064	7.2000e-004		0.0588	0.0588		0.0544	0.0544	0.0000	68.0075	68.0075	0.0202	0.0000	68.4318
<b>Total</b>	<b>0.0964</b>	<b>0.9142</b>	<b>0.5064</b>	<b>7.2000e-004</b>		<b>0.0588</b>	<b>0.0588</b>		<b>0.0544</b>	<b>0.0544</b>	<b>0.0000</b>	<b>68.0075</b>	<b>68.0075</b>	<b>0.0202</b>	<b>0.0000</b>	<b>68.4318</b>

**3.6 Building Construction - 2015**

**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	0.0142	0.1097	0.1763	2.2000e-004	0.0165	1.5000e-003	0.0180	4.2000e-003	1.3800e-003	5.5800e-003	0.0000	20.3400	20.3400	1.9000e-004	0.0000	20.3439
Vendor	0.0725	0.5849	0.8047	1.2100e-003	0.0327	9.4800e-003	0.0421	9.3700e-003	8.7200e-003	0.0181	0.0000	111.0418	111.0418	1.0000e-003	0.0000	111.0628
Worker	0.0499	0.0722	0.7017	1.2700e-003	0.1068	9.5000e-004	0.1078	0.0284	8.7000e-004	0.0293	0.0000	100.3590	100.3590	5.8600e-003	0.0000	100.4820
<b>Total</b>	<b>0.1366</b>	<b>0.7668</b>	<b>1.6827</b>	<b>2.7000e-003</b>	<b>0.1560</b>	<b>0.0119</b>	<b>0.1679</b>	<b>0.0420</b>	<b>0.0110</b>	<b>0.0529</b>	<b>0.0000</b>	<b>231.7407</b>	<b>231.7407</b>	<b>7.0500e-003</b>	<b>0.0000</b>	<b>231.8887</b>

**3.6 Building Construction - 2016**

**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	0.3026	2.8979	1.6533	2.4000e-003		0.1834	0.1834		0.1694	0.1694	0.0000	222.7766	222.7766	0.0665	0.0000	224.1732
<b>Total</b>	<b>0.3026</b>	<b>2.8979</b>	<b>1.6533</b>	<b>2.4000e-003</b>		<b>0.1834</b>	<b>0.1834</b>		<b>0.1694</b>	<b>0.1694</b>	<b>0.0000</b>	<b>222.7766</b>	<b>222.7766</b>	<b>0.0665</b>	<b>0.0000</b>	<b>224.1732</b>

**3.6 Building Construction - 2016**

**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	0.0418	0.3156	0.5493	7.3000e-004	0.0193	3.7300e-003	0.0230	5.2000e-003	3.4300e-003	8.6300e-003	0.0000	66.5431	66.5431	5.5000e-004	0.0000	66.5547
Vendor	0.2139	1.6838	2.4851	4.0000e-003	0.1081	0.0251	0.1332	0.0310	0.0231	0.0541	0.0000	363.3155	363.3155	2.9200e-003	0.0000	363.3768
Worker	0.1478	0.2142	2.0746	4.2100e-003	0.3536	2.9500e-003	0.3565	0.0941	2.7100e-003	0.0968	0.0000	320.8475	320.8475	0.0177	0.0000	321.2187
<b>Total</b>	<b>0.4034</b>	<b>2.2136</b>	<b>5.1090</b>	<b>8.9400e-003</b>	<b>0.4810</b>	<b>0.0318</b>	<b>0.5128</b>	<b>0.1303</b>	<b>0.0292</b>	<b>0.1595</b>	<b>0.0000</b>	<b>750.7061</b>	<b>750.7061</b>	<b>0.0211</b>	<b>0.0000</b>	<b>751.1502</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3026	2.8979	1.6533	2.4000e-003		0.1834	0.1834		0.1694	0.1694	0.0000	222.7763	222.7763	0.0665	0.0000	224.1729
<b>Total</b>	<b>0.3026</b>	<b>2.8979</b>	<b>1.6533</b>	<b>2.4000e-003</b>		<b>0.1834</b>	<b>0.1834</b>		<b>0.1694</b>	<b>0.1694</b>	<b>0.0000</b>	<b>222.7763</b>	<b>222.7763</b>	<b>0.0665</b>	<b>0.0000</b>	<b>224.1729</b>

### 3.6 Building Construction - 2016

#### 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	0.0418	0.3156	0.5493	7.3000e-004	0.0193	3.7300e-003	0.0230	5.2000e-003	3.4300e-003	8.6300e-003	0.0000	66.5431	66.5431	5.5000e-004	0.0000	66.5547
Vendor	0.2139	1.6838	2.4851	4.0000e-003	0.1081	0.0251	0.1332	0.0310	0.0231	0.0541	0.0000	363.3155	363.3155	2.9200e-003	0.0000	363.3768
Worker	0.1478	0.2142	2.0746	4.2100e-003	0.3536	2.9500e-003	0.3565	0.0941	2.7100e-003	0.0968	0.0000	320.8475	320.8475	0.0177	0.0000	321.2187
<b>Total</b>	<b>0.4034</b>	<b>2.2136</b>	<b>5.1090</b>	<b>8.9400e-003</b>	<b>0.4810</b>	<b>0.0318</b>	<b>0.5128</b>	<b>0.1303</b>	<b>0.0292</b>	<b>0.1595</b>	<b>0.0000</b>	<b>750.7061</b>	<b>750.7061</b>	<b>0.0211</b>	<b>0.0000</b>	<b>751.1502</b>

