645 HORNING STREET GAS STATION AND MINI STORAGE COMMUNITY RISK ASSESSMENT

San Jose, CA

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Introduction

The purpose of this report is to address air quality impacts associated with the 645 Horning Street gas station, convenience store, fast food restaurant and mini storage development project in San Jose. The 3.26-acre project site is currently occupied by a 60,000 square foot (sf) auto repair center. The project proposes to demolish the existing building and redevelop the site with a gas station equipped with 12 vehicle fueling positions, a convenience market, a 3,520 sf fast food restaurant, a 80,621 sf mini storage unit and associated surface parking facilities.

Air pollutant emissions associated with construction and operation of the project were modeled. The primary sources of air pollutants are from temporary construction activities, traffic and evaporative fueling emissions from the gasoline dispensing facility. The potential construction and operational health risk impact to nearby sensitive receptors and the impact of existing toxic air contaminant (TAC) sources affecting the proposed residences were evaluated. This analysis addresses those issues following the guidance provided by the Bay Area Air Quality Management District (BAAQMD).

Setting

The project is located in Santa Clara County, which is 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_{10}), and fine particulate matter ($PM_{2.5}$).

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. TACs are found in ambient air, especially in urban areas, and are caused by diesel engines, fuel combustion, industry, agriculture, and commercial operations. In urban air, diesel particulates are most common along with lead, benzene, and formaldehyde. TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter [DPM] 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 California Air Resources Board (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 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.[1] The regulation requires affected vehicles to meet specific performance requirements between 2014 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, the CARB (a part of the California Environmental Protection Agency [EPA]) oversees regional air district activities and regulates air quality at the State level. The BAAQMD has published California Environmental Quality Act (CEQA) Air Quality Guidelines that are used in this assessment to evaluate air quality impacts of projects.[2] The detailed community risk modeling methodology used in this assessment is contained in *Attachment 1*.

Sensitive Receptors

There are groups of people more affected by air pollution than others. CARB has identified the following persons who are most likely to be affected by air pollution: children under 16, 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 include the single family dwellings just south of the project site and the multi-family condominiums adjacent to the southeastern project boundary.

Significance Thresholds

In June 2010, BAAQMD adopted thresholds of significance to assist in the review of projects under CEQA. These Thresholds were designed to establish the level at which BAAQMD believed air pollution emissions would cause significant environmental impacts under CEQA and were posted on BAAQMD's website and included in the Air District's updated CEQA Guidelines (updated May 2011). Those significance thresholds identified by BAAQMD in 2011 and used in this analysis are summarized in Table 1.

[1] Available online: http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm. Accessed: June 9, 2015.
[2] Bay Area Air Quality Management District, 2011. *BAAQMD CEQA Air Quality Guidelines*. May.

Table 1. Air Quality Significance Thresholds

Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (lbs./day)	Average Daily Emissions (lbs./day)	Annual Average Emissions (tons/year)
Criteria Air Pollutants			
ROG	54	54	10
NO_x	54	54	10
PM_{10}	82 (Exhaust)	82	15
$PM_{2.5}$	54 (Exhaust)	54	10
CO	Not Applicable	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	
Health Risks and Hazards for Single Sources			
Excess Cancer Risk	>10 per one million		
Hazard Index	>1.0		
Incremental annual $PM_{2.5}$	>0.3 µg/m^3		
Health Risks and Hazards for Combined Sources (Cumulative from all sources within 1,000 foot zone of influence)			
Excess Cancer Risk	>100 per one million		
Hazard Index	>10.0		
Annual Average $PM_{2.5}$	>0.8 µg/m^3		

Note: ROG = reactive organic gases, NOx = nitrogen oxides, PM_{10} = course particulate matter or particulates with an aerodynamic diameter of 10 micrometers (µm) or less, $PM_{2.5}$ = fine particulate matter or particulates with an aerodynamic diameter of 2.5µm or less

Impact: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable State or federal ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? ***Less than significant with construction-period mitigation measures.***

The Bay Area is considered a non-attainment area for ground-level ozone and $PM_{2.5}$ under both the Federal Clean Air Act and the California Clean Air Act. The area is also considered non-attainment for PM_{10} 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. As part of an effort to attain and maintain ambient air quality standards for ozone and PM_{10}, the BAAQMD has established thresholds of significance for these air pollutants and their precursors. These thresholds are for ozone precursor pollutants (ROG and NOx), PM_{10}, and $PM_{2.5}$ and apply to both construction period and operational period impacts.

The California Emissions Estimator Model (CalEEMod) Version 2016.3.1 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 anticipated construction schedule were input to CalEEMod.

Construction period emissions

CalEEMod provided annual emissions for 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, hauling, and vendor traffic. The proposed project land uses were input into CalEEMod, which included: 12 pumps entered as a" Convenience Market with Gas Pumps", 80,620 square feet (sf) as "Unrefrigerated Warehouse-No Rail", 3,520 sf as "Fast Food Restaurant with Drive Thru", and 53 spaces as "Parking Lot" on a 3.26-acre site. The CalEEMod default construction schedule and equipment assumptions for a project of this type and size were used. For demolition, a building size of 60,000 sf was entered into the model.

The construction schedule assumes that the project would be built out over a period of approximately 14 months beginning in March 2017, or an estimated 308 construction workdays (assuming an average of 22 construction days per month). Average daily emissions were computed by dividing the total construction emissions by the number of construction days. Table 2 shows average daily construction emissions of ROG, NO_X, PM_{10} exhaust, and $PM_{2.5}$ exhaust during construction of the project. As indicated in Table 2, predicted the construction period emissions would not exceed the BAAQMD significance thresholds.

Construction activities, particularly during site preparation and grading, would temporarily generate fugitive dust in the form of PM_{10} and $PM_{2.5}$. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust after it dries. The BAAQMD CEQA Air Quality Guidelines consider these impacts to be less than significant if best management practices are implemented to reduce these emissions. *Mitigation Measure 1 would implement BAAQMD-recommended best management practices*.

Table 2. Construction Period Emissions

Scenario	ROG	NOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust
Total construction emissions (tons)	0.96 tons	4.20 tons	0.25 tons	0.23 tons
Average daily emissions (pounds)[1]	6.23 lbs.	27.3 lbs.	1.62 lbs.	1.49 lbs.
BAAQMD Thresholds (pounds per day)	*54* lbs.	*54* lbs.	*82* lbs.	*54* lbs.
Exceed Threshold?	**No**	**No**	**No**	**No**
Notes: [1]Assumes 308 workdays.				

Operational Period Emissions

Operational air emissions from the project would be generated primarily from autos accessing the project. The project includes a Gasoline Dispensing Facility that would have ROG emissions. Evaporative emissions from architectural coatings and maintenance products (classified as consumer products) are typical emissions from these types of uses. CalEEMod was used to predict emissions from operation of the proposed project assuming full build-out. Evaporative ROG emissions from the Gasoline Dispensing Facility were computed separately and added to the emissions computed by CalEEMod.

Land Uses

The project land uses were input to CalEEMod, as described above for construction.

Model Year

Emissions associated with vehicle travel depend on the year of analysis because emission control technology requirements are phased-in over time. Therefore, the earlier the year analyzed in the model, the higher the emission rates utilized by CalEEMod. The earliest full year the buildout project could possibly be constructed and begin operating would be 2019. Emissions associated with build-out later than 2019 would be lower.

Trip Generation Rates

CalEEMod allows the user to enter specific vehicle trip generation rates, which were input to the model using the daily trip generation rate provided in the project trip generation calculations for net project trips. The default trip lengths and trip types specified by CalEEMod were used.

Energy

CalEEMod defaults for energy use were used, which include the 2013 Title 24 Building Standards.

Other Inputs

Default model assumptions for emissions associated with solid waste generation and water/wastewater use were applied to the project.

Gasoline Dispensing Facility

The project would include a gasoline dispensing facility (GDF). The emissions from traffic associated with the GDF were addressed using the CalEEMod model, as described above. GDFs are a source of ROG emissions associated with loading, storage, refueling of vehicles and spillage that results in evaporative emissions. GDFs are regulated by BAAQMD. Because GDFs require permits from the District (unlike other "unpermitted" operational sources), emissions

associated with GDFs were computed separately from other operational emissions above using the latest emission factors made available from CARB[3]. The emissions computations are based on annual throughput expected for the facility. Since the throughput for project GDFs is not known, a throughput of 10,000,000 gallons per year was assumed for the station. This represents a throughput associated with the largest size GDFs in the State, and therefore, considered an overestimation[4]. The evaporative ROG emissions associated with these GDFs are included in Table 3.

Project Operational Emissions

Table 3 reports the predicted emission in terms of annual emissions in tons and average daily operational emissions, assuming 365 days of operation per year. As shown in Table 3, average daily and annual emissions of ROG, NOx, PM_{10}, or $PM_{2.5}$ emissions associated with operation would not exceed the BAAQMD significance thresholds. It should be noted that while not credited in the table, net project emissions would be even less if emissions from existing on-site uses were accounted.

Table 3. Operational Emissions

Scenario	ROG	NOx	PM_{10}	$PM_{2.5}$
Project Operational Emissions	0.46 tons	0.19 tons	0.07 tons	0.02 tons
Gasoline Dispensing Facility	2.62 tons	0.00 tons	0.00 tons	0.00 tons
Total	3.08 tons	0.19 tons	0.07 tons	0.02 tons
BAAQMD Thresholds (tons /year)	*10 tons*	*10 tons*	*15 tons*	*10 tons*
Exceed Threshold?	**No**	***No***	**No**	**No**
Average Daily Net Project Operational Emissions (pounds)[1]	2.5 lbs.	1.0 lbs.	0.38 lbs.	0.1 lbs.
BAAQMD Thresholds (pounds/day)	*54* lbs.	*54* lbs.	*82* lbs.	*54* lbs.
Exceed Threshold?	**No**	**No**	**No**	**No**

[1] Assumes 365-day operation.

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

During any construction period ground disturbance, the applicant shall ensure that the project contractor 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 level. The contractor shall implement the following best management practices that are required of all projects:

[3] CARB. 2013. Revised Emissions Factors for Gasoline Marketing Operations at California Gasoline Dispensing Facilities". December 23. Assumes use of enhanced vapor recovery systems.

[4] CARB. 2005. Air Quality and Landuse Handbook: A Community Perspective. Page 31-32 reports that "very large gasoline dispensing facilities located at large wholesale and discount centers may dispense nine million gallons of gasoline per year or more."

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 miles per hour (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: Expose sensitive receptors to substantial pollutant concentrations? ***Less than significant with construction period mitigation.***

Project impacts related to increased community 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 project would not introduce new sensitive receptors. 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 project includes the development of a fueling station. Construction activity would generate dust and equipment exhaust on a temporary basis that could affect nearby sensitive receptors.

Project Construction Activity

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. These exhaust air pollutant emissions would not be considered to contribute substantially to existing or projected air quality violations; however, construction exhaust

emissions may still pose health risks for sensitive receptors such as surrounding residents. The primary community risk impact issues associated with construction emissions are cancer risk and exposure to $PM_{2.5}$. Diesel exhaust poses both a potential health and nuisance impact to nearby receptors. A health risk assessment of the project construction activities was conducted that evaluated potential health effects of sensitive receptors at these nearby residences from construction emissions of DPM and $PM_{2.5}$.[5] The closest sensitive receptors to the project site are the residences the north of the project boundary (see Figure 1). Emissions and dispersion modeling was conducted to predict the off-site concentrations resulting from project construction, so that lifetime cancer risks and non-cancer health effects could be evaluated.

Construction activities, particularly during site preparation and grading would temporarily generate fugitive dust in the form of PM_{10} and $PM_{2.5}$. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust after it dries. Fugitive dust emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. Fugitive dust emissions would also depend on soil moisture, silt content of soil, wind speed, and the amount of equipment operating. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site. The BAAQMD CEQA Air Quality Guidelines consider these impacts to be less than significant if best management practices are employed to reduce these emissions.

On-Site Construction TAC Emissions

Construction period emissions were computed using CalEEMod along with projected construction activity, as described above. The CalEEMod model provided total annual PM_{10} exhaust emissions (assumed to be DPM) for the off-road construction equipment used for construction of the project and for the exhaust emissions from on-road vehicles (haul trucks, vendor trucks, and worker vehicles) of 0.2447 tons (489 pounds) over the construction period. A trip length of one-half mile was used to represent vehicle travel while at or near the construction site. For modeling purposes, it was assumed that these emissions from on-road vehicles would occur at the construction site. Fugitive dust $PM_{2.5}$ emissions were also computed and included in this analysis. The model predicts emissions of 0.0437 tons (87 pounds) of fugitive $PM_{2.5}$ over the construction period.

Dispersion Modeling

The EPA AERMOD dispersion model was used to predict concentrations of DPM and $PM_{2.5}$ concentrations at existing sensitive receptors (residences) in the vicinity of the project construction area. The AERMOD dispersion model is a BAAQMD-recommended model for use in modeling analysis of these types of emission activities for CEQA projects.[6] The AERMOD modeling utilized two area sources to represent the on-site construction emissions, one for

[5] DPM is identified by California as a toxic air contaminant due to the potential to cause cancer.
[6] Bay Area Air Quality Management District (BAAQMD), 2012, *Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0.* May 2011.

exhaust emissions and one for fugitive dust emissions. To represent the construction equipment exhaust emissions, an emission release height of 6 meters (19.7 feet) was used for the area source. The elevated source height reflects the height of the equipment exhaust pipes plus an additional distance for the height of the exhaust plume above the exhaust pipes to account for plume rise of the exhaust gases. For modeling fugitive $PM_{2.5}$ emissions, a near-ground level release height of 2 meters (6.6 feet) was used for the area source. Emissions from the construction equipment and on-road vehicle travel were distributed throughout the modeled area sources. Construction emissions were modeled as occurring daily between 7 a.m. to 4 p.m., when the majority of construction activity would occur. Figure 1 shows the project site and nearby sensitive receptor (residences) locations where health impacts were evaluated.

The modeling used a five-year data set (2006 - 2010) of hourly meteorological data from San Jose International Airport site that was prepared for use with the AERMOD model by BAAQMD for use in health risk assessments. Annual DPM and $PM_{2.5}$ concentrations from construction activities during the 2017-2018 were calculated using the model.

The maximum-modeled DPM concentration occurred just southeast of the construction site at the first floor level of an apartment building. The maximum MEI concentration occurred just south of the project site at a single family dwelling. The locations where the maximum $PM_{2.5}$ and DPM concentrations occurred (and maximum cancer risk) are identified on Figure 1.

Predicted Cancer Risk and Hazards

Increased cancer risks were calculated using the maximum modeled concentrations for 2018 and BAAQMD-recommended risk assessment methods for infant exposure (3^{rd} trimester through two years of age) and for an adult exposure. The cancer risk calculations were based on applying the BAAQMD-recommended age sensitivity factors to the TAC concentrations, as described in *Attachment 1*. Age-sensitivity factors reflect the greater sensitivity of infants and small children to cancer causing TACs. Infant, child, and adult exposures were assumed to occur at all residences through the entire construction period.

Results of the assessment for project construction indicate the maximum incremental residential cancer risk, assuming infant exposure, at the maximally exposed receptor would be 42.5 in one million. This risk exceeds BAAQMD's significance threshold of 10 in a million. The residential adult incremental cancer risk would be 0.7 in one million. The maximum-modeled annual PM_{10} concentration, which is based on combined exhaust and fugitive dust emissions, was $0.27\mu g/m^3$. This concentration does not exceed the BAAQMD significance threshold of $0.3\mu g/m^3$. The maximum modeled annual residential DPM concentration (i.e., from construction exhaust) was $0.21\mu g/m^3$, which is much lower than the REL. The maximum computed Hazard Index, or HI, based on this DPM concentration is less than 0.05, which is lower than the BAAQMD significance criterion of a HI greater than 1.0.

Attachment 2 includes the emission calculations used for the area source modeling and the cancer risk calculations.

Operational Gasoline Dispensing Facility

As previously described, emissions from the project GDF were computed based on projected annual throughput of gasoline (i.e., 10 million gallons). Emissions of benzene, toluene, and xylenes which are TACs were computed based on recent emission factors developed by CARB.[7] The emission factors are based on annual gasoline throughput and account for emissions from fuel storage tank loading and pressure driven (breathing) losses, motor vehicle refueling, spillage while refueling, and minor emissions from vapor permeation through gasoline dispensing hoses. The fueling emission factors take into account the effects of vehicles equipped with onboard refueling vapor recovery (ORVR) systems. ORVR systems were phased in beginning with 1998 model year passenger vehicles, and are now installed on all passenger, light-duty, and medium-duty vehicles manufactured since the 2006 model year. Emissions of benzene, toluene, and xylene which are TACs were computed assuming that benzene, toluene, and xylene make up 0.3%, 8.0%, and 2.4% of gasoline vapor, respectively.[8]

The average daily emissions of each TAC were input to the BAAQMD's Risk and Hazards Screening Calculator to compute community risk impacts in terms of lifetime cancer risk and non-cancer hazards. The calculator predicts the near source risk levels, which is then entered into BAAQMD's Gasoline Station Distance Multiplier Tool. The closest sensitive receptor to the project would be 140 feet. The cancer risk at the closest receptor location was found to be 5.71 in a million. This cancer risk calculations include the latest recommendations from the State's Office of Environmental Health and hazards (OEHHA), as described in *Attachment 1*. The non-cancer risk (HI) due to the emissions from the gasoline dispensing facility would almost be zero.

Cumulative Construction Risk Assessment

Community health risk assessments typically look at all substantial sources of TACs that can affect sensitive receptors that are located within 1,000 feet of a project site. These sources include freeways or highways, busy surface streets and stationary sources identified by BAAQMD. Traffic on high volume roadways is a source of TAC emissions that may adversely affect sensitive receptors in close proximity to the roadway. For local roadways, BAAQMD considers roadways with traffic volumes of over 10,000 vehicles per day to have a potentially substantial impact on a sensitive receptor. A review of BAAQMD's Highway Screening Analysis identified U.S. 101 (Bayshore Freeway) as a major source of mobile TAC emissions. Traffic on Old Oakland Road was identified as the other source of mobile TAC emissions. A review of BAAQMD's Stationary Source Screening tool used to identify stationary sources and correspondence with BAAQMD revealed several sources with the potential to affect the project site. Cumulative risk impacts from these sources upon the construction MEI are reported in Table 3.

[7] CARB. 2013. *Revised Emissions Factors for Gasoline Marketing Operations at California Gasoline Dispensing Facilities.* December 23, 2013.

[8] CAPCOA. 1997. *Air Toxics "Hot Spots" Program, Gasoline Service Station Industrywide Risk Assessment Guidelines*, November 1997

Highways-Bayshore Freeway/Highway 101

BAAQMD provides a Highway Screening Analysis Google Earth Map tool to identify estimated risk and hazard impacts from highways throughout the Bay Area. Cumulative risk, hazard and PM2.5 impacts at various distances from the highway are estimated for different segments of the highways. The tool uses the average annual daily traffic (AADT) count, fleet mix and other modeling parameters specific to that segment of the highway. Impacts from Link 568 (6ft elevation) Highway 101, which is about 285 feet north of the cancer risk MEI were identified using this tool.

Roadways- Old Oakland Road TAC Impacts

For local roadways, BAAQMD has provided the *Roadway Screening Analysis Calculator* to assess whether roadways with traffic volumes of over 10,000 vehicles per day may have a potentially significant effect on a proposed project. Two adjustments were made to the cancer risk predictions made by this calculator: (1) adjustment for latest vehicle emissions rates predicted using EMFAC2014 and (2) adjustment of cancer risk to reflect new OEHHA guidance (see *Attachment 1*).