### 3.7 Interior Construction - 2016

#### 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	7.4392					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0477	0.3915	0.3637	5.7000e-004		0.0267	0.0267		0.0262	0.0262	0.0000	50.5852	50.5852	0.0103	0.0000	50.8006
<b>Total</b>	<b>7.4869</b>	<b>0.3915</b>	<b>0.3637</b>	<b>5.7000e-004</b>		<b>0.0267</b>	<b>0.0267</b>		<b>0.0262</b>	<b>0.0262</b>	<b>0.0000</b>	<b>50.5852</b>	<b>50.5852</b>	<b>0.0103</b>	<b>0.0000</b>	<b>50.8006</b>

**3.7 Interior Construction - 2016**

**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	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	0.0000
Worker	0.0123	0.0178	0.1725	3.5000e-004	0.0294	2.5000e-004	0.0296	7.8200e-003	2.3000e-004	8.0400e-003	0.0000	26.6714	26.6714	1.4700e-003	0.0000	26.7023	
<b>Total</b>	<b>0.0123</b>	<b>0.0178</b>	<b>0.1725</b>	<b>3.5000e-004</b>	<b>0.0294</b>	<b>2.5000e-004</b>	<b>0.0296</b>	<b>7.8200e-003</b>	<b>2.3000e-004</b>	<b>8.0400e-003</b>	<b>0.0000</b>	<b>26.6714</b>	<b>26.6714</b>	<b>1.4700e-003</b>	<b>0.0000</b>	<b>26.7023</b>	

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	7.4392					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0477	0.3915	0.3637	5.7000e-004		0.0267	0.0267		0.0262	0.0262	0.0000	50.5852	50.5852	0.0103	0.0000	50.8005
<b>Total</b>	<b>7.4869</b>	<b>0.3915</b>	<b>0.3637</b>	<b>5.7000e-004</b>		<b>0.0267</b>	<b>0.0267</b>		<b>0.0262</b>	<b>0.0262</b>	<b>0.0000</b>	<b>50.5852</b>	<b>50.5852</b>	<b>0.0103</b>	<b>0.0000</b>	<b>50.8005</b>



**3.7 Interior Construction - 2016**

**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	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	0.0000
Worker	0.0123	0.0178	0.1725	3.5000e-004	0.0294	2.5000e-004	0.0296	7.8200e-003	2.3000e-004	8.0400e-003	0.0000	26.6714	26.6714	1.4700e-003	0.0000	26.7023	
<b>Total</b>	<b>0.0123</b>	<b>0.0178</b>	<b>0.1725</b>	<b>3.5000e-004</b>	<b>0.0294</b>	<b>2.5000e-004</b>	<b>0.0296</b>	<b>7.8200e-003</b>	<b>2.3000e-004</b>	<b>8.0400e-003</b>	<b>0.0000</b>	<b>26.6714</b>	<b>26.6714</b>	<b>1.4700e-003</b>	<b>0.0000</b>	<b>26.7023</b>	

**3.8 Paving - 2016**

**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	0.0350	0.3574	0.2508	3.5000e-004		0.0233	0.0233		0.0215	0.0215	0.0000	33.2772	33.2772	0.0100	0.0000	33.4880
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0350</b>	<b>0.3574</b>	<b>0.2508</b>	<b>3.5000e-004</b>		<b>0.0233</b>	<b>0.0233</b>		<b>0.0215</b>	<b>0.0215</b>	<b>0.0000</b>	<b>33.2772</b>	<b>33.2772</b>	<b>0.0100</b>	<b>0.0000</b>	<b>33.4880</b>

**3.8 Paving - 2016**

**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	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	0.0000
Worker	1.3300e-003	1.9200e-003	0.0186	4.0000e-005	3.1700e-003	3.0000e-005	3.2000e-003	8.4000e-004	2.0000e-005	8.7000e-004	0.0000	2.8812	2.8812	1.6000e-004	0.0000	2.8845	
<b>Total</b>	<b>1.3300e-003</b>	<b>1.9200e-003</b>	<b>0.0186</b>	<b>4.0000e-005</b>	<b>3.1700e-003</b>	<b>3.0000e-005</b>	<b>3.2000e-003</b>	<b>8.4000e-004</b>	<b>2.0000e-005</b>	<b>8.7000e-004</b>	<b>0.0000</b>	<b>2.8812</b>	<b>2.8812</b>	<b>1.6000e-004</b>	<b>0.0000</b>	<b>2.8845</b>	

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0350	0.3574	0.2508	3.5000e-004		0.0233	0.0233		0.0215	0.0215	0.0000	33.2772	33.2772	0.0100	0.0000	33.4879
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0350</b>	<b>0.3574</b>	<b>0.2508</b>	<b>3.5000e-004</b>		<b>0.0233</b>	<b>0.0233</b>		<b>0.0215</b>	<b>0.0215</b>	<b>0.0000</b>	<b>33.2772</b>	<b>33.2772</b>	<b>0.0100</b>	<b>0.0000</b>	<b>33.4879</b>

**3.8 Paving - 2016**

**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	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	0.0000
Worker	1.3300e-003	1.9200e-003	0.0186	4.0000e-005	3.1700e-003	3.0000e-005	3.2000e-003	8.4000e-004	2.0000e-005	8.7000e-004	0.0000	2.8812	2.8812	1.6000e-004	0.0000	2.8845	
<b>Total</b>	<b>1.3300e-003</b>	<b>1.9200e-003</b>	<b>0.0186</b>	<b>4.0000e-005</b>	<b>3.1700e-003</b>	<b>3.0000e-005</b>	<b>3.2000e-003</b>	<b>8.4000e-004</b>	<b>2.0000e-005</b>	<b>8.7000e-004</b>	<b>0.0000</b>	<b>2.8812</b>	<b>2.8812</b>	<b>1.6000e-004</b>	<b>0.0000</b>	<b>2.8845</b>	

**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	1.7916	4.2438	18.3995	0.0372	2.5985	0.0550	2.6535	0.6974	0.0506	0.7480	0.0000	2,866.6989	2,866.6989	0.1190	0.0000	2,869.1969
Unmitigated	1.7916	4.2438	18.3995	0.0372	2.5985	0.0550	2.6535	0.6974	0.0506	0.7480	0.0000	2,866.6989	2,866.6989	0.1190	0.0000	2,869.1969

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	3,857.10	829.90	344.00	6,984,701	6,984,701
Unenclosed Parking with Elevator	0.00	0.00	0.00		
Unenclosed Parking with Elevator	0.00	0.00	0.00		
<b>Total</b>	<b>3,857.10</b>	<b>829.90</b>	<b>344.00</b>	<b>6,984,701</b>	<b>6,984,701</b>

**4.3 Trip Type Information**

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Unenclosed Parking with	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Unenclosed Parking with	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.546114	0.062902	0.174648	0.122995	0.034055	0.004856	0.015640	0.024397	0.002087	0.003279	0.006673	0.000688	0.001667

**5.0 Energy Detail**

4.4 Fleet Mix

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	1,627.3783	1,627.3783	0.1352	0.0280	1,638.8911
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,627.3783	1,627.3783	0.1352	0.0280	1,638.8911
Natural Gas Mitigated	0.0399	0.3630	0.3049	2.1800e-003		0.0276	0.0276		0.0276	0.0276	0.0000	395.1377	395.1377	7.5700e-003	7.2400e-003	397.5424
Natural Gas Unmitigated	0.0399	0.3630	0.3049	2.1800e-003		0.0276	0.0276		0.0276	0.0276	0.0000	395.1377	395.1377	7.5700e-003	7.2400e-003	397.5424

**5.2 Energy by Land Use - Natural Gas**

**Unmitigated**

	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					
General Office Building	7.4046e+006	0.0399	0.3630	0.3049	2.1800e-003		0.0276	0.0276		0.0276	0.0276	0.0000	395.1377	395.1377	7.5700e-003	7.2400e-003	397.5424
Unenclosed 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
<b>Total</b>		<b>0.0399</b>	<b>0.3630</b>	<b>0.3049</b>	<b>2.1800e-003</b>		<b>0.0276</b>	<b>0.0276</b>		<b>0.0276</b>	<b>0.0276</b>	<b>0.0000</b>	<b>395.1377</b>	<b>395.1377</b>	<b>7.5700e-003</b>	<b>7.2400e-003</b>	<b>397.5424</b>

### 5.2 Energy by Land Use - Natural Gas

#### 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					
General Office Building	7.4046e+006	0.0399	0.3630	0.3049	2.1800e-003		0.0276	0.0276		0.0276	0.0276	0.0000	395.1377	395.1377	7.5700e-003	7.2400e-003	397.5424
Unenclosed 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
<b>Total</b>		<b>0.0399</b>	<b>0.3630</b>	<b>0.3049</b>	<b>2.1800e-003</b>		<b>0.0276</b>	<b>0.0276</b>		<b>0.0276</b>	<b>0.0276</b>	<b>0.0000</b>	<b>395.1377</b>	<b>395.1377</b>	<b>7.5700e-003</b>	<b>7.2400e-003</b>	<b>397.5424</b>

### 5.3 Energy by Land Use - Electricity

#### Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	8.4753e+006	1,341.6717	0.1115	0.0231	1,351.1633
Unenclosed Parking with Elevator	1.0152e+006	160.7100	0.0134	2.7600e-003	161.8469
Unenclosed Parking with Elevator	789600	124.9966	0.0104	2.1500e-003	125.8809
<b>Total</b>		<b>1,627.3782</b>	<b>0.1352</b>	<b>0.0280</b>	<b>1,638.8911</b>

### 5.3 Energy by Land Use - Electricity

#### Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	8.4753e+006	1,341.6717	0.1115	0.0231	1,351.1633
Unenclosed Parking with Elevator	1.0152e+006	160.7100	0.0134	2.7600e-003	161.8469
Unenclosed Parking with Elevator	789600	124.9966	0.0104	2.1500e-003	125.8809
<b>Total</b>		<b>1,627.3782</b>	<b>0.1352</b>	<b>0.0280</b>	<b>1,638.8911</b>

### 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	4.7387	1.8000e-004	0.0190	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.0363	0.0363	1.0000e-004	0.0000	0.0384
Unmitigated	4.7387	1.8000e-004	0.0190	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.0363	0.0363	1.0000e-004	0.0000	0.0384

**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	0.5579					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.1789					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.8300e-003	1.8000e-004	0.0190	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.0363	0.0363	1.0000e-004	0.0000	0.0384
<b>Total</b>	<b>4.7387</b>	<b>1.8000e-004</b>	<b>0.0190</b>	<b>0.0000</b>		<b>7.0000e-005</b>	<b>7.0000e-005</b>		<b>7.0000e-005</b>	<b>7.0000e-005</b>	<b>0.0000</b>	<b>0.0363</b>	<b>0.0363</b>	<b>1.0000e-004</b>	<b>0.0000</b>	<b>0.0384</b>

**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	0.5579					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.1789					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.8300e-003	1.8000e-004	0.0190	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.0363	0.0363	1.0000e-004	0.0000	0.0384
<b>Total</b>	<b>4.7387</b>	<b>1.8000e-004</b>	<b>0.0190</b>	<b>0.0000</b>		<b>7.0000e-005</b>	<b>7.0000e-005</b>		<b>7.0000e-005</b>	<b>7.0000e-005</b>	<b>0.0000</b>	<b>0.0363</b>	<b>0.0363</b>	<b>1.0000e-004</b>	<b>0.0000</b>	<b>0.0384</b>