The calculator uses the older EMFAC2011 emission rates for the year 2014. Overall, emission rates will decrease by the time the project is constructed and occupied. The project is not likely to be occupied prior to 2018. In addition, a new version of the emissions factor model, EMFAC2014 is available. This version predicts lower emission rates. An adjustment factor of 0.5 was developed by comparing emission rates of total organic gases (TOG) for running exhaust and running losses developed using EMFAC2011 for year 2014 and those from EMFAC2014 for year 2018.

The predicted cancer risk was then adjusted using a factor of 1.3744 to account for new OEHHA guidance (see Attachment 1). This factor was provided by BAAQMD for use with their CEQA screening tools that are used to predict cancer risk.[9]

Old Oakland Road is the only roadway in the vicinity of the project with the potential to have an effect on the project construction MEI. The average daily traffic (ADT) volume on Old Oakland Roadway is estimated to be approximately 17,500 according to the *Envision San Jose General Plan EIR*.[10] Using the BAAQMD *Roadway Screening Analysis Calculator* for Santa Clara County for north-south directional roadways and at a distance of approximately 50 feet east of the roadway, estimated cancer risk from Old Oakland Road at the construction MEI would be 7.7 per million and $PM_{2.5}$ concentration would be 0.26µg/m^3. Chronic or acute HI for the roadway would be below 0.03.

Rail Line

A Union Pacific Railroad Line is within 1000-feet of the project site. The activity on this rail line has been considered to be infrequent as it used by about three freight trains on a daily basis. The rail line is located approximated 850-feet west of the receptor exposed to maximum annual $PM_{2.5}$

[9] Correspondence with Alison Kirk, BAAQMD, November 23, 2015.
[10] Available online: http://www.sanjoseca.gov/DocumentCenter/View/2198, Accessed: October 28, 2016.

concentration and beyond 1000 feet from the receptor exposed to maximum cancer risk. The DPM and $PM_{2.5}$ emissions from trains would not have a substantial impact on the sensitive receptors close to the site given the large distance between the rail line and receptors and infrequent activity.

Stationary Sources

Permitted stationary sources of air pollution near the project site were identified using BAAQMD's *Stationary Source Risk & Hazard Analysis Tool*. This mapping tool uses Google Earth and identified the location of several stationary sources and their estimated risk and hazard impacts. The 2011 screening values report by the Google Earth Tool were multiplied by OEHHA adjustment factor of 1.3744. [11] The sources that were located beyond 1000-feet from the cancer risk MEI have not been included below. Also not included are sources with reported screening risk levels (assumed to occur at a distance of 50 feet) of less than 0.1 in one million.

- Plant G9902, which is a gasoline dispensing facility operated by Claires LLC/Balch Land located at 680 Commercial Street, is about 830 feet northwest of the cancer risk MEI. At BAAQMD's direction, risk and $PM_{2.5}$ concentrations from the facility were adjusted based on BAAQMD's *Distance Adjustment Multiplier Tool for Gasoline Dispensing Facilities*. According to the BAAQMD screening data (and adjusted for the 830-foot distance), this facility would result in an adjusted adult cancer risk of 0.99 per million, and approximately zero $PM_{2.5}$ concentration and HI which would be below BAAQMD thresholds of significance.
- Plant G8801, which is a gasoline dispensing facility operated by Gas Stop and Mini Mart, located at 899 N 13th Street, is about 950 feet south of the construction MEI. At BAAQMD's direction, risk and $PM_{2.5}$ concentrations from the facility were adjusted based on BAAQMD's *Distance Adjustment Multiplier Tool for Gasoline Dispensing Facilities*. According to the BAAQMD screening data (and adjusted for the 950-foot distance), this facility would result in an adjusted adult cancer risk of 0.4 per million, HI of ~0, and no annual $PM_{2.5}$ concentration, which would be below BAAQMD thresholds of significance.

Table 4 summarizes the impacts from all the above mentioned sources on the sensitive receptor most affected by the project.

Conclusion for Construction Impacts

Cancer risk from construction activities would exceed both the single-source and cumulative-source significance thresholds at the residence with the maximum impact, assuming there is an infant at that receptor site. Exposures for children or adults would be below the significance threshold. The project construction activities would not increase annual $PM_{2.5}$ concentrations or non-cancer hazards above the significance thresholds. Therefore, the impact is considered *significant*. Implementation of Mitigation Measures 1 and 2 would reduce this impact to a level of less than significant.

[11] Based on telephonic conversation between Alison Kirk, BAAQMD and Tanushree Ganguly on 1st November, 2016.

Table 4. Cumulative Construction Risk Assessment

Source	Maximum Cancer Risk (per million)	Maximum Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)	Maximum Hazard Index
Unmitigated project construction	42.5	0.27	0.04
Proposed gasoline dispensing facility	5.7	na	0.00
Plant G9902, Claires LLC/Balch Land) (Gasoline Dispensing Facility distance multiplier) at ~830 feet	1.0	0.00	`0.00
Plant G10284, Gas Stop and Mini Mart (Gasoline Dispensing Facility distance multiplier) at ~950 feet	0.4	0.00	0.00
Link 568, Highway 101 at ~285 feet	46.6	0.24	0.04
Old Oakland Road	7.7	0.26	<0.03
Cumulative Total	103.9	0.77	<0.11
BAAQMD Threshold – Cumulative Sources	***>100***	***>0.8***	***>10.0***
Significant?	***Yes***	***No***	***No***
Mitigated project construction	2.0	0.03	0.00
Proposed gasoline dispensing facility	5.7	na	0.00
Plant G9902, Claires LLC/Balch Land) (Gasoline Dispensing Facility distance multiplier) at ~830 feet	1.0	0.00	`0.00
Plant G10284, Gas Stop and Mini Mart (Gasoline Dispensing Facility distance multiplier) at ~950 feet	0.4	0.00	0.00
Link 568, Highway 101 at ~285 feet	46.6	0.24	0.04
Old Oakland Road	7.7	0.26	<0.03
Cumulative Total	63.4	0.53	<0.07
BAAQMD Threshold – Cumulative Sources	***>100***	***>0.8***	***>10.0***
Significant?	***No***	***No***	***No***

Mitigation Measure 2 **Selection of low-emitting equipment during construction to minimize emissions.**

The project shall develop a plan demonstrating that the off-road equipment used to on-site to construct the project would achieve a minimum fleet-wide average 77 percent reduction in $PM_{2.5}$ exhaust emissions, compared to uncontrolled aggregate statewide emission rates for similar equipment. One feasible plan to achieve this reduction would include the following:

- *All mobile diesel-powered off-road equipment larger than 25 horsepower and operating on the site for more than two days continuously (or 20 hours in total) shall meet, at a minimum, one of the following:*
    a. *Engines meeting U.S. EPA particulate matter emissions standards for Tier 4 engines or equivalent;*

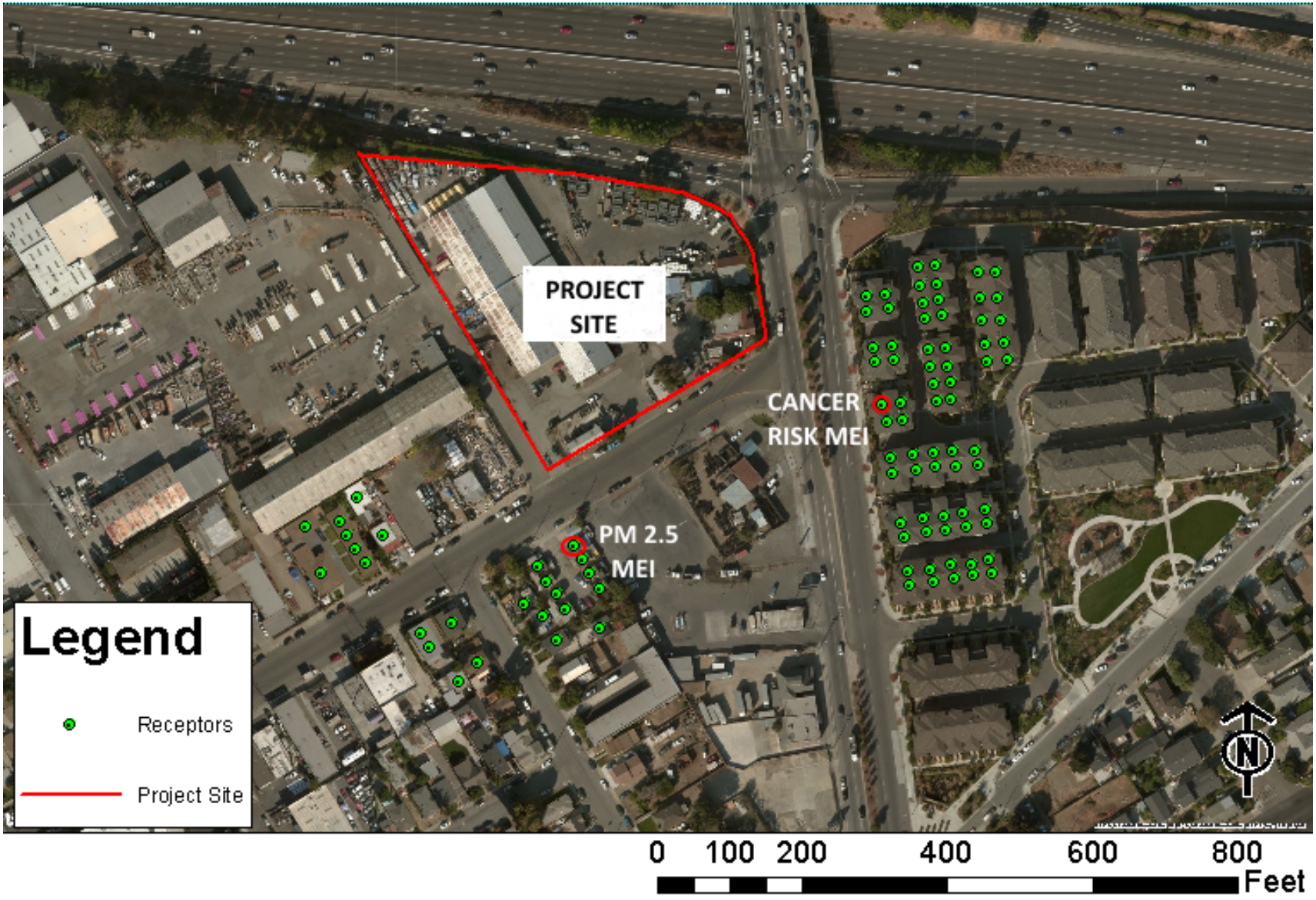
b. *Tier 2 Engines equipped with CARB-certified Level 3 Diesel Particulate Filters;*[12]
c. *Use of alternatively-fueled equipment (i.e., non-diesel) would meet this requirement; or*
d. *Other measures may be the use of added exhaust devices, or a combination of measures, provided that these measures are approved by the University and demonstrated to reduce community risk impacts to less than significant.*

Effectiveness of Mitigation Measures 1 and 2

Implementation of Mitigation Measure 1 is considered to reduce exhaust emissions by 5 percent. Implementation of Mitigation Measures 2 would further reduce on-site diesel exhaust emissions. This would reduce the cancer risk proportionally, such that the mitigated risk would be less than 2 in one million. After implementation of these mitigation measures, the project would have a *less-than-significant* impact with respect to community risk caused by construction activities.

[12] See http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm

Figure 1. Project Construction Site and Location of Off-Site Sensitive Receptors and TAC Impacts



Attachment 1: Health Risk Calculation Methodology

A health risk assessment (HRA) for exposure to Toxic Air Contaminates (TACs) requires the application of a risk characterization model to the results from the air dispersion model to estimate potential health risk at each sensitive receptor location. The State of California Office of Environmental Health Hazard Assessment (OEHHA) and California Air Resources Board (CARB) develop recommended methods for conducting health risk assessments. The most recent OEHHA risk assessment guidelines were published in February of 2015.[13] These guidelines incorporate substantial changes designed to provide for enhanced protection of children, as required by State law, compared to previous published risk assessment guidelines. CARB has provided additional guidance on implementing OEHHA's recommended methods.[14] This HRA used the recent 2015 OEHHA risk assessment guidelines and CARB guidance. While the OEHHA guidelines use substantially more conservative assumptions than the current Bay Area Air Quality Management District (BAAQMD) guidelines, BAAQMD has not formally adopted recommended procedures for applying the newest OEHHA guidelines. BAAQMD is in the process of developing new guidance and has developed proposed HRA Guidelines as part of the proposed amendments to Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants.[15] Exposure parameters from the OEHHA guidelines and newly proposed BAAQMD HRA Guidelines were used in this evaluation.

Cancer Risk

Potential increased cancer risk from inhalation of TACs are calculated based on the TAC concentration over the period of exposure, inhalation dose, the TAC cancer potency factor, and an age sensitivity factor to reflect the greater sensitivity of infants and children to cancer causing TACs. The inhalation dose depends on a person's breathing rate, exposure time and frequency of exposure, and the exposure duration. These parameters vary depending on the age, or age range, of the persons being exposed and whether the exposure is considered to occur at a residential location or other sensitive receptor location.

The current OEHHA guidance recommends that cancer risk be calculated by age groups to account for different breathing rates and sensitivity to TACs. Specifically, they recommend evaluating risks for the third trimester of pregnancy to age zero, ages zero to less than two (infant exposure), ages two to less than 16 (child exposure), and ages 16 to 70 (adult exposure). Age sensitivity factors (ASFs) associated with the different types of exposure are an ASF of 10 for the third trimester and infant exposures, an ASF of 3 for a child exposure, and an ASF of 1 for an adult exposure. Also associated with each exposure type are different breathing rates, expressed as liters per kilogram of body weight per day (L/kg-day). As recommended by the BAAQMD, 95th percentile breathing rates are used for the third trimester and infant exposures, and 80th

[13] OEHHA, 2015. *Air Toxics Hot Spots Program Risk Assessment Guidelines, The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. Office of Environmental Health Hazard Assessment. February.
[14] CARB, 2015. *Risk Management Guidance for Stationary Sources of Air Toxics*. July 23.
[15] BAAQMD, 2016. *Workshop Report. Proposed Amendments to Air District Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants. Appendix C. Proposed Air District HRA Guidelines*. January 2016.

percentile breathing rates for child and adult exposures. Additionally, CARB and the BAAQMD recommend the use of a residential exposure duration of 30 years for sources with long-term emissions (e.g., roadways).

Under previous OEHHA and BAAQMD HRA guidance, residential receptors are assumed to be at their home 24 hours a day, or 100 percent of the time. In the 2015 Risk Assessment Guidance, OEHHA includes adjustments to exposure duration to account for the fraction of time at home (FAH), which can be less than 100 percent of the time, based on updated population and activity statistics. The FAH factors are age-specific and are: 0.85 for third trimester of pregnancy to less than 2 years old, 0.72 for ages 2 to less than 16 years, and 0.73 for ages 16 to 70 years. BAAQMD recommends using these FAH factors for residential exposures.

Functionally, cancer risk is calculated using the following parameters and formulas:

Cancer Risk (per million) = $CPF \times Inhalation\ Dose \times ASF \times ED/AT \times FAH \times 10^6$

Where:

CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = $C_{air} \times DBR \times A \times (EF/365) \times 10^{-6}$

Where:

C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

The health risk parameters used in this evaluation are summarized as follows:

	Exposure Type →	**Infant**		**Child**	**Adult**
Parameter	***Age Range*** →	**3rd Trimester**	**0<2**	**2 < 16**	**16 - 30**
DPM Cancer Potency Factor $(mg/kg\text{-}day)^{-1}$		1.10E+00	1.10E+00	1.10E+00	1.10E+00
Daily Breathing Rate (L/kg-day)*		361	1,090	572	261
Inhalation Absorption Factor		1	1	1	1
Averaging Time (years)		70	70	70	70
Exposure Duration (years)		0.25	2	14	14
Exposure Frequency (days/year)		350	350	350	350
Age Sensitivity Factor		10	10	3	1
Fraction of Time at Home		0.85-1.0	0.72-1.0	0.72-1.0	0.73

* 95th percentile breathing rates for 3rd trimester and infants and 80th percentile for children and adults

Non-Cancer Hazards

Potential non-cancer health hazards from TAC exposure are expressed in terms of a hazard index (HI), which is the ratio of the TAC concentration to a reference exposure level (REL). OEHHA has defined acceptable concentration levels for contaminants that pose non-cancer health hazards. TAC concentrations below the REL are not expected to cause adverse health impacts, even for sensitive individuals. The total HI is calculated as the sum of the HIs for each TAC evaluated and the total HI is compared to the BAAQMD significance thresholds to determine whether a significant non-cancer health impact from a project would occur.

Typically, for residential projects located near roadways with substantial TAC emissions, the primary TAC of concern with non-cancer health effects is diesel particulate matter (DPM). For DPM, the chronic inhalation REL is 5 micrograms per cubic meter ($\mu g/m^3$).

Annual $PM_{2.5}$ Concentrations

While not a TAC, fine particulate matter ($PM_{2.5}$) has been identified by the BAAQMD as a pollutant with potential non-cancer health effects that should be included when evaluating potential community health impacts under the California Environmental Quality Act (CEQA). The thresholds of significance for $PM_{2.5}$ (project level and cumulative) are in terms of an increase in the annual average concentration. When considering $PM_{2.5}$ impacts, the contribution from all sources of $PM_{2.5}$ emissions should be included. For projects with potential impacts from nearby local roadways, the $PM_{2.5}$ impacts should include those from vehicle exhaust emissions, $PM_{2.5}$ generated from vehicle tire and brake wear, and fugitive emissions from re-suspended dust on the roads

Attachment 2: Construction Schedule, CalEEMod Outputs, and Risk Assessment Calculations

Construction Schedule

tblConstructionPhase

PhaseNum	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays
1	Demolition	Demolition	2017/03/01	2017/03/28	5	20
2	Site Preparation	Site Preparation	2017/03/29	2017/04/04	5	5
3	Grading	Grading	2017/04/05	2017/04/14	5	8
4	Building Construction	Building Construction	2017/04/15	2018/03/02	5	230
5	Paving	Paving	2018/03/03	2018/03/28	5	18
6	Architectural Coating	Architectural Coating	2018/03/29	2018/04/23	5	18

PhaseName	OffRoadEquipmentType	OffRoadEquipmentUnitAmount	UsageHours	HorsePower	LoadFactor
Demolition	Concrete/Industrial Saws	1	8	81	0.73
Demolition	Excavators	3	8	158	0.38
Demolition	Rubber Tired Dozers	2	8	247	0.4
Site Preparation	Rubber Tired Dozers	3	8	247	0.4
Site Preparation	Tractors/Loaders/Backhoes	4	8	97	0.37
Grading	Excavators	1	8	158	0.38
Grading	Graders	1	8	187	0.41
Grading	Rubber Tired Dozers	1	8	247	0.4
Grading	Tractors/Loaders/Backhoes	3	8	97	0.37
Building Construction	Cranes	1	7	231	0.29
Building Construction	Forklifts	3	8	89	0.2
Building Construction	Generator Sets	1	8	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7	97	0.37
Building Construction	Welders	1	8	46	0.45
Paving	Cement and Mortar Mixers	2	6	9	0.56
Paving	Pavers	1	8	130	0.42
Paving	Paving Equipment	2	6	132	0.36
Paving	Rollers	2	6	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8	97	0.37
Architectural Coating	Air Compressors	1	6	78	0.48

CalEEMod Output-Criteria and Operational

645 Horning Street

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	80.62	1000sqft	0.00	80,621.00	0
Parking Lot	53.00	Space	0.00	21,200.00	0
Fast Food Restaurant with Drive Thru	3.52	1000sqft	0.00	3,520.00	0
Convenience Market With Gas Pumps	12.00	Pump	3.26	8,862.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2018
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Revised CO2 Emission Intensity

Land Use - From the Site Plan and Trip Generation Study

Construction Phase - Default Constrcution Schedule used

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Trips and VMT - Paving?