**7.0 Water Detail**



**7.1 Mitigation Measures Water**

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	115.6641	2.4975	0.0603	186.7976
Unmitigated	115.6641	2.4979	0.0604	186.8363

**7.2 Water by Land Use**

**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	76.4255 / 46.8414	115.6641	2.4979	0.0604	186.8363
Unenclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>115.6641</b>	<b>2.4979</b>	<b>0.0604</b>	<b>186.8363</b>

## 7.2 Water by Land Use

### Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	76.4255 / 46.8414	115.6641	2.4975	0.0603	186.7976
Unenclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>115.6641</b>	<b>2.4975</b>	<b>0.0603</b>	<b>186.7976</b>

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

#### Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	81.1761	4.7974	0.0000	181.9208
Unmitigated	81.1761	4.7974	0.0000	181.9208

### 8.2 Waste by Land Use

#### Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	399.9	81.1761	4.7974	0.0000	181.9208
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>81.1761</b>	<b>4.7974</b>	<b>0.0000</b>	<b>181.9208</b>

#### Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	399.9	81.1761	4.7974	0.0000	181.9208
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>81.1761</b>	<b>4.7974</b>	<b>0.0000</b>	<b>181.9208</b>

### 9.0 Operational Offroad

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

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## Attachment 2: Construction Health Risk Analysis

Stoneridge Corporate Plaza, Pleasanton, CA

### DPM Construction Emissions and Modeling Emission Rates - Unmitigated

Construction Year	Activity	DPM (ton/year)	Area Source	DPM Emissions			Modeled Area (m <sup>2</sup> )	DPM Emission Rate (g/s/m <sup>2</sup> )
				(lb/yr)	(lb/hr)	(g/s)		
2015	Const - Area 1	0.0851	CON1_DPM	170.2	0.05181	6.53E-03	29,346	2.22E-07
	Const - Area 2	0.0230	CON2_DPM	46.0	0.01400	1.76E-03	7,930	2.22E-07
		0.1081					37.276	
2016	Const - Area 1	0.1730	CON1_DPM	345.9	0.10530	1.33E-02	29,346	4.52E-07
	Const - Area 2	0.0467	CON2_DPM	93.5	0.02846	3.59E-03	7,930	4.52E-07
		0.2197					37.276	
<b>Total</b>		<b>0.3278</b>		<b>656</b>	<b>0.1996</b>	<b>0.0251</b>		

Notes:

Emissions assumed to be evenly distributed over each construction areas

hr/day = 9 (7am - 4pm)  
 days/yr = 365  
 hours/year = 3285

### PM2.5 Fugitive Dust Construction Emissions for Modeling - Unmitigated

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	PM2.5 Emissions			Modeled Area (m <sup>2</sup> )	DPM Emission Rate g/s/m <sup>2</sup>
				(lb/yr)	(lb/hr)	(g/s)		
2014	Const - Area 1	CON_FUG	0.0047	9.5	0.00289	3.64E-04	29,346	1.24E-08
	Const - Area 2	CON_FUG	0.0013	2.6	0.00078	9.82E-05	7,930	1.24E-08
			0.0060				37.276	
2015	Const - Area 1	CON_FUG	0.0034	6.8	0.00207	2.60E-04	29,346	8.87E-09
	Const - Area 2	CON_FUG	0.0009	1.8	0.00056	7.03E-05	7,930	8.87E-09
			0.0043				37.276	
<b>Total</b>			<b>0.0103</b>	<b>20.7</b>	<b>0.0063</b>	<b>0.0008</b>		

Notes:

Emissions assumed to be evenly distributed over each construction areas

hr/day = 9 (7am - 4pm)  
 days/yr = 365  
 hours/year = 3285

**Stoneridge Corporate Plaza, Pleasanton, CA**

**Construction Health Impact Summary -**

Construction Year	Maximum Concentrations		Cancer Risk (per million)		Hazard Index (-)	Maximum Annual PM2.5 Concentration ( $\mu\text{g}/\text{m}^3$ )
	Exhaust PM2.5/DPM ( $\mu\text{g}/\text{m}^3$ )	Fugitive PM2.5 ( $\mu\text{g}/\text{m}^3$ )	Child	Adult		
			2015	0.0134	0.0008	1.2
2016	0.0273	0.0006	2.4	0.1	0.005	0.028
Total	-	-	<b>3.6</b>	<b>0.2</b>	-	-
Maximum Annual	0.0273	0.0008	-	-	<b>0.005</b>	<b>0.028</b>

**Stoneridge Corporate Plaza, Pleasanton, CA - Construction Impacts**  
**Maximum DPM Cancer Risk Calculations From Construction**  
**Off-Site Residential Receptor Locations - 1.5 meters**

Cancer Risk (per million) = CPF x Inhalation Dose x 1.0E6

Where: CPF = Cancer potency factor (mg/kg-day)<sup>-1</sup>

Inhalation Dose = C<sub>air</sub> x DBR x A x EF x ED x 10<sup>-6</sup> / AT

Where: C<sub>air</sub> = concentration in air (µg/m<sup>3</sup>)

DBR = daily breathing rate (L/kg body weight-day)

A = Inhalation absorption factor

EF = Exposure frequency (days/year)

ED = Exposure duration (years)

AT = Averaging time period over which exposure is averaged.