Demolition - Existing Land Use : Auto Repair (60,000 sf)

Grading -

Vehicle Trips - From the trip generation rate document

Energy Use -

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tblVehicleEF	LDA	2.3260e-003	2.3030e-003
tblVehicleEF	LDA	1.5970e-003	1.6010e-003
tblVehicleEF	LDA	2.1400e-003	2.1180e-003
tblVehicleEF	LDA	0.11	0.09
tblVehicleEF	LDA	0.16	0.14
tblVehicleEF	LDA	0.08	0.07
tblVehicleEF	LDA	0.02	0.01
tblVehicleEF	LDA	0.05	0.04
tblVehicleEF	LDA	0.11	0.10
tblVehicleEF	LDA	3.0820e-003	2.9740e-003
tblVehicleEF	LDA	6.7900e-004	6.5700e-004
tblVehicleEF	LDA	0.11	0.09
tblVehicleEF	LDA	0.16	0.14

tblVehicleEF	LDA	0.08	0.07
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.05	0.04
tblVehicleEF	LDA	0.12	0.10
tblVehicleEF	LDA	5.6410e-003	4.9920e-003
tblVehicleEF	LDA	0.01	9.6800e-003
tblVehicleEF	LDA	0.73	0.66
tblVehicleEF	LDA	2.25	1.97
tblVehicleEF	LDA	281.44	271.61
tblVehicleEF	LDA	65.28	63.41
tblVehicleEF	LDA	0.60	0.60
tblVehicleEF	LDA	0.08	0.07
tblVehicleEF	LDA	0.14	0.12
tblVehicleEF	LDA	1.7310e-003	1.7370e-003
tblVehicleEF	LDA	2.3260e-003	2.3030e-003
tblVehicleEF	LDA	1.5970e-003	1.6010e-003
tblVehicleEF	LDA	2.1400e-003	2.1180e-003
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.15	0.13
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.02	0.01
tblVehicleEF	LDA	0.06	0.05
tblVehicleEF	LDA	0.16	0.13
tblVehicleEF	LDA	2.8200e-003	2.7210e-003
tblVehicleEF	LDA	6.9200e-004	6.6800e-004
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.15	0.13
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.06	0.05

tblVehicleEF	LDA	0.17	0.14
tblVehicleEF	LDT1	0.02	0.01
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	1.78	1.55
tblVehicleEF	LDT1	4.14	3.68
tblVehicleEF	LDT1	339.12	331.00
tblVehicleEF	LDT1	77.26	75.68
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.18	0.16
tblVehicleEF	LDT1	0.24	0.21
tblVehicleEF	LDT1	2.8490e-003	2.6700e-003
tblVehicleEF	LDT1	3.7510e-003	3.5100e-003
tblVehicleEF	LDT1	2.6270e-003	2.4600e-003
tblVehicleEF	LDT1	3.4540e-003	3.2300e-003
tblVehicleEF	LDT1	0.12	0.11
tblVehicleEF	LDT1	0.31	0.28
tblVehicleEF	LDT1	0.09	0.08
tblVehicleEF	LDT1	0.04	0.03
tblVehicleEF	LDT1	0.21	0.19
tblVehicleEF	LDT1	0.30	0.26
tblVehicleEF	LDT1	3.4150e-003	3.3300e-003
tblVehicleEF	LDT1	8.4600e-004	8.2200e-004
tblVehicleEF	LDT1	0.12	0.11
tblVehicleEF	LDT1	0.31	0.28
tblVehicleEF	LDT1	0.09	0.08
tblVehicleEF	LDT1	0.06	0.05
tblVehicleEF	LDT1	0.21	0.19
tblVehicleEF	LDT1	0.33	0.28
tblVehicleEF	LDT1	0.02	0.01
tblVehicleEF	LDT1	0.02	0.02

tblVehicleEF	LDT1	2.03	1.78
tblVehicleEF	LDT1	3.26	2.88
tblVehicleEF	LDT1	364.20	355.59
tblVehicleEF	LDT1	77.26	75.68
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.16	0.14
tblVehicleEF	LDT1	0.21	0.18
tblVehicleEF	LDT1	2.8490e-003	2.6700e-003
tblVehicleEF	LDT1	3.7510e-003	3.5100e-003
tblVehicleEF	LDT1	2.6270e-003	2.4600e-003
tblVehicleEF	LDT1	3.4540e-003	3.2300e-003
tblVehicleEF	LDT1	0.28	0.26
tblVehicleEF	LDT1	0.35	0.32
tblVehicleEF	LDT1	0.19	0.17
tblVehicleEF	LDT1	0.05	0.04
tblVehicleEF	LDT1	0.19	0.18
tblVehicleEF	LDT1	0.25	0.21
tblVehicleEF	LDT1	3.6690e-003	3.5790e-003
tblVehicleEF	LDT1	8.3000e-004	8.0800e-004
tblVehicleEF	LDT1	0.28	0.26
tblVehicleEF	LDT1	0.35	0.32
tblVehicleEF	LDT1	0.19	0.17
tblVehicleEF	LDT1	0.07	0.05
tblVehicleEF	LDT1	0.19	0.18
tblVehicleEF	LDT1	0.27	0.23
tblVehicleEF	LDT1	0.02	0.01
tblVehicleEF	LDT1	0.03	0.02
tblVehicleEF	LDT1	1.78	1.54
tblVehicleEF	LDT1	4.87	4.33
tblVehicleEF	LDT1	334.99	326.95

tblVehicleEF	LDT1	77.26	75.68
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.20	0.17
tblVehicleEF	LDT1	0.26	0.23
tblVehicleEF	LDT1	2.8490e-003	2.6700e-003
tblVehicleEF	LDT1	3.7510e-003	3.5100e-003
tblVehicleEF	LDT1	2.6270e-003	2.4600e-003
tblVehicleEF	LDT1	3.4540e-003	3.2300e-003
tblVehicleEF	LDT1	0.06	0.05
tblVehicleEF	LDT1	0.34	0.31
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.04	0.03
tblVehicleEF	LDT1	0.26	0.24
tblVehicleEF	LDT1	0.34	0.30
tblVehicleEF	LDT1	3.3730e-003	3.2890e-003
tblVehicleEF	LDT1	8.5900e-004	8.3300e-004
tblVehicleEF	LDT1	0.06	0.05
tblVehicleEF	LDT1	0.34	0.31
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.06	0.05
tblVehicleEF	LDT1	0.26	0.24
tblVehicleEF	LDT1	0.38	0.32
tblVehicleEF	LDT2	8.1210e-003	7.2650e-003
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	1.02	0.92
tblVehicleEF	LDT2	2.46	2.17
tblVehicleEF	LDT2	391.04	380.30
tblVehicleEF	LDT2	89.51	87.35
tblVehicleEF	LDT2	0.19	0.19
tblVehicleEF	LDT2	0.12	0.11

tblVehicleEF	LDT2	0.22	0.19
tblVehicleEF	LDT2	1.6030e-003	1.6260e-003
tblVehicleEF	LDT2	2.2020e-003	2.2080e-003
tblVehicleEF	LDT2	1.4750e-003	1.4950e-003
tblVehicleEF	LDT2	2.0260e-003	2.0310e-003
tblVehicleEF	LDT2	0.05	0.05
tblVehicleEF	LDT2	0.15	0.14
tblVehicleEF	LDT2	0.05	0.04
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.09	0.08
tblVehicleEF	LDT2	0.17	0.14
tblVehicleEF	LDT2	3.9200e-003	3.8110e-003
tblVehicleEF	LDT2	9.3800e-004	9.1100e-004
tblVehicleEF	LDT2	0.05	0.05
tblVehicleEF	LDT2	0.15	0.14
tblVehicleEF	LDT2	0.05	0.04
tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.09	0.08
tblVehicleEF	LDT2	0.18	0.16
tblVehicleEF	LDT2	8.9800e-003	8.0480e-003
tblVehicleEF	LDT2	0.01	8.8950e-003
tblVehicleEF	LDT2	1.19	1.07
tblVehicleEF	LDT2	1.95	1.72
tblVehicleEF	LDT2	420.78	409.24
tblVehicleEF	LDT2	89.51	87.35
tblVehicleEF	LDT2	0.19	0.19
tblVehicleEF	LDT2	0.11	0.10
tblVehicleEF	LDT2	0.20	0.17
tblVehicleEF	LDT2	1.6030e-003	1.6260e-003
tblVehicleEF	LDT2	2.2020e-003	2.2080e-003

tblVehicleEF	LDT2	1.4750e-003	1.4950e-003
tblVehicleEF	LDT2	2.0260e-003	2.0310e-003
tblVehicleEF	LDT2	0.12	0.11
tblVehicleEF	LDT2	0.17	0.15
tblVehicleEF	LDT2	0.09	0.09
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.14	0.12
tblVehicleEF	LDT2	4.2200e-003	4.1020e-003
tblVehicleEF	LDT2	9.2900e-004	9.0300e-004
tblVehicleEF	LDT2	0.12	0.11
tblVehicleEF	LDT2	0.17	0.15
tblVehicleEF	LDT2	0.09	0.09
tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.15	0.13
tblVehicleEF	LDT2	7.9420e-003	7.0970e-003
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	1.01	0.90
tblVehicleEF	LDT2	2.88	2.54
tblVehicleEF	LDT2	386.14	375.53
tblVehicleEF	LDT2	89.51	87.35
tblVehicleEF	LDT2	0.19	0.19
tblVehicleEF	LDT2	0.13	0.12
tblVehicleEF	LDT2	0.24	0.21
tblVehicleEF	LDT2	1.6030e-003	1.6260e-003
tblVehicleEF	LDT2	2.2020e-003	2.2080e-003
tblVehicleEF	LDT2	1.4750e-003	1.4950e-003
tblVehicleEF	LDT2	2.0260e-003	2.0310e-003
tblVehicleEF	LDT2	0.03	0.02

tblVehicleEF	LDT2	0.16	0.14
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.11	0.10
tblVehicleEF	LDT2	0.19	0.16
tblVehicleEF	LDT2	3.8710e-003	3.7630e-003
tblVehicleEF	LDT2	9.4500e-004	9.1700e-004
tblVehicleEF	LDT2	0.03	0.02
tblVehicleEF	LDT2	0.16	0.14
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.11	0.10
tblVehicleEF	LDT2	0.21	0.18
tblVehicleEF	LHD1	6.6480e-003	6.4470e-003
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	0.16	0.16
tblVehicleEF	LHD1	1.53	1.41
tblVehicleEF	LHD1	3.54	3.33
tblVehicleEF	LHD1	8.97	8.97
tblVehicleEF	LHD1	731.80	722.52
tblVehicleEF	LHD1	36.43	35.60
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.07	0.07
tblVehicleEF	LHD1	1.64	1.53
tblVehicleEF	LHD1	1.21	1.17
tblVehicleEF	LHD1	8.2200e-004	8.4000e-004
tblVehicleEF	LHD1	9.7590e-003	9.8280e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.3020e-003	1.2210e-003

tblVehicleEF	LHD1	7.8700e-004	8.0300e-004
tblVehicleEF	LHD1	2.4400e-003	2.4570e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.1990e-003	1.1240e-003
tblVehicleEF	LHD1	3.0160e-003	2.9630e-003
tblVehicleEF	LHD1	0.11	0.11
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.15	0.14
tblVehicleEF	LHD1	0.34	0.34
tblVehicleEF	LHD1	0.37	0.35
tblVehicleEF	LHD1	7.2140e-003	7.1160e-003
tblVehicleEF	LHD1	4.3100e-004	4.1900e-004
tblVehicleEF	LHD1	3.0160e-003	2.9630e-003
tblVehicleEF	LHD1	0.11	0.11
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	0.19	0.18
tblVehicleEF	LHD1	0.34	0.34
tblVehicleEF	LHD1	0.40	0.38
tblVehicleEF	LHD1	6.6480e-003	6.4470e-003
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	0.03	0.02
tblVehicleEF	LHD1	0.16	0.16
tblVehicleEF	LHD1	1.57	1.44
tblVehicleEF	LHD1	3.27	3.08
tblVehicleEF	LHD1	8.97	8.97
tblVehicleEF	LHD1	731.80	722.52
tblVehicleEF	LHD1	36.43	35.60
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.07	0.07
tblVehicleEF	LHD1	1.56	1.46

tblVehicleEF	LHD1	1.13	1.09
tblVehicleEF	LHD1	8.2200e-004	8.4000e-004
tblVehicleEF	LHD1	9.7590e-003	9.8280e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.3020e-003	1.2210e-003
tblVehicleEF	LHD1	7.8700e-004	8.0300e-004
tblVehicleEF	LHD1	2.4400e-003	2.4570e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.1990e-003	1.1240e-003
tblVehicleEF	LHD1	6.9480e-003	6.7860e-003
tblVehicleEF	LHD1	0.13	0.13
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	3.0880e-003	3.0490e-003
tblVehicleEF	LHD1	0.15	0.14
tblVehicleEF	LHD1	0.33	0.33
tblVehicleEF	LHD1	0.34	0.33
tblVehicleEF	LHD1	7.2150e-003	7.1170e-003
tblVehicleEF	LHD1	4.2600e-004	4.1500e-004
tblVehicleEF	LHD1	6.9480e-003	6.7860e-003
tblVehicleEF	LHD1	0.13	0.13
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	3.0880e-003	3.0490e-003
tblVehicleEF	LHD1	0.19	0.18
tblVehicleEF	LHD1	0.33	0.33
tblVehicleEF	LHD1	0.38	0.36
tblVehicleEF	LHD1	6.6480e-003	6.4470e-003
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	0.16	0.16
tblVehicleEF	LHD1	1.51	1.39

tblVehicleEF	LHD1	3.80	3.58
tblVehicleEF	LHD1	8.97	8.97
tblVehicleEF	LHD1	731.80	722.52
tblVehicleEF	LHD1	36.43	35.60
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	0.07	0.07
tblVehicleEF	LHD1	1.68	1.57
tblVehicleEF	LHD1	1.28	1.24
tblVehicleEF	LHD1	8.2200e-004	8.4000e-004
tblVehicleEF	LHD1	9.7590e-003	9.8280e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.3020e-003	1.2210e-003
tblVehicleEF	LHD1	7.8700e-004	8.0300e-004
tblVehicleEF	LHD1	2.4400e-003	2.4570e-003
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.1990e-003	1.1240e-003
tblVehicleEF	LHD1	1.4810e-003	1.4660e-003
tblVehicleEF	LHD1	0.13	0.13
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	7.2600e-004	7.3300e-004
tblVehicleEF	LHD1	0.15	0.14
tblVehicleEF	LHD1	0.38	0.38
tblVehicleEF	LHD1	0.39	0.37
tblVehicleEF	LHD1	7.2140e-003	7.1160e-003
tblVehicleEF	LHD1	4.3600e-004	4.2400e-004
tblVehicleEF	LHD1	1.4810e-003	1.4660e-003
tblVehicleEF	LHD1	0.13	0.13
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	7.2600e-004	7.3300e-004
tblVehicleEF	LHD1	0.18	0.18

tblVehicleEF	LHD1	0.38	0.38
tblVehicleEF	LHD1	0.42	0.40
tblVehicleEF	LHD2	4.4520e-003	4.2590e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.13	0.13
tblVehicleEF	LHD2	0.85	0.76
tblVehicleEF	LHD2	1.84	1.66
tblVehicleEF	LHD2	14.14	14.13
tblVehicleEF	LHD2	749.51	738.54
tblVehicleEF	LHD2	27.25	26.49
tblVehicleEF	LHD2	4.9480e-003	4.9650e-003
tblVehicleEF	LHD2	0.12	0.12
tblVehicleEF	LHD2	1.47	1.27
tblVehicleEF	LHD2	0.66	0.62
tblVehicleEF	LHD2	1.3240e-003	1.3260e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	6.2600e-004	5.6600e-004
tblVehicleEF	LHD2	1.2660e-003	1.2680e-003
tblVehicleEF	LHD2	2.6570e-003	2.6660e-003
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	5.7600e-004	5.2000e-004
tblVehicleEF	LHD2	1.3640e-003	1.2250e-003
tblVehicleEF	LHD2	0.05	0.05
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	6.4300e-004	5.9500e-004
tblVehicleEF	LHD2	0.13	0.12
tblVehicleEF	LHD2	0.13	0.12
tblVehicleEF	LHD2	0.18	0.16

tblVehicleEF	LHD2	7.3030e-003	7.1920e-003
tblVehicleEF	LHD2	3.0700e-004	2.9600e-004
tblVehicleEF	LHD2	1.3640e-003	1.2250e-003
tblVehicleEF	LHD2	0.05	0.05
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	6.4300e-004	5.9500e-004
tblVehicleEF	LHD2	0.15	0.15
tblVehicleEF	LHD2	0.13	0.12
tblVehicleEF	LHD2	0.19	0.17
tblVehicleEF	LHD2	4.4520e-003	4.2590e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.13	0.13
tblVehicleEF	LHD2	0.86	0.77
tblVehicleEF	LHD2	1.71	1.54
tblVehicleEF	LHD2	14.14	14.13
tblVehicleEF	LHD2	749.51	738.54
tblVehicleEF	LHD2	27.25	26.49
tblVehicleEF	LHD2	4.9480e-003	4.9650e-003
tblVehicleEF	LHD2	0.12	0.12
tblVehicleEF	LHD2	1.41	1.22
tblVehicleEF	LHD2	0.62	0.58
tblVehicleEF	LHD2	1.3240e-003	1.3260e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	6.2600e-004	5.6600e-004
tblVehicleEF	LHD2	1.2660e-003	1.2680e-003
tblVehicleEF	LHD2	2.6570e-003	2.6660e-003
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	5.7600e-004	5.2000e-004

tblVehicleEF	LHD2	3.1510e-003	2.8110e-003
tblVehicleEF	LHD2	0.06	0.05
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	1.3990e-003	1.2760e-003
tblVehicleEF	LHD2	0.13	0.12
tblVehicleEF	LHD2	0.13	0.11
tblVehicleEF	LHD2	0.17	0.15
tblVehicleEF	LHD2	7.3030e-003	7.1930e-003
tblVehicleEF	LHD2	3.0400e-004	2.9300e-004
tblVehicleEF	LHD2	3.1510e-003	2.8110e-003
tblVehicleEF	LHD2	0.06	0.05
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	1.3990e-003	1.2760e-003
tblVehicleEF	LHD2	0.16	0.15
tblVehicleEF	LHD2	0.13	0.11
tblVehicleEF	LHD2	0.18	0.16
tblVehicleEF	LHD2	4.4520e-003	4.2590e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.13	0.13
tblVehicleEF	LHD2	0.84	0.75
tblVehicleEF	LHD2	1.97	1.77
tblVehicleEF	LHD2	14.14	14.13
tblVehicleEF	LHD2	749.51	738.54
tblVehicleEF	LHD2	27.25	26.49
tblVehicleEF	LHD2	4.9480e-003	4.9650e-003
tblVehicleEF	LHD2	0.12	0.12
tblVehicleEF	LHD2	1.50	1.30
tblVehicleEF	LHD2	0.70	0.65
tblVehicleEF	LHD2	1.3240e-003	1.3260e-003

tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	6.2600e-004	5.6600e-004
tblVehicleEF	LHD2	1.2660e-003	1.2680e-003
tblVehicleEF	LHD2	2.6570e-003	2.6660e-003
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	5.7600e-004	5.2000e-004
tblVehicleEF	LHD2	6.7000e-004	6.0800e-004
tblVehicleEF	LHD2	0.06	0.05
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	3.2800e-004	3.0600e-004
tblVehicleEF	LHD2	0.13	0.12
tblVehicleEF	LHD2	0.15	0.13
tblVehicleEF	LHD2	0.18	0.16
tblVehicleEF	LHD2	7.3030e-003	7.1920e-003
tblVehicleEF	LHD2	3.0900e-004	2.9800e-004
tblVehicleEF	LHD2	6.7000e-004	6.0800e-004
tblVehicleEF	LHD2	0.06	0.05
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	3.2800e-004	3.0600e-004
tblVehicleEF	LHD2	0.15	0.14
tblVehicleEF	LHD2	0.15	0.13
tblVehicleEF	LHD2	0.20	0.18
tblVehicleEF	MCY	0.43	0.43
tblVehicleEF	MCY	0.17	0.17
tblVehicleEF	MCY	20.86	20.31
tblVehicleEF	MCY	10.07	10.09
tblVehicleEF	MCY	166.66	167.45
tblVehicleEF	MCY	47.37	46.87
tblVehicleEF	MCY	5.4100e-003	5.3880e-003

tblVehicleEF	MCY	1.17	1.16
tblVehicleEF	MCY	0.32	0.32
tblVehicleEF	MCY	1.7840e-003	1.8400e-003
tblVehicleEF	MCY	4.3770e-003	4.2320e-003
tblVehicleEF	MCY	1.6760e-003	1.7260e-003
tblVehicleEF	MCY	4.1460e-003	4.0030e-003
tblVehicleEF	MCY	0.92	0.92
tblVehicleEF	MCY	0.77	0.75
tblVehicleEF	MCY	0.51	0.51
tblVehicleEF	MCY	2.34	2.30
tblVehicleEF	MCY	0.68	0.66
tblVehicleEF	MCY	2.29	2.26
tblVehicleEF	MCY	2.0750e-003	2.0730e-003
tblVehicleEF	MCY	7.0600e-004	7.0100e-004
tblVehicleEF	MCY	0.92	0.92
tblVehicleEF	MCY	0.77	0.75
tblVehicleEF	MCY	0.51	0.51
tblVehicleEF	MCY	2.85	2.82
tblVehicleEF	MCY	0.68	0.66
tblVehicleEF	MCY	2.49	2.46
tblVehicleEF	MCY	0.41	0.42
tblVehicleEF	MCY	0.14	0.14
tblVehicleEF	MCY	20.02	19.51
tblVehicleEF	MCY	8.95	8.95
tblVehicleEF	MCY	166.66	167.45
tblVehicleEF	MCY	47.37	46.87
tblVehicleEF	MCY	5.4100e-003	5.3880e-003
tblVehicleEF	MCY	1.03	1.02
tblVehicleEF	MCY	0.29	0.29
tblVehicleEF	MCY	1.7840e-003	1.8400e-003

tblVehicleEF	MCY	4.3770e-003	4.2320e-003
tblVehicleEF	MCY	1.6760e-003	1.7260e-003
tblVehicleEF	MCY	4.1460e-003	4.0030e-003
tblVehicleEF	MCY	2.37	2.36
tblVehicleEF	MCY	0.98	0.97
tblVehicleEF	MCY	1.39	1.38
tblVehicleEF	MCY	2.24	2.21
tblVehicleEF	MCY	0.64	0.62
tblVehicleEF	MCY	1.91	1.89
tblVehicleEF	MCY	2.0580e-003	2.0570e-003
tblVehicleEF	MCY	6.7600e-004	6.7000e-004
tblVehicleEF	MCY	2.37	2.36
tblVehicleEF	MCY	0.98	0.97
tblVehicleEF	MCY	1.39	1.38
tblVehicleEF	MCY	2.73	2.70
tblVehicleEF	MCY	0.64	0.62
tblVehicleEF	MCY	2.07	2.06
tblVehicleEF	MCY	0.44	0.45
tblVehicleEF	MCY	0.20	0.19
tblVehicleEF	MCY	22.62	21.98
tblVehicleEF	MCY	11.44	11.48
tblVehicleEF	MCY	166.66	167.45
tblVehicleEF	MCY	47.37	46.87
tblVehicleEF	MCY	5.4100e-003	5.3880e-003
tblVehicleEF	MCY	1.25	1.25
tblVehicleEF	MCY	0.34	0.34
tblVehicleEF	MCY	1.7840e-003	1.8400e-003
tblVehicleEF	MCY	4.3770e-003	4.2320e-003
tblVehicleEF	MCY	1.6760e-003	1.7260e-003
tblVehicleEF	MCY	4.1460e-003	4.0030e-003

tblVehicleEF	MCY	0.40	0.40
tblVehicleEF	MCY	0.93	0.91
tblVehicleEF	MCY	0.19	0.19
tblVehicleEF	MCY	2.45	2.41
tblVehicleEF	MCY	0.80	0.78
tblVehicleEF	MCY	2.66	2.64
tblVehicleEF	MCY	2.1060e-003	2.1030e-003
tblVehicleEF	MCY	7.4000e-004	7.3500e-004
tblVehicleEF	MCY	0.40	0.40
tblVehicleEF	MCY	0.93	0.91
tblVehicleEF	MCY	0.19	0.19
tblVehicleEF	MCY	2.98	2.94
tblVehicleEF	MCY	0.80	0.78
tblVehicleEF	MCY	2.90	2.87
tblVehicleEF	MDV	0.02	0.01
tblVehicleEF	MDV	0.03	0.02
tblVehicleEF	MDV	1.71	1.59
tblVehicleEF	MDV	4.26	3.91
tblVehicleEF	MDV	510.74	499.19
tblVehicleEF	MDV	114.92	112.70
tblVehicleEF	MDV	0.11	0.11
tblVehicleEF	MDV	0.23	0.21
tblVehicleEF	MDV	0.40	0.36
tblVehicleEF	MDV	1.9030e-003	1.9140e-003
tblVehicleEF	MDV	2.6930e-003	2.6670e-003
tblVehicleEF	MDV	1.7570e-003	1.7670e-003
tblVehicleEF	MDV	2.4800e-003	2.4560e-003
tblVehicleEF	MDV	0.07	0.07
tblVehicleEF	MDV	0.19	0.19
tblVehicleEF	MDV	0.06	0.06

tblVehicleEF	MDV	0.05	0.04
tblVehicleEF	MDV	0.12	0.11
tblVehicleEF	MDV	0.35	0.32
tblVehicleEF	MDV	5.1230e-003	5.0060e-003
tblVehicleEF	MDV	1.2250e-003	1.1970e-003
tblVehicleEF	MDV	0.07	0.07
tblVehicleEF	MDV	0.19	0.19
tblVehicleEF	MDV	0.06	0.06
tblVehicleEF	MDV	0.06	0.06
tblVehicleEF	MDV	0.12	0.11
tblVehicleEF	MDV	0.38	0.34
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	1.97	1.82
tblVehicleEF	MDV	3.39	3.11
tblVehicleEF	MDV	548.67	536.26
tblVehicleEF	MDV	114.92	112.70
tblVehicleEF	MDV	0.11	0.11
tblVehicleEF	MDV	0.20	0.18
tblVehicleEF	MDV	0.36	0.32
tblVehicleEF	MDV	1.9030e-003	1.9140e-003
tblVehicleEF	MDV	2.6930e-003	2.6670e-003
tblVehicleEF	MDV	1.7570e-003	1.7670e-003
tblVehicleEF	MDV	2.4800e-003	2.4560e-003
tblVehicleEF	MDV	0.15	0.15
tblVehicleEF	MDV	0.21	0.21
tblVehicleEF	MDV	0.12	0.12
tblVehicleEF	MDV	0.05	0.04
tblVehicleEF	MDV	0.11	0.11
tblVehicleEF	MDV	0.29	0.26

tblVehicleEF	MDV	5.5060e-003	5.3800e-003
tblVehicleEF	MDV	1.2100e-003	1.1820e-003
tblVehicleEF	MDV	0.15	0.15
tblVehicleEF	MDV	0.21	0.21
tblVehicleEF	MDV	0.12	0.12
tblVehicleEF	MDV	0.07	0.06
tblVehicleEF	MDV	0.11	0.11
tblVehicleEF	MDV	0.31	0.29
tblVehicleEF	MDV	0.02	0.01
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	1.71	1.58
tblVehicleEF	MDV	4.98	4.57
tblVehicleEF	MDV	504.49	493.08
tblVehicleEF	MDV	114.92	112.70
tblVehicleEF	MDV	0.11	0.11
tblVehicleEF	MDV	0.25	0.22
tblVehicleEF	MDV	0.44	0.39
tblVehicleEF	MDV	1.9030e-003	1.9140e-003
tblVehicleEF	MDV	2.6930e-003	2.6670e-003
tblVehicleEF	MDV	1.7570e-003	1.7670e-003
tblVehicleEF	MDV	2.4800e-003	2.4560e-003
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.20	0.20
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.05	0.04
tblVehicleEF	MDV	0.14	0.14
tblVehicleEF	MDV	0.39	0.36
tblVehicleEF	MDV	5.0610e-003	4.9450e-003
tblVehicleEF	MDV	1.2380e-003	1.2090e-003
tblVehicleEF	MDV	0.03	0.03

tblVehicleEF	MDV	0.20	0.20
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.06	0.06
tblVehicleEF	MDV	0.14	0.14
tblVehicleEF	MDV	0.43	0.39
tblVehicleEF	MH	0.06	0.05
tblVehicleEF	MH	0.04	0.04
tblVehicleEF	MH	5.46	4.46
tblVehicleEF	MH	8.91	8.08
tblVehicleEF	MH	1,241.81	1,235.28
tblVehicleEF	MH	67.91	64.85
tblVehicleEF	MH	8.4100e-004	8.1200e-004
tblVehicleEF	MH	1.81	1.70
tblVehicleEF	MH	1.06	1.01
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	2.3970e-003	1.9720e-003
tblVehicleEF	MH	3.2050e-003	3.2090e-003
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	2.2370e-003	1.8330e-003
tblVehicleEF	MH	1.24	1.15
tblVehicleEF	MH	0.10	0.10
tblVehicleEF	MH	0.41	0.38
tblVehicleEF	MH	0.22	0.18
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	0.58	0.51
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	8.3700e-004	7.9100e-004
tblVehicleEF	MH	1.24	1.15
tblVehicleEF	MH	0.10	0.10

tblVehicleEF	MH	0.41	0.38
tblVehicleEF	MH	0.29	0.24
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	0.64	0.56
tblVehicleEF	MH	0.06	0.05
tblVehicleEF	MH	0.04	0.04
tblVehicleEF	MH	5.52	4.55
tblVehicleEF	MH	8.18	7.38
tblVehicleEF	MH	1,241.81	1,235.28
tblVehicleEF	MH	67.91	64.85
tblVehicleEF	MH	8.4100e-004	8.1200e-004
tblVehicleEF	MH	1.69	1.59
tblVehicleEF	MH	0.99	0.94
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	2.3970e-003	1.9720e-003
tblVehicleEF	MH	3.2050e-003	3.2090e-003
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	2.2370e-003	1.8330e-003
tblVehicleEF	MH	2.87	2.64
tblVehicleEF	MH	0.11	0.10
tblVehicleEF	MH	0.91	0.84
tblVehicleEF	MH	0.22	0.19
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	0.54	0.47
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	8.2400e-004	7.7900e-004
tblVehicleEF	MH	2.87	2.64
tblVehicleEF	MH	0.11	0.10
tblVehicleEF	MH	0.91	0.84

tblVehicleEF	MH	0.29	0.25
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	0.59	0.52
tblVehicleEF	MH	0.06	0.05
tblVehicleEF	MH	0.05	0.04
tblVehicleEF	MH	5.54	4.47
tblVehicleEF	MH	9.73	8.82
tblVehicleEF	MH	1,241.81	1,235.28
tblVehicleEF	MH	67.91	64.85
tblVehicleEF	MH	8.4100e-004	8.1200e-004
tblVehicleEF	MH	1.88	1.76
tblVehicleEF	MH	1.12	1.07
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	2.3970e-003	1.9720e-003
tblVehicleEF	MH	3.2050e-003	3.2090e-003
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	2.2370e-003	1.8330e-003
tblVehicleEF	MH	0.60	0.55
tblVehicleEF	MH	0.13	0.12
tblVehicleEF	MH	0.22	0.21
tblVehicleEF	MH	0.22	0.18
tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	0.63	0.54
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	8.5100e-004	8.0400e-004
tblVehicleEF	MH	0.60	0.55
tblVehicleEF	MH	0.13	0.12
tblVehicleEF	MH	0.22	0.21
tblVehicleEF	MH	0.29	0.24

tblVehicleEF	MH	0.03	0.03
tblVehicleEF	MH	0.68	0.59
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	0.08	0.07
tblVehicleEF	MHD	0.54	0.51
tblVehicleEF	MHD	1.09	0.92
tblVehicleEF	MHD	9.73	8.76
tblVehicleEF	MHD	143.73	143.00
tblVehicleEF	MHD	1,219.96	1,215.35
tblVehicleEF	MHD	63.55	62.36
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	1.25	1.13
tblVehicleEF	MHD	3.63	3.17
tblVehicleEF	MHD	10.75	10.66
tblVehicleEF	MHD	5.7970e-003	4.8580e-003
tblVehicleEF	MHD	0.10	0.08
tblVehicleEF	MHD	1.3360e-003	1.1530e-003
tblVehicleEF	MHD	5.5460e-003	4.6480e-003
tblVehicleEF	MHD	0.09	0.08
tblVehicleEF	MHD	1.2350e-003	1.0620e-003
tblVehicleEF	MHD	1.4490e-003	1.2920e-003
tblVehicleEF	MHD	0.06	0.06
tblVehicleEF	MHD	0.04	0.04
tblVehicleEF	MHD	6.7500e-004	6.1300e-004
tblVehicleEF	MHD	0.24	0.20
tblVehicleEF	MHD	0.03	0.03
tblVehicleEF	MHD	0.59	0.52
tblVehicleEF	MHD	1.3840e-003	1.3770e-003
tblVehicleEF	MHD	0.01	0.01

tblVehicleEF	MHD	8.0600e-004	7.7700e-004
tblVehicleEF	MHD	1.4490e-003	1.2920e-003
tblVehicleEF	MHD	0.06	0.06
tblVehicleEF	MHD	0.05	0.05
tblVehicleEF	MHD	6.7500e-004	6.1300e-004
tblVehicleEF	MHD	0.28	0.24
tblVehicleEF	MHD	0.03	0.03
tblVehicleEF	MHD	0.64	0.57
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	0.07	0.07
tblVehicleEF	MHD	0.38	0.36
tblVehicleEF	MHD	1.11	0.93
tblVehicleEF	MHD	8.95	8.05
tblVehicleEF	MHD	152.41	151.63
tblVehicleEF	MHD	1,219.96	1,215.35
tblVehicleEF	MHD	63.55	62.36
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	1.29	1.17
tblVehicleEF	MHD	3.49	3.04
tblVehicleEF	MHD	10.66	10.58
tblVehicleEF	MHD	4.8870e-003	4.0950e-003
tblVehicleEF	MHD	0.10	0.08
tblVehicleEF	MHD	1.3360e-003	1.1530e-003
tblVehicleEF	MHD	4.6750e-003	3.9180e-003
tblVehicleEF	MHD	0.09	0.08
tblVehicleEF	MHD	1.2350e-003	1.0620e-003
tblVehicleEF	MHD	3.4700e-003	3.0700e-003
tblVehicleEF	MHD	0.07	0.06
tblVehicleEF	MHD	0.04	0.04

tblVehicleEF	MHD	1.5730e-003	1.4050e-003
tblVehicleEF	MHD	0.24	0.20
tblVehicleEF	MHD	0.03	0.03
tblVehicleEF	MHD	0.55	0.49
tblVehicleEF	MHD	1.4660e-003	1.4580e-003
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	7.9300e-004	7.6500e-004
tblVehicleEF	MHD	3.4700e-003	3.0700e-003
tblVehicleEF	MHD	0.07	0.06
tblVehicleEF	MHD	0.05	0.05
tblVehicleEF	MHD	1.5730e-003	1.4050e-003
tblVehicleEF	MHD	0.28	0.24
tblVehicleEF	MHD	0.03	0.03
tblVehicleEF	MHD	0.60	0.53
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	0.02	0.01
tblVehicleEF	MHD	0.08	0.07
tblVehicleEF	MHD	0.72	0.68
tblVehicleEF	MHD	1.08	0.91
tblVehicleEF	MHD	10.46	9.41
tblVehicleEF	MHD	132.12	131.45
tblVehicleEF	MHD	1,219.96	1,215.35
tblVehicleEF	MHD	63.55	62.36
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	1.19	1.08
tblVehicleEF	MHD	3.70	3.23
tblVehicleEF	MHD	10.83	10.73
tblVehicleEF	MHD	7.0540e-003	5.9110e-003
tblVehicleEF	MHD	0.10	0.08
tblVehicleEF	MHD	1.3360e-003	1.1530e-003

tblVehicleEF	MHD	6.7480e-003	5.6560e-003
tblVehicleEF	MHD	0.09	0.08
tblVehicleEF	MHD	1.2350e-003	1.0620e-003
tblVehicleEF	MHD	6.8500e-004	6.1800e-004
tblVehicleEF	MHD	0.07	0.06
tblVehicleEF	MHD	0.05	0.04
tblVehicleEF	MHD	3.2400e-004	2.9900e-004
tblVehicleEF	MHD	0.24	0.20
tblVehicleEF	MHD	0.04	0.03
tblVehicleEF	MHD	0.62	0.55
tblVehicleEF	MHD	1.2750e-003	1.2680e-003
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	8.1900e-004	7.8800e-004
tblVehicleEF	MHD	6.8500e-004	6.1800e-004
tblVehicleEF	MHD	0.07	0.06
tblVehicleEF	MHD	0.06	0.06
tblVehicleEF	MHD	3.2400e-004	2.9900e-004
tblVehicleEF	MHD	0.28	0.24
tblVehicleEF	MHD	0.04	0.03
tblVehicleEF	MHD	0.68	0.60
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.03	0.03
tblVehicleEF	OBUS	0.29	0.29
tblVehicleEF	OBUS	0.85	0.75
tblVehicleEF	OBUS	6.59	6.18
tblVehicleEF	OBUS	108.50	109.55
tblVehicleEF	OBUS	1,337.21	1,329.73
tblVehicleEF	OBUS	69.35	68.50
tblVehicleEF	OBUS	2.0070e-003	2.0450e-003

tblVehicleEF	OBUS	0.74	0.71
tblVehicleEF	OBUS	2.70	2.56
tblVehicleEF	OBUS	2.98	2.95
tblVehicleEF	OBUS	4.3800e-004	3.9400e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.9800e-004	7.7800e-004
tblVehicleEF	OBUS	4.1900e-004	3.7700e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.3900e-004	7.1800e-004
tblVehicleEF	OBUS	1.2950e-003	1.2500e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.04	0.04
tblVehicleEF	OBUS	5.3600e-004	5.2500e-004
tblVehicleEF	OBUS	0.10	0.09
tblVehicleEF	OBUS	0.03	0.03
tblVehicleEF	OBUS	0.42	0.39
tblVehicleEF	OBUS	1.0470e-003	1.0570e-003
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	8.1000e-004	7.9400e-004
tblVehicleEF	OBUS	1.2950e-003	1.2500e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.06	0.06
tblVehicleEF	OBUS	5.3600e-004	5.2500e-004
tblVehicleEF	OBUS	0.12	0.11
tblVehicleEF	OBUS	0.03	0.03
tblVehicleEF	OBUS	0.46	0.43
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.03	0.03
tblVehicleEF	OBUS	0.28	0.27