10<sup>-6</sup> = Conversion factor

**Values**

Parameter	Child	Adult
CPF =	1.10E+00	1.10E+00
DBR =	581	302
A =	1	1
EF =	350	350
AT =	25,550	25,550

**Construction Cancer Risk by Year - Maximum Impact Receptor Location**

Exposure Year	Exposure Duration (years)	Child - Exposure Information			Child Cancer Risk (per million)	Adult - Exposure Information			Adult Cancer Risk (per million)	Fugitive PM2.5	Total PM2.5
		DPM Conc (ug/m3)		Exposure Adjust Factor		Modeled DPM Conc (ug/m3)		Exposure Adjust Factor			
		Year	Annual			Year	Annual				
1	1	2014	0.0134	10	1.17	2014	0.0134	1	0.06	0.0008	0.014
2	1		0.0273	10	2.39	2015	0.0273	1	0.12	0.0006	0.028
3	1		0.0000	4.75	0.00		0.0000	1	0.00		
4	1		0.0000	3	0.00		0.0000	1	0.00		
5	1		0.0000	3	0.00		0.0000	1	0.00		
6	1		0.0000	3	0.00		0.0000	1	0.00		
7	1		0.0000	3	0.00		0.0000	1	0.00		
8	1		0.0000	3	0.00		0.0000	1	0.00		
9	1		0.0000	3	0.00		0.0000	1	0.00		
10	1		0.0000	3	0.00		0.0000	1	0.00		
11	1		0.0000	3	0.00		0.0000	1	0.00		
12	1		0.0000	3	0.00		0.0000	1	0.00		
13	1		0.0000	3	0.00		0.0000	1	0.00		
14	1		0.0000	3	0.00		0.0000	1	0.00		
15	1		0.0000	3	0.00		0.0000	1	0.00		
16	1		0.0000	3	0.00		0.0000	1	0.00		
17	1		0.0000	1.5	0.00		0.0000	1	0.00		
18	1		0.0000	1	0.00		0.0000	1	0.00		
.	.	.	.	.	.	.	.	.	.		
.	.	.	.	.	.	.	.	.	.		
.	.	.	.	.	.	.	.	.	.		
65	1		0.0000	1	0.00		0.0000	1	0.00		
66	1		0.0000	1	0.00		0.0000	1	0.00		
67	1		0.0000	1	0.00		0.0000	1	0.00		
68	1		0.0000	1	0.00		0.0000	1	0.00		
69	1		0.0000	1	0.00		0.0000	1	0.00		
70	1		0.0000	1	0.00		0.0000	1	0.00		
<b>Total Increased Cancer Risk</b>					<b>3.56</b>				<b>0.19</b>		





tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	16.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	20.00	80.00
tblConstructionPhase	NumDays	230.00	250.00
tblConstructionPhase	NumDays	20.00	15.00
tblConstructionPhase	NumDays	20.00	25.00
tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	PhaseEndDate	1/16/2017	6/13/2016
tblConstructionPhase	PhaseEndDate	9/30/2016	9/26/2016
tblConstructionPhase	PhaseEndDate	8/4/2015	8/21/2015
tblConstructionPhase	PhaseEndDate	7/18/2016	6/6/2016
tblConstructionPhase	PhaseEndDate	7/22/2015	7/7/2015
tblConstructionPhase	PhaseEndDate	10/30/2015	10/16/2015
tblConstructionPhase	PhaseStartDate	9/27/2016	2/23/2016
tblConstructionPhase	PhaseStartDate	10/17/2015	10/13/2015
tblConstructionPhase	PhaseStartDate	7/8/2015	7/27/2015
tblConstructionPhase	PhaseStartDate	6/14/2016	5/3/2016
tblConstructionPhase	PhaseStartDate	6/25/2015	6/10/2015
tblConstructionPhase	PhaseStartDate	8/22/2015	8/10/2015
tblGrading	AcresOfGrading	9.00	10.00
tblGrading	MaterialExported	0.00	14,800.00
tblLandUse	LotAcreage	9.87	6.90
tblLandUse	LotAcreage	6.30	0.00
tblLandUse	LotAcreage	8.10	2.00
tblOffRoadEquipment	LoadFactor	0.50	0.50
tblOffRoadEquipment	LoadFactor	0.31	0.31
tblOffRoadEquipment	OffRoadEquipmentType		Trenchers
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00

tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	4.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	4.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	4.00
tbiOffRoadEquipment	PhaseName		Paving
tbiOffRoadEquipment	UsageHours	6.00	8.00
tbiOffRoadEquipment	UsageHours	8.00	5.30
tbiOffRoadEquipment	UsageHours	8.00	5.10
tbiOffRoadEquipment	UsageHours	7.00	6.40
tbiOffRoadEquipment	UsageHours	8.00	4.80
tbiOffRoadEquipment	UsageHours	8.00	4.80
tbiOffRoadEquipment	UsageHours	8.00	4.80
tbiOffRoadEquipment	UsageHours	8.00	5.30
tbiOffRoadEquipment	UsageHours	7.00	8.00
tbiOffRoadEquipment	UsageHours	8.00	3.60
tbiOffRoadEquipment	UsageHours	8.00	4.80
tbiOffRoadEquipment	UsageHours	8.00	1.30
tbiProjectCharacteristics	CO2IntensityFactor	641.35	328
tbiProjectCharacteristics	OperationalYear	2014	2018
tbiTripsAndVMT	HaulingTripLength	20.00	0.30
tbiTripsAndVMT	HaulingTripLength	20.00	0.30
tbiTripsAndVMT	HaulingTripLength	20.00	0.30
tbiTripsAndVMT	HaulingTripLength	20.00	0.30
tbiTripsAndVMT	HaulingTripLength	20.00	0.30
tbiTripsAndVMT	HaulingTripLength	20.00	0.30
tbiTripsAndVMT	HaulingTripLength	20.00	0.30
tbiTripsAndVMT	HaulingTripLength	20.00	0.30
tbiTripsAndVMT	HaulingTripNumber	1,463.00	275.00
tbiTripsAndVMT	HaulingTripNumber	0.00	6,650.00
tbiTripsAndVMT	PhaseName		Trenching
tbiTripsAndVMT	VendorTripLength	7.30	0.30
tbiTripsAndVMT	VendorTripLength	7.30	0.30
tbiTripsAndVMT	VendorTripLength	7.30	0.30
tbiTripsAndVMT	VendorTripLength	7.30	0.30
tbiTripsAndVMT	VendorTripLength	7.30	0.30
tbiTripsAndVMT	VendorTripLength	7.30	0.30
tbiTripsAndVMT	VendorTripLength	7.30	0.30
tbiTripsAndVMT	VendorTripLength	7.30	0.30
tbiTripsAndVMT	WorkerTripLength	12.40	0.30
tbiTripsAndVMT	WorkerTripLength	12.40	0.30
tbiTripsAndVMT	WorkerTripLength	12.40	0.30
tbiTripsAndVMT	WorkerTripLength	12.40	0.30
tbiTripsAndVMT	WorkerTripLength	12.40	0.30
tbiTripsAndVMT	WorkerTripLength	12.40	0.30
tbiTripsAndVMT	WorkerTripLength	12.40	0.30
tbiTripsAndVMT	WorkerTripLength	12.40	0.30
tbiVehicleTrips	ST_TR	2.37	1.93
tbiVehicleTrips	SU_TR	0.98	0.80

tblVehicleTrips	WD_TR	11.01	8.97
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## 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					
2015	0.2821	1.9095	2.0461	1.6300e-003	0.0371	0.1170	0.1541	6.0200e-003	0.1081	0.1141	0.0000	150.9334	150.9334	0.0393	0.0000	151.7593
2016	8.1193	4.1526	5.2795	4.1000e-003	0.0154	0.2363	0.2517	4.3100e-003	0.2197	0.2240	0.0000	370.5568	370.5568	0.0895	0.0000	372.4354
<b>Total</b>	<b>8.4014</b>	<b>6.0621</b>	<b>7.3256</b>	<b>5.7300e-003</b>	<b>0.0525</b>	<b>0.3533</b>	<b>0.4058</b>	<b>0.0103</b>	<b>0.3278</b>	<b>0.3381</b>	<b>0.0000</b>	<b>521.4901</b>	<b>521.4901</b>	<b>0.1288</b>	<b>0.0000</b>	<b>524.1947</b>

## 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	6/4/2015	6/24/2015	5	15	
2	Site Preparation	Site Preparation	6/10/2015	7/7/2015	5	20	
3	Grading	Grading	7/27/2015	8/21/2015	5	20	
4	Trenching	Trenching	8/10/2015	10/16/2015	5	50	
5	Building Construction	Building Construction	10/13/2015	9/26/2016	5	250	
6	Interior Construction	Architectural Coating	2/23/2016	6/13/2016	5	80	
7	Paving	Paving	5/3/2016	6/6/2016	5	25	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 1,605,000; Non-Residential Outdoor: 535,000 (Architectural

### OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Interior Construction	Air Compressors	2	8.00	78	0.48
Demolition	Excavators	1	8.00	162	0.38
Demolition	Concrete/Industrial Saws	1	5.30	81	0.73
Grading	Excavators	2	5.10	162	0.38
Building Construction	Cranes	2	6.40	226	0.29
Building Construction	Forklifts	2	4.80	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Paving	Pavers	2	4.80	125	0.42
Paving	Rollers	2	4.80	80	0.38
Demolition	Rubber Tired Dozers	1	5.30	255	0.40
Grading	Rubber Tired Dozers	0	8.00	255	0.40
Building Construction	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Graders	2	3.60	174	0.41
Grading	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Paving	Paving Equipment	3	4.80	130	0.36

Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	0	8.00	255	0.40
Building Construction	Welders	4	1.30	46	0.45
Trenching	Trenchers	2	8.00	80	0.50
Interior Construction	Aerial Lifts	4	7.50	62	0.31
Paving	Tractors/Loaders/Backhoes	4	8.00	97	0.37

**Trips and VMT**

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	3	8.00	0.00	247.00	0.30	0.30	0.30	LD_Mix	HDT_Mix	HHDT
Site Preparation	4	10.00	0.00	0.00	0.30	0.30	0.30	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	275.00	0.30	0.30	0.30	LD_Mix	HDT_Mix	HHDT
Building Construction	12	406.00	175.00	6,650.00	0.30	0.30	0.30	LD_Mix	HDT_Mix	HHDT
Paving	11	28.00	0.00	0.00	0.30	0.30	0.30	LD_Mix	HDT_Mix	HHDT
Interior Construction	6	81.00	0.00	0.00	0.30	0.30	0.30	LD_Mix	HDT_Mix	HHDT
Trenching	2	5.00	0.00	0.00	0.30	0.30	0.30	LD_Mix	HDT_Mix	HHDT