tblVehicleEF	OBUS	0.87	0.77
tblVehicleEF	OBUS	6.02	5.64
tblVehicleEF	OBUS	113.95	115.07
tblVehicleEF	OBUS	1,337.21	1,329.73
tblVehicleEF	OBUS	69.35	68.50
tblVehicleEF	OBUS	2.0070e-003	2.0450e-003
tblVehicleEF	OBUS	0.76	0.74
tblVehicleEF	OBUS	2.59	2.45
tblVehicleEF	OBUS	2.91	2.89
tblVehicleEF	OBUS	3.6900e-004	3.3200e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.9800e-004	7.7800e-004
tblVehicleEF	OBUS	3.5300e-004	3.1800e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.3900e-004	7.1800e-004
tblVehicleEF	OBUS	2.9450e-003	2.8280e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.04	0.04
tblVehicleEF	OBUS	1.1700e-003	1.1340e-003
tblVehicleEF	OBUS	0.10	0.09
tblVehicleEF	OBUS	0.03	0.03
tblVehicleEF	OBUS	0.39	0.37
tblVehicleEF	OBUS	1.0990e-003	1.1100e-003
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	8.0000e-004	7.8500e-004
tblVehicleEF	OBUS	2.9450e-003	2.8280e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.06	0.06
tblVehicleEF	OBUS	1.1700e-003	1.1340e-003
tblVehicleEF	OBUS	0.12	0.11

tblVehicleEF	OBUS	0.03	0.03
tblVehicleEF	OBUS	0.43	0.40
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	0.04	0.03
tblVehicleEF	OBUS	0.32	0.32
tblVehicleEF	OBUS	0.84	0.74
tblVehicleEF	OBUS	7.11	6.67
tblVehicleEF	OBUS	100.98	101.93
tblVehicleEF	OBUS	1,337.21	1,329.73
tblVehicleEF	OBUS	69.35	68.50
tblVehicleEF	OBUS	2.0070e-003	2.0450e-003
tblVehicleEF	OBUS	0.71	0.68
tblVehicleEF	OBUS	2.75	2.61
tblVehicleEF	OBUS	3.04	3.01
tblVehicleEF	OBUS	5.3300e-004	4.7900e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.9800e-004	7.7800e-004
tblVehicleEF	OBUS	5.1000e-004	4.5800e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.3900e-004	7.1800e-004
tblVehicleEF	OBUS	6.7600e-004	6.5800e-004
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.04	0.04
tblVehicleEF	OBUS	2.9700e-004	2.9300e-004
tblVehicleEF	OBUS	0.10	0.09
tblVehicleEF	OBUS	0.04	0.04
tblVehicleEF	OBUS	0.45	0.42
tblVehicleEF	OBUS	9.7600e-004	9.8500e-004
tblVehicleEF	OBUS	0.01	0.01

tblVehicleEF	OBUS	8.1900e-004	8.0200e-004
tblVehicleEF	OBUS	6.7600e-004	6.5800e-004
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.06	0.06
tblVehicleEF	OBUS	2.9700e-004	2.9300e-004
tblVehicleEF	OBUS	0.12	0.11
tblVehicleEF	OBUS	0.04	0.04
tblVehicleEF	OBUS	0.49	0.45
tblVehicleEF	SBUS	0.88	0.87
tblVehicleEF	SBUS	0.03	0.02
tblVehicleEF	SBUS	0.11	0.10
tblVehicleEF	SBUS	7.68	7.81
tblVehicleEF	SBUS	1.57	1.44
tblVehicleEF	SBUS	11.74	11.29
tblVehicleEF	SBUS	1,172.69	1,160.06
tblVehicleEF	SBUS	1,092.06	1,082.96
tblVehicleEF	SBUS	50.72	51.90
tblVehicleEF	SBUS	6.1200e-004	6.1600e-004
tblVehicleEF	SBUS	11.74	11.07
tblVehicleEF	SBUS	5.55	5.15
tblVehicleEF	SBUS	13.31	13.04
tblVehicleEF	SBUS	0.02	0.01
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.03	0.03
tblVehicleEF	SBUS	8.6200e-004	8.5500e-004
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	2.6660e-003	2.6570e-003
tblVehicleEF	SBUS	0.03	0.03
tblVehicleEF	SBUS	7.9300e-004	7.8600e-004
tblVehicleEF	SBUS	4.3930e-003	4.1200e-003

tblVehicleEF	SBUS	0.04	0.04
tblVehicleEF	SBUS	0.93	0.94
tblVehicleEF	SBUS	1.5570e-003	1.5240e-003
tblVehicleEF	SBUS	0.15	0.14
tblVehicleEF	SBUS	0.03	0.02
tblVehicleEF	SBUS	0.58	0.56
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	7.1000e-004	7.1400e-004
tblVehicleEF	SBUS	4.3930e-003	4.1200e-003
tblVehicleEF	SBUS	0.04	0.04
tblVehicleEF	SBUS	1.34	1.36
tblVehicleEF	SBUS	1.5570e-003	1.5240e-003
tblVehicleEF	SBUS	0.19	0.18
tblVehicleEF	SBUS	0.03	0.02
tblVehicleEF	SBUS	0.64	0.61
tblVehicleEF	SBUS	0.88	0.87
tblVehicleEF	SBUS	0.03	0.03
tblVehicleEF	SBUS	0.09	0.08
tblVehicleEF	SBUS	7.53	7.67
tblVehicleEF	SBUS	1.62	1.47
tblVehicleEF	SBUS	8.62	8.30
tblVehicleEF	SBUS	1,227.50	1,213.77
tblVehicleEF	SBUS	1,092.06	1,082.96
tblVehicleEF	SBUS	50.72	51.90
tblVehicleEF	SBUS	6.1200e-004	6.1600e-004
tblVehicleEF	SBUS	12.11	11.42
tblVehicleEF	SBUS	5.31	4.93
tblVehicleEF	SBUS	13.25	12.98
tblVehicleEF	SBUS	0.01	0.01

tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.03	0.03
tblVehicleEF	SBUS	8.6200e-004	8.5500e-004
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	2.6660e-003	2.6570e-003
tblVehicleEF	SBUS	0.03	0.03
tblVehicleEF	SBUS	7.9300e-004	7.8600e-004
tblVehicleEF	SBUS	0.01	9.4360e-003
tblVehicleEF	SBUS	0.05	0.04
tblVehicleEF	SBUS	0.93	0.94
tblVehicleEF	SBUS	3.4920e-003	3.3630e-003
tblVehicleEF	SBUS	0.15	0.14
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	0.49	0.47
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	6.5800e-004	6.6400e-004
tblVehicleEF	SBUS	0.01	9.4360e-003
tblVehicleEF	SBUS	0.05	0.04
tblVehicleEF	SBUS	1.33	1.36
tblVehicleEF	SBUS	3.4920e-003	3.3630e-003
tblVehicleEF	SBUS	0.19	0.18
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	0.54	0.52
tblVehicleEF	SBUS	0.88	0.87
tblVehicleEF	SBUS	0.03	0.02
tblVehicleEF	SBUS	0.12	0.11
tblVehicleEF	SBUS	7.88	8.00
tblVehicleEF	SBUS	1.54	1.41
tblVehicleEF	SBUS	14.87	14.31

tblVehicleEF	SBUS	1,097.00	1,085.88
tblVehicleEF	SBUS	1,092.06	1,082.96
tblVehicleEF	SBUS	50.72	51.90
tblVehicleEF	SBUS	6.1200e-004	6.1600e-004
tblVehicleEF	SBUS	11.22	10.58
tblVehicleEF	SBUS	5.66	5.25
tblVehicleEF	SBUS	13.37	13.10
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.03	0.03
tblVehicleEF	SBUS	8.6200e-004	8.5500e-004
tblVehicleEF	SBUS	0.02	0.02
tblVehicleEF	SBUS	2.6660e-003	2.6570e-003
tblVehicleEF	SBUS	0.03	0.03
tblVehicleEF	SBUS	7.9300e-004	7.8600e-004
tblVehicleEF	SBUS	2.2340e-003	2.1320e-003
tblVehicleEF	SBUS	0.05	0.04
tblVehicleEF	SBUS	0.93	0.95
tblVehicleEF	SBUS	8.5500e-004	8.4700e-004
tblVehicleEF	SBUS	0.15	0.14
tblVehicleEF	SBUS	0.03	0.03
tblVehicleEF	SBUS	0.67	0.64
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	0.01	0.01
tblVehicleEF	SBUS	7.6200e-004	7.6400e-004
tblVehicleEF	SBUS	2.2340e-003	2.1320e-003
tblVehicleEF	SBUS	0.05	0.04
tblVehicleEF	SBUS	1.34	1.36
tblVehicleEF	SBUS	8.5500e-004	8.4700e-004
tblVehicleEF	SBUS	0.19	0.17

tblVehicleEF	SBUS	0.03	0.03
tblVehicleEF	SBUS	0.73	0.70
tblVehicleEF	UBUS	0.28	0.28
tblVehicleEF	UBUS	0.04	0.04
tblVehicleEF	UBUS	6.47	6.08
tblVehicleEF	UBUS	7.67	7.73
tblVehicleEF	UBUS	2,214.91	2,181.27
tblVehicleEF	UBUS	75.08	81.64
tblVehicleEF	UBUS	1.6260e-003	1.6020e-003
tblVehicleEF	UBUS	15.34	13.91
tblVehicleEF	UBUS	16.55	16.09
tblVehicleEF	UBUS	0.67	0.65
tblVehicleEF	UBUS	0.36	0.32
tblVehicleEF	UBUS	8.0400e-004	8.8200e-004
tblVehicleEF	UBUS	0.29	0.28
tblVehicleEF	UBUS	0.34	0.31
tblVehicleEF	UBUS	7.3900e-004	8.1100e-004
tblVehicleEF	UBUS	2.2220e-003	2.2120e-003
tblVehicleEF	UBUS	0.04	0.04
tblVehicleEF	UBUS	9.8100e-004	9.9000e-004
tblVehicleEF	UBUS	0.95	0.87
tblVehicleEF	UBUS	7.5600e-003	7.6630e-003
tblVehicleEF	UBUS	0.50	0.51
tblVehicleEF	UBUS	0.02	0.02
tblVehicleEF	UBUS	8.8600e-004	9.5300e-004
tblVehicleEF	UBUS	2.2220e-003	2.2120e-003
tblVehicleEF	UBUS	0.04	0.04
tblVehicleEF	UBUS	9.8100e-004	9.9000e-004
tblVehicleEF	UBUS	1.31	1.22
tblVehicleEF	UBUS	7.5600e-003	7.6630e-003

tblVehicleEF	UBUS	0.54	0.56
tblVehicleEF	UBUS	0.29	0.28
tblVehicleEF	UBUS	0.03	0.03
tblVehicleEF	UBUS	6.54	6.15
tblVehicleEF	UBUS	6.04	6.11
tblVehicleEF	UBUS	2,214.91	2,181.27
tblVehicleEF	UBUS	75.08	81.64
tblVehicleEF	UBUS	1.6260e-003	1.6020e-003
tblVehicleEF	UBUS	14.72	13.35
tblVehicleEF	UBUS	16.50	16.04
tblVehicleEF	UBUS	0.67	0.65
tblVehicleEF	UBUS	0.36	0.32
tblVehicleEF	UBUS	8.0400e-004	8.8200e-004
tblVehicleEF	UBUS	0.29	0.28
tblVehicleEF	UBUS	0.34	0.31
tblVehicleEF	UBUS	7.3900e-004	8.1100e-004
tblVehicleEF	UBUS	5.4140e-003	5.3700e-003
tblVehicleEF	UBUS	0.05	0.05
tblVehicleEF	UBUS	2.4390e-003	2.4400e-003
tblVehicleEF	UBUS	0.96	0.88
tblVehicleEF	UBUS	6.9900e-003	7.0760e-003
tblVehicleEF	UBUS	0.43	0.44
tblVehicleEF	UBUS	0.02	0.02
tblVehicleEF	UBUS	8.5800e-004	9.2500e-004
tblVehicleEF	UBUS	5.4140e-003	5.3700e-003
tblVehicleEF	UBUS	0.05	0.05
tblVehicleEF	UBUS	2.4390e-003	2.4400e-003
tblVehicleEF	UBUS	1.33	1.24
tblVehicleEF	UBUS	6.9900e-003	7.0760e-003
tblVehicleEF	UBUS	0.47	0.48

tblVehicleEF	UBUS	0.28	0.27
tblVehicleEF	UBUS	0.04	0.04
tblVehicleEF	UBUS	6.42	6.03
tblVehicleEF	UBUS	9.22	9.29
tblVehicleEF	UBUS	2,214.91	2,181.27
tblVehicleEF	UBUS	75.08	81.64
tblVehicleEF	UBUS	1.6260e-003	1.6020e-003
tblVehicleEF	UBUS	15.58	14.13
tblVehicleEF	UBUS	16.59	16.14
tblVehicleEF	UBUS	0.67	0.65
tblVehicleEF	UBUS	0.36	0.32
tblVehicleEF	UBUS	8.0400e-004	8.8200e-004
tblVehicleEF	UBUS	0.29	0.28
tblVehicleEF	UBUS	0.34	0.31
tblVehicleEF	UBUS	7.3900e-004	8.1100e-004
tblVehicleEF	UBUS	1.1450e-003	1.1440e-003
tblVehicleEF	UBUS	0.05	0.05
tblVehicleEF	UBUS	4.7600e-004	4.8600e-004
tblVehicleEF	UBUS	0.94	0.86
tblVehicleEF	UBUS	9.1740e-003	9.3180e-003
tblVehicleEF	UBUS	0.56	0.57
tblVehicleEF	UBUS	0.02	0.02
tblVehicleEF	UBUS	9.1300e-004	9.8000e-004
tblVehicleEF	UBUS	1.1450e-003	1.1440e-003
tblVehicleEF	UBUS	0.05	0.05
tblVehicleEF	UBUS	4.7600e-004	4.8600e-004
tblVehicleEF	UBUS	1.30	1.20
tblVehicleEF	UBUS	9.1740e-003	9.3180e-003
tblVehicleEF	UBUS	0.61	0.63
tblVehicleTrips	ST_TR	204.47	2.29

tblVehicleTrips	ST_TR	722.03	33.92
tblVehicleTrips	ST_TR	1.68	0.26
tblVehicleTrips	SU_TR	166.88	1.87
tblVehicleTrips	SU_TR	542.72	25.49
tblVehicleTrips	SU_TR	1.68	0.26
tblVehicleTrips	WD_TR	542.60	6.08
tblVehicleTrips	WD_TR	496.12	23.30
tblVehicleTrips	WD_TR	1.68	0.26

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					
2017	0.3873	3.4667	2.2880	4.0700e-003	0.1513	0.2045	0.3558	0.0565	0.1917	0.2481	0.0000	369.4840	369.4840	0.0749	0.0000	371.3559
2018	0.5728	0.7364	0.5817	1.0300e-003	0.0133	0.0432	0.0564	3.5900e-003	0.0405	0.0441	0.0000	91.9401	91.9401	0.0188	0.0000	92.4108
Maximum	**0.5728**	**3.4667**	**2.2880**	**4.0700e-003**	**0.1513**	**0.2045**	**0.3558**	**0.0565**	**0.1917**	**0.2481**	**0.0000**	**369.4840**	**369.4840**	**0.0749**	**0.0000**	**371.3559**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**3-1-2017**	**5-31-2017**	1.3472	1.3472
2	**6-1-2017**	**8-31-2017**	1.0789	1.0789
3	**9-1-2017**	**11-30-2017**	1.0694	1.0694
4	**12-1-2017**	**2-28-2018**	0.9777	0.9777
5	**3-1-2018**	**5-31-2018**	0.6972	0.6972
		Highest	1.3472	1.3472

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4137	1.0000e-005	1.3900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.6600e-003	2.6600e-003	1.0000e-005	0.0000	2.8500e-003
Energy	5.5800e-003	0.0508	0.0426	3.0000e-004		3.8600e-003	3.8600e-003		3.8600e-003	3.8600e-003	0.0000	207.2500	207.2500	7.9300e-003	2.4300e-003	208.1739
Mobile	0.0410	0.1394	0.3543	8.3000e-004	0.0653	1.0000e-003	0.0663	0.0175	9.4000e-004	0.0184	0.0000	76.2468	76.2468	3.6400e-003	0.0000	76.3378
Waste						0.0000	0.0000		0.0000	0.0000	23.6139	0.0000	23.6139	1.3955	0.0000	58.5025
Water						0.0000	0.0000		0.0000	0.0000	6.2935	31.3741	37.6675	0.6478	0.0156	58.4988
Total	**0.4603**	**0.1901**	**0.3983**	**1.1300e-003**	**0.0653**	**4.8700e-003**	**0.0702**	**0.0175**	**4.8100e-003**	**0.0223**	**29.9074**	**314.8736**	**344.7810**	**2.0549**	**0.0180**	**401.5159**

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	3/1/2017	3/28/2017	5	20	
2	Site Preparation	Site Preparation	3/29/2017	4/4/2017	5	5	
3	Grading	Grading	4/5/2017	4/14/2017	5	8	
4	Building Construction	Building Construction	4/15/2017	3/2/2018	5	230	
5	Paving	Paving	3/3/2018	3/28/2018	5	18	
6	Architectural Coating	Architectural Coating	3/29/2018	4/23/2018	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 139,505; Non-Residential Outdoor: 46,502; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class

Demolition	6	15.00	0.00	273.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	47.00	19.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	9.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2017

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					0.0295	0.0000	0.0295	4.4700e-003	0.0000	4.4700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0410	0.4275	0.2301	3.9000e-004		0.0219	0.0219		0.0204	0.0204	0.0000	35.6005	35.6005	9.7300e-003	0.0000	35.8438
Total	**0.0410**	**0.4275**	**0.2301**	**3.9000e-004**	**0.0295**	**0.0219**	**0.0515**	**4.4700e-003**	**0.0204**	**0.0249**	**0.0000**	**35.6005**	**35.6005**	**9.7300e-003**	**0.0000**	**35.8438**

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	1.5400e-003	0.0485	9.5500e-003	1.1000e-004	2.3100e-003	2.7000e-004	2.5900e-003	6.4000e-004	2.6000e-004	9.0000e-004	0.0000	10.7055	10.7055	5.2000e-004	0.0000	10.7185
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Worker	6.8000e-004	5.3000e-004	5.4100e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.1162	1.1162	4.0000e-005	0.0000	1.1172
Total	**2.2200e-003**	**0.0491**	**0.0150**	**1.2000e-004**	**3.5000e-003**	**2.8000e-004**	**3.7900e-003**	**9.6000e-004**	**2.7000e-004**	**1.2200e-003**	**0.0000**	**11.8217**	**11.8217**	**5.6000e-004**	**0.0000**	**11.8357**

3.3 Site Preparation - 2017

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					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0124	0.1307	0.0586	1.0000e-004		7.2000e-003	7.2000e-003		6.6200e-003	6.6200e-003	0.0000	8.8336	8.8336	2.7100e-003	0.0000	8.9013
Total	**0.0124**	**0.1307**	**0.0586**	**1.0000e-004**	**0.0452**	**7.2000e-003**	**0.0524**	**0.0248**	**6.6200e-003**	**0.0315**	**0.0000**	**8.8336**	**8.8336**	**2.7100e-003**	**0.0000**	**8.9013**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	1.6000e-004	1.6200e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	9.0000e-005	0.0000	1.0000e-004	0.0000	0.3349	0.3349	1.0000e-005	0.0000	0.3351
Total	**2.0000e-004**	**1.6000e-004**	**1.6200e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.6000e-004**	**9.0000e-005**	**0.0000**	**1.0000e-004**	**0.0000**	**0.3349**	**0.3349**	**1.0000e-005**	**0.0000**	**0.3351**