**3.2 Demolition - 2015**

**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					0.0268	0.0000	0.0268	4.0500e-003	0.0000	4.0500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0130	0.1328	0.0992	1.1000e-004		7.0600e-003	7.0600e-003		6.6500e-003	6.6500e-003	0.0000	10.6612	10.6612	2.6700e-003	0.0000	10.7173
<b>Total</b>	<b>0.0130</b>	<b>0.1328</b>	<b>0.0992</b>	<b>1.1000e-004</b>	<b>0.0268</b>	<b>7.0600e-003</b>	<b>0.0338</b>	<b>4.0500e-003</b>	<b>6.6500e-003</b>	<b>0.0107</b>	<b>0.0000</b>	<b>10.6612</b>	<b>10.6612</b>	<b>2.6700e-003</b>	<b>0.0000</b>	<b>10.7173</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.7000e-003	3.6000e-003	0.0249	0.0000	3.0000e-005	2.0000e-005	6.0000e-005	1.0000e-005	2.0000e-005	3.0000e-005	0.0000	0.3264	0.3264	1.0000e-005	0.0000	0.3266
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	1.7000e-004	5.0000e-005	6.3000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0249	0.0249	0.0000	0.0000	0.0250
<b>Total</b>	<b>1.8700e-003</b>	<b>3.6500e-003</b>	<b>0.0255</b>	<b>0.0000</b>	<b>4.0000e-005</b>	<b>2.0000e-005</b>	<b>7.0000e-005</b>	<b>1.0000e-005</b>	<b>2.0000e-005</b>	<b>3.0000e-005</b>	<b>0.0000</b>	<b>0.3514</b>	<b>0.3514</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>0.3516</b>

**3.3 Site Preparation - 2015**

**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
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Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0144	0.1373	0.0970	1.2000e-004		0.0108	0.0108		9.8900e-003	9.8900e-003	0.0000	11.8837	11.8837	3.5500e-003	0.0000	11.9582
<b>Total</b>	<b>0.0144</b>	<b>0.1373</b>	<b>0.0970</b>	<b>1.2000e-004</b>	<b>0.0000</b>	<b>0.0108</b>	<b>0.0108</b>	<b>0.0000</b>	<b>9.8900e-003</b>	<b>9.8900e-003</b>	<b>0.0000</b>	<b>11.8837</b>	<b>11.8837</b>	<b>3.5500e-003</b>	<b>0.0000</b>	<b>11.9582</b>

**Unmitigated Construction Off-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					
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	2.8000e-004	8.0000e-005	1.0600e-003	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0416	0.0416	1.0000e-005	0.0000	0.0417
<b>Total</b>	<b>2.8000e-004</b>	<b>8.0000e-005</b>	<b>1.0600e-003</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>0.0416</b>	<b>0.0416</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>0.0417</b>

**3.4 Grading - 2015**

**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					
Fugitive Dust					5.3000e-003	0.0000	5.3000e-003	5.7000e-004	0.0000	5.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0293	0.2971	0.1857	2.5000e-004		0.0193	0.0193		0.0178	0.0178	0.0000	23.6743	23.6743	7.0700e-003	0.0000	23.8227
<b>Total</b>	<b>0.0293</b>	<b>0.2971</b>	<b>0.1857</b>	<b>2.5000e-004</b>	<b>5.3000e-003</b>	<b>0.0193</b>	<b>0.0246</b>	<b>5.7000e-004</b>	<b>0.0178</b>	<b>0.0183</b>	<b>0.0000</b>	<b>23.6743</b>	<b>23.6743</b>	<b>7.0700e-003</b>	<b>0.0000</b>	<b>23.8227</b>

**Unmitigated Construction Off-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					
Hauling	1.8900e-003	4.0100e-003	0.0277	0.0000	4.0000e-005	2.0000e-005	6.0000e-005	1.0000e-005	2.0000e-005	3.0000e-005	0.0000	0.3634	0.3634	1.0000e-005	0.0000	0.3636
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	5.6000e-004	1.5000e-004	2.1100e-003	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0831	0.0831	1.0000e-005	0.0000	0.0834
<b>Total</b>	<b>2.4500e-003</b>	<b>4.1600e-003</b>	<b>0.0298</b>	<b>0.0000</b>	<b>9.0000e-005</b>	<b>2.0000e-005</b>	<b>1.1000e-004</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>4.0000e-005</b>	<b>0.0000</b>	<b>0.4466</b>	<b>0.4466</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.4470</b>

**3.5 Trenching - 2015**

**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	0.0290	0.2545	0.1423	1.7000e-004		0.0199	0.0199		0.0183	0.0183	0.0000	16.5751	16.5751	4.9500e-003	0.0000	16.6790
<b>Total</b>	<b>0.0290</b>	<b>0.2545</b>	<b>0.1423</b>	<b>1.7000e-004</b>		<b>0.0199</b>	<b>0.0199</b>		<b>0.0183</b>	<b>0.0183</b>	<b>0.0000</b>	<b>16.5751</b>	<b>16.5751</b>	<b>4.9500e-003</b>	<b>0.0000</b>	<b>16.6790</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio-CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.5000e-004	1.0000e-004	1.3200e-003	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0520	0.0520	1.0000e-005	0.0000	0.0521
<b>Total</b>	<b>3.5000e-004</b>	<b>1.0000e-004</b>	<b>1.3200e-003</b>	<b>0.0000</b>	<b>3.0000e-005</b>	<b>0.0000</b>	<b>3.0000e-005</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>0.0520</b>	<b>0.0520</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>0.0521</b>

**3.6 Building Construction - 2015**

**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	0.0964	0.9142	0.5064	7.2000e-004		0.0588	0.0588		0.0544	0.0544	0.0000	68.0076	68.0076	0.0202	0.0000	68.4319
<b>Total</b>	<b>0.0964</b>	<b>0.9142</b>	<b>0.5064</b>	<b>7.2000e-004</b>		<b>0.0588</b>	<b>0.0588</b>		<b>0.0544</b>	<b>0.0544</b>	<b>0.0000</b>	<b>68.0076</b>	<b>68.0076</b>	<b>0.0202</b>	<b>0.0000</b>	<b>68.4319</b>

**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	0.0106	0.0225	0.1553	2.0000e-005	6.9000e-004	1.3000e-004	8.3000e-004	1.8000e-004	1.2000e-004	3.0000e-004	0.0000	2.0388	2.0388	5.0000e-005	0.0000	2.0398
Vendor	0.0516	0.1342	0.6783	1.4000e-004	1.4600e-003	8.7000e-004	2.3300e-003	4.3000e-004	7.9000e-004	1.2200e-003	0.0000	12.3066	12.3066	2.1000e-004	0.0000	12.3110
Worker	0.0329	8.9600e-003	0.1243	6.0000e-005	2.7000e-003	1.2000e-004	2.8200e-003	7.3000e-004	1.1000e-004	8.4000e-004	0.0000	4.8947	4.8947	5.9000e-004	0.0000	4.9071
<b>Total</b>	<b>0.0951</b>	<b>0.1656</b>	<b>0.9578</b>	<b>2.2000e-004</b>	<b>4.8500e-003</b>	<b>1.1200e-003</b>	<b>5.9800e-003</b>	<b>1.3400e-003</b>	<b>1.0200e-003</b>	<b>2.3600e-003</b>	<b>0.0000</b>	<b>19.2401</b>	<b>19.2401</b>	<b>8.5000e-004</b>	<b>0.0000</b>	<b>19.2580</b>

### 3.6 Building Construction - 2016

#### 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	0.3026	2.8979	1.6533	2.4000e-003		0.1834	0.1834		0.1694	0.1694	0.0000	222.7766	222.7766	0.0665	0.0000	224.1732
<b>Total</b>	<b>0.3026</b>	<b>2.8979</b>	<b>1.6533</b>	<b>2.4000e-003</b>		<b>0.1834</b>	<b>0.1834</b>		<b>0.1694</b>	<b>0.1694</b>	<b>0.0000</b>	<b>222.7766</b>	<b>222.7766</b>	<b>0.0665</b>	<b>0.0000</b>	<b>224.1732</b>

#### 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	0.0315	0.0684	0.4882	8.0000e-005	8.4000e-004	3.1000e-004	1.1500e-003	2.3000e-004	2.8000e-004	5.1000e-004	0.0000	6.6636	6.6636	1.4000e-004	0.0000	6.6666
Vendor	0.1535	0.4094	2.1202	4.8000e-004	4.8400e-003	2.2000e-003	7.0400e-003	1.4300e-003	2.0300e-003	3.4300e-003	0.0000	40.2837	40.2837	6.5000e-004	0.0000	40.2973
Worker	0.1006	0.0265	0.3700	2.1000e-004	8.9300e-003	3.9000e-004	9.3100e-003	2.4200e-003	3.5000e-004	2.7800e-003	0.0000	15.6634	15.6634	1.7500e-003	0.0000	15.7001
<b>Total</b>	<b>0.2856</b>	<b>0.5043</b>	<b>2.9786</b>	<b>7.7000e-004</b>	<b>0.0146</b>	<b>2.9000e-003</b>	<b>0.0175</b>	<b>4.0800e-003</b>	<b>2.6300e-003</b>	<b>6.7200e-003</b>	<b>0.0000</b>	<b>62.6107</b>	<b>62.6107</b>	<b>2.6400e-003</b>	<b>0.0000</b>	<b>62.6640</b>

### 3.7 Interior Construction - 2016

#### 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	7.4392					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0477	0.3907	0.3628	5.6000e-004		0.0266	0.0266		0.0262	0.0262	0.0000	50.4496	50.4496	0.0102	0.0000	50.6641
<b>Total</b>	<b>7.4868</b>	<b>0.3907</b>	<b>0.3628</b>	<b>5.6000e-004</b>		<b>0.0266</b>	<b>0.0266</b>		<b>0.0262</b>	<b>0.0262</b>	<b>0.0000</b>	<b>50.4496</b>	<b>50.4496</b>	<b>0.0102</b>	<b>0.0000</b>	<b>50.6641</b>

#### 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	8.3600e-003	2.2000e-003	0.0308	2.0000e-005	7.4000e-004	3.0000e-005	7.7000e-004	2.0000e-004	3.0000e-005	2.3000e-004	0.0000	1.3021	1.3021	1.5000e-004	0.0000	1.3051
<b>Total</b>	<b>8.3600e-003</b>	<b>2.2000e-003</b>	<b>0.0308</b>	<b>2.0000e-005</b>	<b>7.4000e-004</b>	<b>3.0000e-005</b>	<b>7.7000e-004</b>	<b>2.0000e-004</b>	<b>3.0000e-005</b>	<b>2.3000e-004</b>	<b>0.0000</b>	<b>1.3021</b>	<b>1.3021</b>	<b>1.5000e-004</b>	<b>0.0000</b>	<b>1.3051</b>

### 3.8 Paving - 2016

#### 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	0.0350	0.3574	0.2508	3.5000e-004		0.0233	0.0233		0.0215	0.0215	0.0000	33.2772	33.2772	0.0100	0.0000	33.4880
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0350</b>	<b>0.3574</b>	<b>0.2508</b>	<b>3.5000e-004</b>		<b>0.0233</b>	<b>0.0233</b>		<b>0.0215</b>	<b>0.0215</b>	<b>0.0000</b>	<b>33.2772</b>	<b>33.2772</b>	<b>0.0100</b>	<b>0.0000</b>	<b>33.4880</b>

#### 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	8.0000e-004	2.4000e-004	3.3200e-003	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.1407	0.1407	2.0000e-005	0.0000	0.1410
<b>Total</b>	<b>8.0000e-004</b>	<b>2.4000e-004</b>	<b>3.3200e-003</b>	<b>0.0000</b>	<b>8.0000e-005</b>	<b>0.0000</b>	<b>8.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.1407</b>	<b>0.1407</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.1410</b>