3.4 Grading - 2017

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					0.0262	0.0000	0.0262	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0123	0.1356	0.0684	1.2000e-004		7.1100e-003	7.1100e-003		6.5400e-003	6.5400e-003	0.0000	11.0238	11.0238	3.3800e-003	0.0000	11.1082
Total	**0.0123**	**0.1356**	**0.0684**	**1.2000e-004**	**0.0262**	**7.1100e-003**	**0.0333**	**0.0135**	**6.5400e-003**	**0.0200**	**0.0000**	**11.0238**	**11.0238**	**3.3800e-003**	**0.0000**	**11.1082**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.7000e-004	2.1000e-004	2.1600e-003	0.0000	4.8000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4465	0.4465	1.0000e-005	0.0000	0.4469
Total	**2.7000e-004**	**2.1000e-004**	**2.1600e-003**	**0.0000**	**4.8000e-004**	**0.0000**	**4.8000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.4465**	**0.4465**	**1.0000e-005**	**0.0000**	**0.4469**

3.5 Building Construction - 2017

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	0.2881	2.4563	1.6819	2.4900e-003		0.1654	0.1654		0.1553	0.1553	0.0000	222.4559	222.4559	0.0548	0.0000	223.8260
Total	**0.2881**	**2.4563**	**1.6819**	**2.4900e-003**		**0.1654**	**0.1654**		**0.1553**	**0.1553**	**0.0000**	**222.4559**	**222.4559**	**0.0548**	**0.0000**	**223.8260**

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	0.0111	0.2518	0.0735	4.9000e-004	0.0116	2.3800e-003	0.0139	3.3400e-003	2.2800e-003	5.6200e-003	0.0000	46.6155	46.6155	2.5900e-003	0.0000	46.6802
Worker	0.0197	0.0155	0.1567	3.6000e-004	0.0345	2.4000e-004	0.0347	9.1700e-003	2.2000e-004	9.3900e-003	0.0000	32.3516	32.3516	1.0800e-003	0.0000	32.3787
Total	**0.0307**	**0.2672**	**0.2302**	**8.5000e-004**	**0.0460**	**2.6200e-003**	**0.0487**	**0.0125**	**2.5000e-003**	**0.0150**	**0.0000**	**78.9671**	**78.9671**	**3.6700e-003**	**0.0000**	**79.0589**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

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

Category	tons/yr										MT/yr					
Off-Road	0.0603	0.5263	0.3956	6.1000e-004		0.0338	0.0338		0.0317	0.0317	0.0000	53.4976	53.4976	0.0131	0.0000	53.8253
Total	**0.0603**	**0.5263**	**0.3956**	**6.1000e-004**		**0.0338**	**0.0338**		**0.0317**	**0.0317**	**0.0000**	**53.4976**	**53.4976**	**0.0131**	**0.0000**	**53.8253**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.3400e-003	0.0573	0.0160	1.2000e-004	2.8100e-003	4.6000e-004	3.2700e-003	8.1000e-004	4.4000e-004	1.2500e-003	0.0000	11.3152	11.3152	5.9000e-004	0.0000	11.3298
Worker	4.2600e-003	3.2700e-003	0.0334	8.0000e-005	8.3900e-003	6.0000e-005	8.4400e-003	2.2300e-003	5.0000e-005	2.2800e-003	0.0000	7.6520	7.6520	2.3000e-004	0.0000	7.6578
Total	**6.6000e-003**	**0.0606**	**0.0493**	**2.0000e-004**	**0.0112**	**5.2000e-004**	**0.0117**	**3.0400e-003**	**4.9000e-004**	**3.5300e-003**	**0.0000**	**18.9672**	**18.9672**	**8.2000e-004**	**0.0000**	**18.9876**

3.6 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0128	0.1307	0.1119	1.7000e-004		7.5300e-003	7.5300e-003		6.9500e-003	6.9500e-003	0.0000	15.2887	15.2887	4.6300e-003	0.0000	15.4045

Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0128**	**0.1307**	**0.1119**	**1.7000e-004**		**7.5300e-003**	**7.5300e-003**		**6.9500e-003**	**6.9500e-003**	**0.0000**	**15.2887**	**15.2887**	**4.6300e-003**	**0.0000**	**15.4045**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2000e-004	5.6000e-004	5.6800e-003	1.0000e-005	1.4300e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.3025	1.3025	4.0000e-005	0.0000	1.3035
Total	**7.2000e-004**	**5.6000e-004**	**5.6800e-003**	**1.0000e-005**	**1.4300e-003**	**1.0000e-005**	**1.4400e-003**	**3.8000e-004**	**1.0000e-005**	**3.9000e-004**	**0.0000**	**1.3025**	**1.3025**	**4.0000e-005**	**0.0000**	**1.3035**

3.7 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4894					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6900e-003	0.0181	0.0167	3.0000e-005		1.3500e-003	1.3500e-003		1.3500e-003	1.3500e-003	0.0000	2.2979	2.2979	2.2000e-004	0.0000	2.3034
Total	**0.4921**	**0.0181**	**0.0167**	**3.0000e-005**		**1.3500e-003**	**1.3500e-003**		**1.3500e-003**	**1.3500e-003**	**0.0000**	**2.2979**	**2.2979**	**2.2000e-004**	**0.0000**	**2.3034**

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	3.3000e-004	2.5000e-004	2.5500e-003	1.0000e-005	6.4000e-004	0.0000	6.5000e-004	1.7000e-004	0.0000	1.7000e-004	0.0000	0.5861	0.5861	2.0000e-005	0.0000	0.5866
Total	**3.3000e-004**	**2.5000e-004**	**2.5500e-003**	**1.0000e-005**	**6.4000e-004**	**0.0000**	**6.5000e-004**	**1.7000e-004**	**0.0000**	**1.7000e-004**	**0.0000**	**0.5861**	**0.5861**	**2.0000e-005**	**0.0000**	**0.5866**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0410	0.1394	0.3543	8.3000e-004	0.0653	1.0000e-003	0.0663	0.0175	9.4000e-004	0.0184	0.0000	76.2468	76.2468	3.6400e-003	0.0000	76.3378
Unmitigated	0.0410	0.1394	0.3543	8.3000e-004	0.0653	1.0000e-003	0.0663	0.0175	9.4000e-004	0.0184	0.0000	76.2468	76.2468	3.6400e-003	0.0000	76.3378

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Convenience Market With Gas Pumps	72.96	27.48	22.44	31,780	31,780
Fast Food Restaurant with Drive Thru	82.02	119.40	89.72	82,648	82,648
Parking Lot	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	20.96	20.96	20.96	61,196	61,196
Total	175.94	167.84	133.13	175,624	175,624

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Convenience Market With Gas Pumps	9.50	7.30	7.30	0.80	80.20	19.00	14	21	65
Fast Food Restaurant with Drive Thru	9.50	7.30	7.30	2.20	78.80	19.00	29	21	50
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No Rail	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Unrefrigerated Warehouse-No Rail	0.601004	0.039123	0.186461	0.109772	0.016124	0.004965	0.012251	0.019838	0.002045	0.001602	0.005388	0.000616	0.000812
Parking Lot	0.601004	0.039123	0.186461	0.109772	0.016124	0.004965	0.012251	0.019838	0.002045	0.001602	0.005388	0.000616	0.000812
Fast Food Restaurant with Drive Thru	0.601004	0.039123	0.186461	0.109772	0.016124	0.004965	0.012251	0.019838	0.002045	0.001602	0.005388	0.000616	0.000812
Convenience Market With Gas Pumps	0.601004	0.039123	0.186461	0.109772	0.016124	0.004965	0.012251	0.019838	0.002045	0.001602	0.005388	0.000616	0.000812

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	152.0050	152.0050	6.8700e-003	1.4200e-003	152.6006
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	152.0050	152.0050	6.8700e-003	1.4200e-003	152.6006
NaturalGas Mitigated	5.5800e-003	0.0508	0.0426	3.0000e-004		3.8600e-003	3.8600e-003		3.8600e-003	3.8600e-003	0.0000	55.2450	55.2450	1.0600e-003	1.0100e-003	55.5733
NaturalGas Unmitigated	5.5800e-003	0.0508	0.0426	3.0000e-004		3.8600e-003	3.8600e-003		3.8600e-003	3.8600e-003	0.0000	55.2450	55.2450	1.0600e-003	1.0100e-003	55.5733

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Convenience Market With Gas Pumps	21091.6	1.1000e-004	1.0300e-003	8.7000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	1.1255	1.1255	2.0000e-005	2.0000e-005	1.1322
Fast Food Restaurant with Drive Thru	732794	3.9500e-003	0.0359	0.0302	2.2000e-004		2.7300e-003	2.7300e-003		2.7300e-003	2.7300e-003	0.0000	39.1047	39.1047	7.5000e-004	7.2000e-004	39.3370
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	281367	1.5200e-003	0.0138	0.0116	8.0000e-005		1.0500e-003	1.0500e-003		1.0500e-003	1.0500e-003	0.0000	15.0148	15.0148	2.9000e-004	2.8000e-004	15.1041
Total		**5.5800e-003**	**0.0507**	**0.0426**	**3.1000e-004**		**3.8600e-003**	**3.8600e-003**		**3.8600e-003**	**3.8600e-003**	**0.0000**	**55.2450**	**55.2450**	**1.0600e-003**	**1.0200e-003**	**55.5733**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Convenience Market With Gas Pumps	97038.9	28.2297	1.2800e-003	2.6000e-004	28.3403
Fast Food Restaurant with Drive Thru	116582	33.9152	1.5300e-003	3.2000e-004	34.0481
Parking Lot	18656	5.4272	2.5000e-004	5.0000e-005	5.4485

Unrefrigerated Warehouse-No Rail	290236	84.4329	3.8200e-003	7.9000e-004	84.7637
Total		**152.0050**	**6.8800e-003**	**1.4200e-003**	**152.6006**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4137	1.0000e-005	1.3900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.6600e-003	2.6600e-003	1.0000e-005	0.0000	2.8500e-003
Unmitigated	0.4137	1.0000e-005	1.3900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.6600e-003	2.6600e-003	1.0000e-005	0.0000	2.8500e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0489					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3646					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.3000e-004	1.0000e-005	1.3900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	2.6600e-003	2.6600e-003	1.0000e-005	0.0000	2.8500e-003
Total	**0.4137**	**1.0000e-005**	**1.3900e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**2.6600e-003**	**2.6600e-003**	**1.0000e-005**	**0.0000**	**2.8500e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	37.6675	0.6478	0.0156	58.4988
Unmitigated	37.6675	0.6478	0.0156	58.4988

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Convenience Market With Gas Pumps	0.125486 / 0.0769109	0.3157	4.1000e-003	1.0000e-004	0.4477
Fast Food Restaurant with Drive Thru	1.06844 / 0.0681982	2.0903	0.0349	8.4000e-004	3.2125
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	18.6434 / 0	35.2616	0.6088	0.0146	54.8386
Total		**37.6675**	**0.6478**	**0.0156**	**58.4988**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	23.6139	1.3955	0.0000	58.5025
Unmitigated	23.6139	1.3955	0.0000	58.5025

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Fast Food Restaurant with Drive Thru	40.55	8.2313	0.4865	0.0000	20.3927
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	75.78	15.3827	0.9091	0.0000	38.1099
Total		**23.6139**	**1.3955**	**0.0000**	**58.5025**

CalEEMod Output- TAC Emissions

645 Horning Street

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unrefrigerated Warehouse-No Rail	80.62	1000sqft	0.00	80,621.00	0
Parking Lot	53.00	Space	0.00	21,200.00	0
Fast Food Restaurant with Drive Thru	3.52	1000sqft	0.00	3,520.00	0
Convenience Market With Gas Pumps	12.00	Pump	3.26	8,862.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2019
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	429.6	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Revised CO2 Emission Intensity

Land Use - From the Site Plan and Trip Generation Study

Construction Phase - Default Constrcution Schedule used

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Trips and VMT - Paving?

Demolition - Existing Land Use : Auto Repair (60,000 sf)

Construction Off-road Equipment Mitigation - Best Manegement Practices and Tier 4 Interim

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	11.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim

tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblFleetMix	FleetMixLandUseSubType	Unrefrigerated Warehouse-No Rail	Convenience Market With Gas Pumps
tblFleetMix	FleetMixLandUseSubType	Parking Lot	Fast Food Restaurant with Drive Thru
tblFleetMix	FleetMixLandUseSubType	Fast Food Restaurant with Drive Thru	Parking Lot
tblFleetMix	FleetMixLandUseSubType	Convenience Market With Gas Pumps	Unrefrigerated Warehouse-No Rail
tblLandUse	BuildingSpaceSquareFeet	80,620.00	80,621.00
tblLandUse	BuildingSpaceSquareFeet	1,694.10	8,862.00
tblLandUse	LandUseSquareFeet	80,620.00	80,621.00
tblLandUse	LandUseSquareFeet	1,694.10	8,862.00
tblLandUse	LotAcreage	1.85	0.00
tblLandUse	LotAcreage	0.48	0.00
tblLandUse	LotAcreage	0.08	0.00
tblLandUse	LotAcreage	0.04	3.26
tblProjectCharacteristics	CO2IntensityFactor	641.35	429.6
tblProjectCharacteristics	OperationalYear	2018	2019
tblTripsAndVMT	HaulingTripLength	20.00	0.50
tblTripsAndVMT	HaulingTripLength	20.00	0.50
tblTripsAndVMT	HaulingTripLength	20.00	0.50
tblTripsAndVMT	HaulingTripLength	20.00	0.50
tblTripsAndVMT	HaulingTripLength	20.00	0.50
tblTripsAndVMT	HaulingTripLength	20.00	0.50
tblTripsAndVMT	VendorTripLength	7.30	0.50
tblTripsAndVMT	VendorTripLength	7.30	0.50
tblTripsAndVMT	VendorTripLength	7.30	0.50

tblTripsAndVMT	VendorTripLength	7.30	0.50
tblTripsAndVMT	VendorTripLength	7.30	0.50
tblTripsAndVMT	VendorTripLength	7.30	0.50
tblTripsAndVMT	WorkerTripLength	10.80	0.50
tblTripsAndVMT	WorkerTripLength	10.80	0.50
tblTripsAndVMT	WorkerTripLength	10.80	0.50
tblTripsAndVMT	WorkerTripLength	10.80	0.50
tblTripsAndVMT	WorkerTripLength	10.80	0.50
tblTripsAndVMT	WorkerTripLength	10.80	0.50

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					
2017	0.3649	3.2900	2.1209	3.2500e-003	0.1035	0.2020	0.3055	0.0435	0.1893	0.2328	0.0000	293.3087	293.3087	0.0727	0.0000	295.1270
2018	0.5677	0.7047	0.5427	8.4000e-004	7.0000e-004	0.0427	0.0434	1.9000e-004	0.0401	0.0403	0.0000	74.6006	74.6006	0.0184	0.0000	75.0601
Maximum	**0.5677**	**3.2900**	**2.1209**	**3.2500e-003**	**0.1035**	**0.2020**	**0.3055**	**0.0435**	**0.1893**	**0.2328**	**0.0000**	**293.3087**	**293.3087**	**0.0727**	**0.0000**	**295.1270**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					

2017	0.0701	1.3567	2.1153	3.2500e-003	0.1035	9.1600e-003	0.1127	0.0221	9.1400e-003	0.0313	0.0000	293.3084	293.3084	0.0727	0.0000	295.1267
2018	0.5070	0.3554	0.5590	8.4000e-004	7.0000e-004	2.2700e-003	2.9700e-003	1.9000e-004	2.2700e-003	2.4600e-003	0.0000	74.6005	74.6005	0.0184	0.0000	75.0600
Maximum	**0.5070**	**1.3567**	**2.1153**	**3.2500e-003**	**0.1035**	**9.1600e-003**	**0.1127**	**0.0221**	**9.1400e-003**	**0.0313**	**0.0000**	**293.3084**	**293.3084**	**0.0727**	**0.0000**	**295.1267**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**38.12**	**57.14**	**-0.40**	**0.00**	**0.00**	**95.33**	**66.85**	**48.96**	**95.02**	**87.65**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**3-1-2017**	**5-31-2017**	1.2818	0.4446
2	**6-1-2017**	**8-31-2017**	1.0237	0.4249
3	**9-1-2017**	**11-30-2017**	1.0118	0.4195
4	**12-1-2017**	**2-28-2018**	0.9233	0.4134
5	**3-1-2018**	**5-31-2018**	0.6945	0.6005
		Highest	1.2818	0.6005

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	3/1/2017	3/28/2017	5	20	
2	Site Preparation	Site Preparation	3/29/2017	4/4/2017	5	5	
3	Grading	Grading	4/5/2017	4/14/2017	5	8	
4	Building Construction	Building Construction	4/15/2017	3/2/2018	5	230	
5	Paving	Paving	3/3/2018	3/28/2018	5	18	
6	Architectural Coating	Architectural Coating	3/29/2018	4/23/2018	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 139,505; Non-Residential Outdoor: 46,502; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	273.00	0.50	0.50	0.50	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	0.50	0.50	0.50	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	0.50	0.50	0.50	LD_Mix	HDT_Mix	HHDT

Building Construction	9	47.00	19.00	0.00	0.50	0.50	0.50	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	0.50	0.50	0.50	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	9.00	0.00	0.00	0.50	0.50	0.50	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Replace Ground Cover

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Demolition - 2017

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					0.0295	0.0000	0.0295	4.4700e-003	0.0000	4.4700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0410	0.4275	0.2301	3.9000e-004		0.0219	0.0219		0.0204	0.0204	0.0000	35.6005	35.6005	9.7300e-003	0.0000	35.8438
Total	**0.0410**	**0.4275**	**0.2301**	**3.9000e-004**	**0.0295**	**0.0219**	**0.0515**	**4.4700e-003**	**0.0204**	**0.0249**	**0.0000**	**35.6005**	**35.6005**	**9.7300e-003**	**0.0000**	**35.8438**

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	3.8000e-004	0.0146	2.7700e-003	2.0000e-005	6.0000e-005	2.0000e-005	8.0000e-005	2.0000e-005	2.0000e-005	4.0000e-005	0.0000	1.5045	1.5045	2.3000e-004	0.0000	1.5102

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	2.1000e-004	9.0000e-005	1.2300e-003	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0830	0.0830	1.0000e-005	0.0000	0.0832
Total	**5.9000e-004**	**0.0147**	**4.0000e-003**	**2.0000e-005**	**1.2000e-004**	**2.0000e-005**	**1.4000e-004**	**4.0000e-005**	**2.0000e-005**	**6.0000e-005**	**0.0000**	**1.5875**	**1.5875**	**2.4000e-004**	**0.0000**	**1.5934**

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					0.0295	0.0000	0.0295	2.2400e-003	0.0000	2.2400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.8400e-003	0.1356	0.2467	3.9000e-004		6.2000e-004	6.2000e-004		6.2000e-004	6.2000e-004	0.0000	35.6005	35.6005	9.7300e-003	0.0000	35.8438
Total	**5.8400e-003**	**0.1356**	**0.2467**	**3.9000e-004**	**0.0295**	**6.2000e-004**	**0.0302**	**2.2400e-003**	**6.2000e-004**	**2.8600e-003**	**0.0000**	**35.6005**	**35.6005**	**9.7300e-003**	**0.0000**	**35.8438**

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	3.8000e-004	0.0146	2.7700e-003	2.0000e-005	6.0000e-005	2.0000e-005	8.0000e-005	2.0000e-005	2.0000e-005	4.0000e-005	0.0000	1.5045	1.5045	2.3000e-004	0.0000	1.5102
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	2.1000e-004	9.0000e-005	1.2300e-003	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0830	0.0830	1.0000e-005	0.0000	0.0832
Total	**5.9000e-004**	**0.0147**	**4.0000e-003**	**2.0000e-005**	**1.2000e-004**	**2.0000e-005**	**1.4000e-004**	**4.0000e-005**	**2.0000e-005**	**6.0000e-005**	**0.0000**	**1.5875**	**1.5875**	**2.4000e-004**	**0.0000**	**1.5934**

3.3 Site Preparation - 2017

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					0.0452	0.0000	0.0452	0.0248	0.0000	0.0248	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0124	0.1307	0.0586	1.0000e-004		7.2000e-003	7.2000e-003		6.6200e-003	6.6200e-003	0.0000	8.8336	8.8336	2.7100e-003	0.0000	8.9013
Total	**0.0124**	**0.1307**	**0.0586**	**1.0000e-004**	**0.0452**	**7.2000e-003**	**0.0524**	**0.0248**	**6.6200e-003**	**0.0315**	**0.0000**	**8.8336**	**8.8336**	**2.7100e-003**	**0.0000**	**8.9013**

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	6.0000e-005	3.0000e-005	3.7000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0249	0.0249	0.0000	0.0000	0.0250
Total	**6.0000e-005**	**3.0000e-005**	**3.7000e-004**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0249**	**0.0249**	**0.0000**	**0.0000**	**0.0250**

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					0.0452	0.0000	0.0452	0.0124	0.0000	0.0124	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7400e-003	0.0304	0.0574	1.0000e-004		1.6000e-004	1.6000e-004		1.6000e-004	1.6000e-004	0.0000	8.8336	8.8336	2.7100e-003	0.0000	8.9013
Total	**1.7400e-003**	**0.0304**	**0.0574**	**1.0000e-004**	**0.0452**	**1.6000e-004**	**0.0453**	**0.0124**	**1.6000e-004**	**0.0126**	**0.0000**	**8.8336**	**8.8336**	**2.7100e-003**	**0.0000**	**8.9013**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	3.0000e-005	3.7000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0249	0.0249	0.0000	0.0000	0.0250
Total	**6.0000e-005**	**3.0000e-005**	**3.7000e-004**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0249**	**0.0249**	**0.0000**	**0.0000**	**0.0250**

3.4 Grading - 2017

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					0.0262	0.0000	0.0262	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0123	0.1356	0.0684	1.2000e-004		7.1100e-003	7.1100e-003		6.5400e-003	6.5400e-003	0.0000	11.0238	11.0238	3.3800e-003	0.0000	11.1082

Total	**0.0123**	**0.1356**	**0.0684**	**1.2000e-004**	**0.0262**	**7.1100e-003**	**0.0333**	**0.0135**	**6.5400e-003**	**0.0200**	**0.0000**	**11.0238**	**11.0238**	**3.3800e-003**	**0.0000**	**11.1082**

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-005	4.0000e-005	4.9000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0332	0.0332	0.0000	0.0000	0.0333
Total	**8.0000e-005**	**4.0000e-005**	**4.9000e-004**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0332**	**0.0332**	**0.0000**	**0.0000**	**0.0333**

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					0.0262	0.0000	0.0262	6.7300e-003	0.0000	6.7300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0800e-003	0.0413	0.0760	1.2000e-004		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	11.0238	11.0238	3.3800e-003	0.0000	11.1082
Total	**2.0800e-003**	**0.0413**	**0.0760**	**1.2000e-004**	**0.0262**	**1.9000e-004**	**0.0264**	**6.7300e-003**	**1.9000e-004**	**6.9200e-003**	**0.0000**	**11.0238**	**11.0238**	**3.3800e-003**	**0.0000**	**11.1082**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	4.0000e-005	4.9000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0332	0.0332	0.0000	0.0000	0.0333
Total	**8.0000e-005**	**4.0000e-005**	**4.9000e-004**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0332**	**0.0332**	**0.0000**	**0.0000**	**0.0333**

3.5 Building Construction - 2017

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	0.2881	2.4563	1.6819	2.4900e-003		0.1654	0.1654		0.1553	0.1553	0.0000	222.4559	222.4559	0.0548	0.0000	223.8260
Total	**0.2881**	**2.4563**	**1.6819**	**2.4900e-003**		**0.1654**	**0.1654**		**0.1553**	**0.1553**	**0.0000**	**222.4559**	**222.4559**	**0.0548**	**0.0000**	**223.8260**

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	4.3200e-003	0.1225	0.0415	1.2000e-004	8.3000e-004	3.0000e-004	1.1400e-003	2.5000e-004	2.9000e-004	5.3000e-004	0.0000	11.3435	11.3435	1.6800e-003	0.0000	11.3854
Worker	6.0200e-003	2.7400e-003	0.0355	3.0000e-005	1.6400e-003	4.0000e-005	1.6800e-003	4.4000e-004	4.0000e-005	4.8000e-004	0.0000	2.4059	2.4059	1.9000e-004	0.0000	2.4107
Total	**0.0103**	**0.1252**	**0.0770**	**1.5000e-004**	**2.4700e-003**	**3.4000e-004**	**2.8200e-003**	**6.9000e-004**	**3.3000e-004**	**1.0100e-003**	**0.0000**	**13.7494**	**13.7494**	**1.8700e-003**	**0.0000**	**13.7961**

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	0.0494	1.0094	1.6533	2.4900e-003		7.8300e-003	7.8300e-003		7.8300e-003	7.8300e-003	0.0000	222.4556	222.4556	0.0548	0.0000	223.8258
Total	**0.0494**	**1.0094**	**1.6533**	**2.4900e-003**		**7.8300e-003**	**7.8300e-003**		**7.8300e-003**	**7.8300e-003**	**0.0000**	**222.4556**	**222.4556**	**0.0548**	**0.0000**	**223.8258**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.3200e-003	0.1225	0.0415	1.2000e-004	8.3000e-004	3.0000e-004	1.1400e-003	2.5000e-004	2.9000e-004	5.3000e-004	0.0000	11.3435	11.3435	1.6800e-003	0.0000	11.3854
Worker	6.0200e-003	2.7400e-003	0.0355	3.0000e-005	1.6400e-003	4.0000e-005	1.6800e-003	4.4000e-004	4.0000e-005	4.8000e-004	0.0000	2.4059	2.4059	1.9000e-004	0.0000	2.4107
Total	**0.0103**	**0.1252**	**0.0770**	**1.5000e-004**	**2.4700e-003**	**3.4000e-004**	**2.8200e-003**	**6.9000e-004**	**3.3000e-004**	**1.0100e-003**	**0.0000**	**13.7494**	**13.7494**	**1.8700e-003**	**0.0000**	**13.7961**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0603	0.5263	0.3956	6.1000e-004		0.0338	0.0338		0.0317	0.0317	0.0000	53.4976	53.4976	0.0131	0.0000	53.8253
Total	**0.0603**	**0.5263**	**0.3956**	**6.1000e-004**		**0.0338**	**0.0338**		**0.0317**	**0.0317**	**0.0000**	**53.4976**	**53.4976**	**0.0131**	**0.0000**	**53.8253**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.3000e-004	0.0290	9.0600e-003	3.0000e-005	2.0000e-004	6.0000e-005	2.6000e-004	6.0000e-005	5.0000e-005	1.1000e-004	0.0000	2.8059	2.8059	3.8000e-004	0.0000	2.8153
Worker	1.3000e-003	5.8000e-004	7.5900e-003	1.0000e-005	4.0000e-004	1.0000e-005	4.1000e-004	1.1000e-004	1.0000e-005	1.2000e-004	0.0000	0.5698	0.5698	4.0000e-005	0.0000	0.5708
Total	**2.2300e-003**	**0.0296**	**0.0167**	**4.0000e-005**	**6.0000e-004**	**7.0000e-005**	**6.7000e-004**	**1.7000e-004**	**6.0000e-005**	**2.3000e-004**	**0.0000**	**3.3757**	**3.3757**	**4.2000e-004**	**0.0000**	**3.3860**

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	0.0120	0.2455	0.4022	6.1000e-004		1.9000e-003	1.9000e-003		1.9000e-003	1.9000e-003	0.0000	53.4976	53.4976	0.0131	0.0000	53.8252
Total	**0.0120**	**0.2455**	**0.4022**	**6.1000e-004**		**1.9000e-003**	**1.9000e-003**		**1.9000e-003**	**1.9000e-003**	**0.0000**	**53.4976**	**53.4976**	**0.0131**	**0.0000**	**53.8252**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.3000e-004	0.0290	9.0600e-003	3.0000e-005	2.0000e-004	6.0000e-005	2.6000e-004	6.0000e-005	5.0000e-005	1.1000e-004	0.0000	2.8059	2.8059	3.8000e-004	0.0000	2.8153
Worker	1.3000e-003	5.8000e-004	7.5900e-003	1.0000e-005	4.0000e-004	1.0000e-005	4.1000e-004	1.1000e-004	1.0000e-005	1.2000e-004	0.0000	0.5698	0.5698	4.0000e-005	0.0000	0.5708
Total	**2.2300e-003**	**0.0296**	**0.0167**	**4.0000e-005**	**6.0000e-004**	**7.0000e-005**	**6.7000e-004**	**1.7000e-004**	**6.0000e-005**	**2.3000e-004**	**0.0000**	**3.3757**	**3.3757**	**4.2000e-004**	**0.0000**	**3.3860**

3.6 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0128	0.1307	0.1119	1.7000e-004		7.5300e-003	7.5300e-003		6.9500e-003	6.9500e-003	0.0000	15.2887	15.2887	4.6300e-003	0.0000	15.4045

Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0128**	**0.1307**	**0.1119**	**1.7000e-004**		**7.5300e-003**	**7.5300e-003**		**6.9500e-003**	**6.9500e-003**	**0.0000**	**15.2887**	**15.2887**	**4.6300e-003**	**0.0000**	**15.4045**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2000e-004	1.0000e-004	1.2900e-003	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0970	0.0970	1.0000e-005	0.0000	0.0972
Total	**2.2000e-004**	**1.0000e-004**	**1.2900e-003**	**0.0000**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0970**	**0.0970**	**1.0000e-005**	**0.0000**	**0.0972**

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	2.6200e-003	0.0706	0.1218	1.7000e-004		2.6000e-004	2.6000e-004		2.6000e-004	2.6000e-004	0.0000	15.2887	15.2887	4.6300e-003	0.0000	15.4045
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.6200e-003**	**0.0706**	**0.1218**	**1.7000e-004**		**2.6000e-004**	**2.6000e-004**		**2.6000e-004**	**2.6000e-004**	**0.0000**	**15.2887**	**15.2887**	**4.6300e-003**	**0.0000**	**15.4045**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.2000e-004	1.0000e-004	1.2900e-003	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0970	0.0970	1.0000e-005	0.0000	0.0972
Total	**2.2000e-004**	**1.0000e-004**	**1.2900e-003**	**0.0000**	**7.0000e-005**	**0.0000**	**7.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0970**	**0.0970**	**1.0000e-005**	**0.0000**	**0.0972**

3.7 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4894					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.6900e-003	0.0181	0.0167	3.0000e-005		1.3500e-003	1.3500e-003		1.3500e-003	1.3500e-003	0.0000	2.2979	2.2979	2.2000e-004	0.0000	2.3034
Total	**0.4921**	**0.0181**	**0.0167**	**3.0000e-005**		**1.3500e-003**	**1.3500e-003**		**1.3500e-003**	**1.3500e-003**	**0.0000**	**2.2979**	**2.2979**	**2.2000e-004**	**0.0000**	**2.3034**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	4.0000e-005	5.8000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0436	0.0436	0.0000	0.0000	0.0437
Total	**1.0000e-004**	**4.0000e-005**	**5.8000e-004**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0436**	**0.0436**	**0.0000**	**0.0000**	**0.0437**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4894					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.9000e-004	9.5400e-003	0.0165	3.0000e-005		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	2.2979	2.2979	2.2000e-004	0.0000	2.3034
Total	**0.4899**	**9.5400e-003**	**0.0165**	**3.0000e-005**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**2.2979**	**2.2979**	**2.2000e-004**	**0.0000**	**2.3034**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-004	4.0000e-005	5.8000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0436	0.0436	0.0000	0.0000	0.0437
Total	**1.0000e-004**	**4.0000e-005**	**5.8000e-004**	**0.0000**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0436**	**0.0436**	**0.0000**	**0.0000**	**0.0437**

Emission Summary

645 Horning Street, San Jose, CA

DPM Construction Emissions and Modeling Emission Rates - Unmitigated

Construction Year	Activity	DPM (ton/year)	Area Source	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
2017	Construction	0.2020	1_DPM	404.0	0.12298	1.55E-02	12,879	1.20E-06
2018	Construction	0.0427	1_DPM	85.4	0.02600	3.28E-03	12,879	2.54E-07
Total		***0.2447***		***489***	***0.1490***	***0.0188***		

Construction Hours

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

645 Horning Street, San Jose, CA

PM2.5 Fugitive Dust Construction Emissions for Modeling - Unmitigated

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	PM2.5 Emissions (lb/yr)	PM2.5 Emissions (lb/hr)	PM2.5 Emissions (g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
2017	Construction	1_FUG	0.0435	87.0	0.02648	3.34E-03	12,879	2.59E-07
2018	Construction	1_FUG	0.0002	0.4	0.00012	1.46E-05	12,879	1.13E-09
Total			***0.0437***	***87.4***	***0.0266***	***0.0034***		

Construction Hours

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

Health Risk Calculations- Off Site Residential Cancer Risk MEI

645 Horning Street, San Jose, CA - Construction Impacts - Unmitigated Emissions
Maximum DPM Cancer Risk Calculations From Construction
Off-Site Residential Receptor Locations - 1.5 meters

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information				Adult - Exposure Information					
			DPM Conc (ug/m3)		Age	Infant/Child	Modeled DPM Conc (ug/m3)		Age	Adult		
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Annual**	**Sensitivity Factor**	**Cancer Risk (per million)**	**Year**	**Annual**	**Sensitivity Factor**	**Cancer Risk (per million)**	**Fugitive PM2.5**	**Total PM2.5**
0	0.25	-0.25 - 0*	-	0.0000	10	-	-	-	-	-		
1	1	0 - 1	2017	0.2138	10	35.11	2017	0.2138	1	0.61	0.0503	0.264
2	1	1 - 2	2018	0.0453	10	7.43	2018	0.0453	1	0.13	0.0002	0.045
3	1	2 - 3		0.0000	3	0.00		0.0000	1	0.00		
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00		
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00		
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00		
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00		
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00		
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00		
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00		
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00		
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00		
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00		
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00		
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00		
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00		
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00		
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00		
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00		
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00		
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00		
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00		
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00		
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00		
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00		
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00		
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00		
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00		
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00		
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00		
Total Increased Cancer Risk						**42.5**				**0.74**		

* Third trimester of pregnancy

Health Risk Calculations- Off Site PM2.5 concentrations

645 Horning Street, San Jose, CA - Construction Impacts - Unmitigated Emissions
Maximum PM2.5 Concentrations From Construction
Off-Site Residential Receptor Locations - 1.5 meters

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information				Adult - Exposure Information					
			DPM Conc (ug/m3)		Age	Infant/Child	Modeled DPM Conc (ug/m3)		Age	Adult		
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Annual**	**Sensitivity Factor**	**Cancer Risk (per million)**	**Year**	**Annual**	**Sensitivity Factor**	**Cancer Risk (per million)**	**Fugitive PM2.5**	**Total PM2.5**
0	0.25	-0.25 - 0*	-	0.0000	10	-	-	-	-	-		
1	1	0 - 1	2017	0.2138	10	35.11	2017	0.2138	1	0.61	0.0539	0.268
2	1	1 - 2	2018	0.0453	10	7.43	2018	0.0453	1	0.13	0.0002	0.046
3	1	2 - 3		0.0000	3	0.00		0.0000	1	0.00		
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00		
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00		
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00		
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00		
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00		
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00		
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00		
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00		
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00		
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00		
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00		
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00		
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00		
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00		
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00		
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00		
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00		
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00		
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00		
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00		
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00		
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00		
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00		
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00		
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00		
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00		
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00		
Total Increased Cancer Risk						**42.5**				**0.74**		

* Third trimester of pregnancy

645 Horning Street, San Jose, CA- Project Construction Health Impact Summary

Maximum Impacts at Off- Site Residences

Construction Year	Unmitigated					
	Maximum Concentrations		Cancer Risk (per million)		Hazard Index	Maximum Annual PM2.5 Concentration
	Exhaust PM2.5/DPM ($\mu g/m^3$)	Fugitive PM2.5 ($\mu g/m^3$)	Child	Adult	(-)	($\mu g/m^3$)
2017	0.2138	0.0539	35.11	0.61	0.043	0.268
2018	0.0453	0.0002	7.43	0.13	0.009	0.046
Total	-	-	**42.5**	**0.7**	-	-
Maximum Annual	0.2138	0.0539	-	-	**0.043**	**0.268**

Table A: Requestor Contact Information	
Contact Name:	Tanushree Ganguly
Affiliation:	Illingworth & Rodkin, Inc.
Phone:	707-794-0400
Email:	tganguly@illingworthrodkin.com
Date of Request	10/31/2016
Project Name:	645 Horning Street
Address:	645 Horning Street
City:	San Jose
County:	Santa Clara
Type (residential, commercial, mixed use, industrial, etc.):	Gas Station and Storage Facility
Project size (# of units, or building square feet):	3.3 acres
Comments:	

For Air District assistance, the following steps must be completed:

Complete all the contact and project information requested in Table A. Incomplete forms will not be processed. Please include a project site map.

Download and install the free program Google Earth, http://www.google.com/earth/download/ge/, and then download the county specific Google Earth stationary source application files from the District's website, http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx.

The small points on the map represent stationary sources permitted by the District (Map A on right). These permitted sources include diesel back-up generators, gas stations, dry cleaners, boilers, printers, auto spray booths, etc. Click on a point to view the source's Information Table, including the name, location, and preliminary estimated cancer risk, hazard index, and PM2.5 concentration.

Find the project site in Google Earth by inputting the site's address in the Google Earth search box.

Using the Google Earth ruler function, measure the distance in feet between the project's fenceline and the stationary source's fenceline for all the sources that are within 1,000 feet of the project's fenceline. Verify that the location of the source on the map matches with the source's address in the Information Table, by using the Google Earth address search box to confirm that the source is within 1,000 feet of the project. Please report any mapping errors to the District (District contact information in Step 9).

If the stationary source is within 1,000 feet of the project's fenceline and the stationary source's information table does not list the cancer risk, hazard index, and PM2.5 concentration, and instead says to "Contact District Staff", list the stationary source information in Table B Section 1 below.

Note that a small percentage of the stationary sources have Health Risk Screening Assessment (HRSA) data INSTEAD of screening level data. These sources will be noted by an asterisk next to the Plant Name (Map B on right). If HRSA values are presented, these values have already been modeled and cannot be adjusted further.

Email this completed form to District staff (Step 9). District staff will provide the most recent risk, hazard, and PM2.5 data that are available for the source(s). If this information or data are not available, source emissions data will be provided. Staff will respond to inquiries within three weeks.

Note that a public records request received for the same stationary source information will cancel the processing of your SSIF request.

Submit forms, maps, and questions to Alison Kirk at 415-749-5169, or akirk@baaqmd.gov .

Table B: Stationary Sources within 1,000 feet of Receptor that say "Contact District Staff"

Table B Section 1: Requestor fills out these columns based on Google Earth data

Table B Section 2: BAAQMD returns form with additional information in these columns as needed

Distance from Receptor (feet)	Plant # or Gas Dispensary #	Facility Name	Street Address	2011 Screening Level Cancer Risk (1)	2011 Screening Level Hazard Index (1)	2011 Screening Level PM2.5 (1)	2014 Screening Level Cancer Risk (1)	2014 Screening Level Hazard Index (1)	2014 Screening Level PM2.5 (1)	Distance to Threshold Cancer Risk	Multiplier	Distance Adjusted PM2.5 Level
890	G6861	J N Abbott Distributor, Inc	1090 N 10th Street	19.777	0.033	na						
715	17230	Quality Body and Paint	1041 N 11th Street	0.00	0.000	0.000						
720	13570	Philipinas Auto Body	990 N 10th Street	0.33	0.002	0.000						
430	2583	Mancia's Steel Company	519 Horning Street	0.00	0.000	0.000						
970	G8801	Gas Stop and Mini Mart	899 N 13th Street	18.261	0.030	na						
765	18303	Genesis Autobody and Paint	1190 N 13th Street	0	0.000	0.000						
460	G9902	Claires LLC/Balch Land	680 Commercial Street	36.089	0.060	na						

Assume 1 16-pump and 2 8-pump GFDs

Estimated Annual Gasoline Throughput = 18,000,000 gallons/year

TOG Emission Factors and Annual Emissions

Emission Source	TOG[1] Emission Factor ($lb/10^3$ gallon)	TOG Annual Emissions (lb/year)		
Fueling[2]				
Non-ORVR Vehicles	0.42	1,512.0		
ORVR Vehicles	0.021	302.4		
Bulk Transfer Losses	0.15	2,700.0		
Pressure Driven Losses	0.024	432.0		
Fueling - Spillage	0.24	4,320.0		
Gasoline Hose Losses	0.009	162.0		
Total	**0.532**	**9,428.4**	4.7142	9.4284

TOG = total organic gas

ORVR = onboard refueling vapor recovery

1. Emission factors from CARB "Revised Emissions Factors for Gasoline Marketing Operations at California Gasoline Dispensing Facilities". December 23, 2013 (CARB, 2013). Assumes use of enhanced vapor recovery systems.
2. Fueling emissions based on CARB data for 2016 of 80% of vehicles use ORVR (CARB, 2013).

Benzene Emissions

Source	Annual Gasoline Throughput (gallons/year)	Annual TOG Emissions (lb/year)	Percent[1] Benzene in Vapor (%)	Operation[2] Schedule (hrs/day)	Benzene Emissions	
					Annual Average (lb/year)	Average Hourly (lb/hr)
Fuel Station	18,000,000	9,428	0.3%	14	28.29	0.00554

Notes:

1. CAPCOA Air Toxics "Hot Spots" Program, Gasoline Service Station Industrywide Risk Assessment Guidelines, November 1997.
2. Daily operation hours assumed to be 6:00 AM to 8:00 PM, 365 days per year

Gas Station Modeling - Benzene Emissions and Volume Source Parameters

Emission Source	Percent of Total Emissions	Total Average Hourly Emissions (lb/hr)	Number of Volume Sources	Emissions per Volume (lb/hr)	Volume Source Dimensions (meters)			Volume Source Release Height (meters)
					Length	Width	Height	
Refueling and Tank Losses	52%	0.0029	3	0.00097	12.5	12.5	4.45	1
Spillage and Hose Losses	48%	0.0026	3	0.00088	12.5	12.5	4.45	0

Pollutant Name	Emissions/lbs per day	Cancer Risk (in millions)
ACETALDEHYDE		0.00E+00
ACETAMIDE		0.00E+00
ACRYLAMIDE		0.00E+00
ACRYLONITRILE		0.00E+00
ALLYL CHLORIDE		0.00E+00
2-AMINOANTHRAQUINONE		0.00E+00
ANILINE		0.00E+00
ARSENIC AND COMPOUNDS (INORGANIC)[1,2]		0.00E+00
ASBESTOS[3]		0.00E+00
BENZENE[1]	4.31E-02	4.16E-06
BENZIDINE (AND ITS SALTS) values also apply to:		0.00E+00
Benzidine based dyes		0.00E+00
Direct Black 38		0.00E+00
Direct Blue 6		0.00E+00
Direct Brown 95 (technical grade)		0.00E+00
BENZYL CHLORIDE		0.00E+00
BERYLLIUM AND COMPOUNDS[2]		0.00E+00
BIS(2-CHLOROETHYL)ETHER (Dichloroethyl ether)		0.00E+00
BIS(CHLOROMETHYL)ETHER		0.00E+00
POTASSIUM BROMATE		0.00E+00
1,3-BUTADIENE		0.00E+00
CADMIUM AND COMPOUNDS[2]		0.00E+00
CARBON TETRACHLORIDE[1] (Tetrachloromethane)		0.00E+00
CHLORINATED PARAFFINS		0.00E+00
4-CHLORO-O-PHENYLENEDIAMINE		0.00E+00
CHLOROFORM[1]		0.00E+00
PENTACHLOROPHENOL		0.00E+00
2,4,6-TRICHLOROPHENOL		0.00E+00
p-CHLORO-o-TOLUIDINE		0.00E+00
CHROMIUM 6+2		0.00E+00
Barium chromate2		0.00E+00
Calcium chromate2		0.00E+00
Lead chromate2		0.00E+00
Sodium dichromate2		0.00E+00
Strontium chromate2		0.00E+00
CHROMIC TRIOXIDE (as chromic acid mist)		0.00E+00
p-CRESIDINE		0.00E+00
CUPFERRON		0.00E+00
2,4-DIAMINOANISOLE		0.00E+00
2,4-DIAMINOTOLUENE		0.00E+00
1,2-DIBROMO-3-CHLOROPROPANE (DBCP)		0.00E+00
1,4-DICHLOROBENZENE		0.00E+00
3,3-DICHLOROBENZIDINE		0.00E+00
1,1,-DICHLOROETHANE (Ethylidene dichloride)		0.00E+00
DI(2-ETHYLHEXYL)PHTHALATE (DEHP)		0.00E+00
p-DIMETHYLAMINOAZOBENZENE		0.00E+00
2,4-DINITROTOLUENE		0.00E+00
1,4-DIOXANE (1,4-Diethylene dioxide)		0.00E+00
EPICHLOROHYDRIN (1-Chloro-2,3-epoxypropane)		0.00E+00
ETHYL BENZENE		0.00E+00
ETHYLENE DIBROMIDE (1,2-Dibromoethane)		0.00E+00
ETHYLENE DICHLORIDE (1,2-Dichloroethane)		0.00E+00
ETHYLENE OXIDE (1,2-Epoxyethane)		0.00E+00
ETHYLENE THIOUREA		0.00E+00
FORMALDEHYDE		0.00E+00
HEXACHLOROBENZENE		0.00E+00
HEXACHLOROCYCLOHEXANES (mixed or technical grade)		0.00E+00
alpha-HEXACHLOROCYCLOHEXANE		0.00E+00
beta- HEXACHLOROCYCLOHEXANE		0.00E+00
gamma-HEXACHLOROCYCLOHEXANE (Lindane)		0.00E+00
HYDRAZINE		0.00E+00
LEAD AND COMPOUNDS 2,4 (inorganic) values also apply to:		0.00E+00
Lead acetate2		0.00E+00
Lead phosphate2		0.00E+00
Lead subacetate2		0.00E+00
METHYL tertiary-BUTYL ETHER		0.00E+00
4,4'-METHYLENE BIS (2-CHLOROANILINE) (MOCA)		0.00E+00
METHYLENE CHLORIDE (Dichloromethane)		0.00E+00
4,4'-METHYLENE DIANILINE (AND ITS DICHLORIDE)		0.00E+00
MICHLER'S KETONE (4,4'-Bis(dimethylamino)benzophenone)		0.00E+00
N-NITROSODI-n-BUTYLAMINE		0.00E+00
N-NITROSODI-n-PROPYLAMINE		0.00E+00
N-NITROSODIETHYLAMINE		0.00E+00
N-NITROSODIMETHYLAMINE		0.00E+00
N-NITROSODIPHENYLAMINE		0.00E+00
N-NITROSO-N-METHYLETHYLAMINE		0.00E+00
N-NITROSOMORPHOLINE		0.00E+00
N-NITROSOPIPERIDINE		0.00E+00
N-NITROSOPYRROLIDINE		0.00E+00
NICKEL AND COMPOUNDS2 (values also apply to:)		0.00E+00
Nickel acetate2		0.00E+00
Nickel carbonate2		0.00E+00
Nickel carbonyl2		0.00E+00
Nickel hydroxide2		0.00E+00
Nickelocene2		0.00E+00
NICKEL OXIDE2		0.00E+00
Nickel refinery dust from the pyrometallurgical process2		0.00E+00
Nickel subsulfide2		0.00E+00
p-NITROSODIPHENYLAMINE		0.00E+00
PARTICULATE EMISSIONS FROM DIESEL-FUELED ENGINES		0.00E+00
PERCHLOROETHYLENE (Tetrachloroethylene)		0.00E+00
PCB (POLYCHLORINATED BIPHENYLS) [low risk] 2,6		0.00E+00
PCB (POLYCHLORINATED BIPHENYLS) [high risk] 2,6		0.00E+00
POLYCHLORINATED DIBENZO-P-DIOXINS (PCDD)(AS 2,3,7,8-PCDD EQUIV) 2,7		0.00E+00
2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN2,7		0.00E+00
POLYCHLORINATED DIBENZOFURANS (PCDF)(AS 2,3,7,8-PCDD EQUIV) 2,7		0.00E+00
2,3,7,8-TETRACHLORODIBENZOFURAN2,7		0.00E+00
POLYCYCLIC AROMATIC HYDROCARBON2 (PAH) (AS B(a)P-EQUIV)5		0.00E+00
BENZO(A)PYRENE2,5		0.00E+00
NAPHTHALENE		0.00E+00
1,3-PROPANE SULTONE		0.00E+00
PROPYLENE OXIDE		0.00E+00
1,1,2,2-TETRACHLOROETHANE		0.00E+00
THIOACETAMIDE		0.00E+00
Toluene diisocyantates		0.00E+00
TOLUENE-2,4-DIISOCYANATE		0.00E+00
TOLUENE-2,6-DIISOCYANATE		0.00E+00
1,1,2-TRICHLOROETHANE (Vinyl trichloride)		0.00E+00
TRICHLOROETHYLENE		0.00E+00
URETHANE (Ethyl carbamate)		0.00E+00
VINYL CHLORIDE (Chloroethylene)		0.00E+00
	TOTAL:	4.16E-06

5.71E-06

Pollutant Name	Emission/lbs per day	Chronic Hazard
ACETALDEHYDE	0	0
ACROLEIN		0
ACRYLONITRILE		0
AMMONIA		0
ARSENIC AND COMPOUNDS (INORGANIC)1,2		0
ARSINE		0
BENZENE1	4.31E-02	0.001354546
BERYLLIUM AND COMPOUNDS2		0
1,3-BUTADIENE		0
CADMIUM AND COMPOUNDS2		0
CARBON DISULFIDE1		0
CARBON TETRACHLORIDE1 (Tetrachloromethane)		0
CHLORINE		0
CHLORINE DIOXIDE		0
CHLOROBENZENE		0
CHLOROFORM1		0
2,3,4,6-Tetrachlorophenol		0
CHLOROPICRIN		0
CHROMIUM 6+2		0
Barium chromate2		0
Calcium chromate2		0
Lead chromate2		0
Sodium dichromate2		0
Strontium chromate2		0
CHROMIC TRIOXIDE (as chromic acid mist)		0
CRESOLS		0
M-CRESOL		0
O-CRESOL		0
P-CRESOL		0
Cyanide And Compounds (inorganic)		0
HYDROGEN CYANIDE (Hydrocyanic acid)		0
1,4-DICHLOROBENZENE		0
DIETHANOLAMINE		0
DIMETHYLAMINE		0
N,N-DIMETHYL FORMAMIDE		0
1,4-DIOXANE (1,4-Diethylene dioxide)		0
EPICHLOROHYDRIN (1-Chloro-2,3-epoxypropane)		0
1,2-EPOXYBUTANE		0
ETHYL BENZENE		0
ETHYL CHLORIDE (Chloroethane)		0
ETHYLENE DIBROMIDE (1,2-Dibromoethane)		0
ETHYLENE DICHLORIDE (1,2-Dichloroethane)		0
ETHYLENE GLYCOL		0
ETHYLENE OXIDE (1,2-Epoxyethane)		0
Fluorides		0
HYDROGEN FLUORIDE (Hydrofluoric acid)		0
FORMALDEHYDE		0
GASOLINE VAPORS		0
GLUTARALDEHYDE		0
ETHYLENE GLYCOL ETHYL ETHER – EGEE1		0
ETHYLENE GLYCOL ETHYL ETHER ACETATE – EGEEA1		0
ETHYLENE GLYCOL METHYL ETHER – EGME1		0
ETHYLENE GLYCOL METHYL ETHER ACETATE – EGMEA		0
n-HEXANE		0
HYDRAZINE		0
HYDROCHLORIC ACID (Hydrogen chloride)		0
HYDROGEN SULFIDE		0
ISOPHORONE		0
ISOPROPYL ALCOHOL (Isopropanol)		0
MALEIC ANHYDRIDE		0
MANGANESE AND COMPOUNDS		0
MERCURY AND COMPOUNDS (INORGANIC) values also apply to:		0
Mercuric chloride		0
METHANOL		0
METHYL BROMIDE (Bromomethane)		0
METHYL tertiary-BUTYL ETHER		0
METHYL CHLOROFORM (1,1,1-Trichloroethane)		0
METHYL ISOCYANATE		0
METHYLENE CHLORIDE (Dichloromethane)		0
4,4'-METHYLENE DIANILINE (AND ITS DICHLORIDE)		0
METHYLENE DIPHENYL ISOCYANATE		0
NICKEL AND COMPOUNDS2 (values also apply to:)		0
Nickel acetate2		0
Nickel carbonate2		0
Nickel carbonyl2		0
Nickel hydroxide2		0
Nickelocene2		0
NICKEL OXIDE2		0
Nickel refinery dust from the pyrometallurgical process2		0
Nickel subsulfide2		0
NITROGEN DIOXIDE		0
PARTICULATE EMISSIONS FROM DIESEL-FUELED ENGINES		0
PERCHLOROETHYLENE (Tetrachloroethylene)		0
PHENOL		0
PHOSPHINE		0
PHOSPHORIC ACID		0
PHOSPHORUS (WHITE)		0
PHTHALIC ANHYDRIDE		0
POLYCHLORINATED DIBENZO-P-DIOXINS (PCDD)(AS 2,3,7,8-PCDD EQUIV) 2,7		0
2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN2,7		0
1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN2,7		0
1,2,3,4,7,8-HEXACHLORODIBENZO-P-DIOXIN2,7		0
1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN2,7		0
1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN2,7		0
1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN2,7		0
1,2,3,4,6,7,8,9-OCTACHLORODIBENZO-P-DIOXIN2,7		0
POLYCHLORINATED DIBENZOFURANS (PCDF)(AS 2,3,7,8-PCDD EQUIV) 2,7		0
2,3,7,8-TETRACHLORODIBENZOFURAN2,7		0
1,2,3,7,8-PENTACHLORODIBENZOFURAN2,7		0
2,3,4,7,8-PENTACHLORODIBENZOFURAN2,7		0
1,2,3,4,7,8-HEXACHLORODIBENZOFURAN2,7		0
1,2,3,6,7,8-HEXACHLORODIBENZOFURAN2,7		0
1,2,3,7,8,9-HEXACHLORODIBENZOFURAN2,7		0
2,3,4,6,7,8-HEXACHLORODIBENZOFURAN2,7		0
1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN2,7		0
1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN2,7		0
1,2,3,4,6,7,8,9-OCTACHLORODIBENZOFURAN2,7		0
NAPHTHALENE		0
PROPYLENE (PROPENE)		0
PROPYLENE GLYCOL MONOMETHYL ETHER		0
PROPYLENE OXIDE		0
SELENIUM AND COMPOUNDS		0
Selenium sulfide		0
SILICA (Crystalline, Respirable)		0
STYRENE		0
SULFUR DIOXIDE		0
SULFURIC ACID AND OLEUM		0
SULFURIC ACID		0
SULFUR TRIOXIDE		0
OLEUM		0
TOLUENE		0
Toluene diisocyantates		0
TOLUENE-2,4-DIISOCYANATE		0
TOLUENE-2,6-DIISOCYANATE		0
TRICHLOROETHYLENE		0
TRIETHYLAMINE		0
VINYL ACETATE		0
VINYLIDENE CHLORIDE (1,1-Dichloroethylene)		0
XYLENES (mixed isomers)		0
m-XYLENE		0
o-XYLENE		0
p-XYLENE		0
	TOTAL:	1.35E-03

Search Parameters

County	Santa Clara
Roadway Direction	North-South
Side of the Roadway	East
Distance from Roadway	50 feet
Annual Average Daily Traffic (ADT)	17,500

Results

Santa Clara County

NORTH-SOUTH DIRECTIONAL ROADWAY

PM2.5 annual average

0.263 ($\mu g/m^3$)

Cancer Risk

11.17 (per million)

Old Oakland Road

Data for Santa Clara County based on meteorological data collected from San Jose Airport in 1997

Adjusted for EMFAC2014 for 2018

7.67

(per million)

Note that EMFAC2014 predicts DSL PM2.5 aggragate rates in 2018 that are 46% of EMFAC2011 for 2014. TOG gasoline rates are 56% of EMFAC2011 year 2014 rates. This is for light- and medium-duty vehciles traveling at 30 mph for Bay Area

Notes and References:

1. Emissions were developed using EMFAC2011 for fleet mix in 2014 assuming 10,000 AADT and includes impacts from diesel and gasoline vehicle exhaust, brake and tire wear, and resuspended dust.
2. Roadways were modeled using ~~CALINE4~~ Cal3qhcr air dispersion model assuming a source length of one kilometer. Meteorological data used to estimate the screening values are noted at the bottom of the "Results" box.
3. Cancer risks were estimated for 70 year lifetime exposure starting in 2014 that includes sensitivity values for early life exposures and OEHHA toxicity values adopted in 2013.

Amie Ashton

To: James Reyff
Subject: RE: 645 Horning

From: James Reyff [mailto:jreyff@illingworthrodkin.com]
Sent: Friday, June 02, 2017 11:37 AM
To: Amie Ashton <AAshton@davidjpowers.com>; Tanushree Ganguly <tganguly@illingworthrodkin.com>
Subject: RE: 645 Horning

Hello Amie,
Yes, there really is NO need to update the analysis. The emissions would be lower with the revised project due to the lower number of new trips.
-James

James A. Reyff
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(F) 707.794.0405

From: Amie Ashton [mailto:AAshton@davidjpowers.com]
Sent: Friday, June 02, 2017 8:46 AM
To: James Reyff; Tanushree Ganguly
Subject: 645 Horning

Hello Tanushree and James,

I was hoping you could quickly put your eyes on the table and information below for 645 Horning. I think I mentioned a while ago that the mini-storage portion of the project got larger but the fast-food portion got smaller. Since the fast-food causes all the vehicle trips, operational emissions would not be worse with the revised square footages. Can you verify that is the case per my write up below?

THANK YOU!

AIR QUALITY

The discussion within this section is based in part on information contained within a Community Risk Assessment prepared for the project site by Illingworth & Rodkin, Inc., and dated December 22, 2016. The report is contained within Appendix A.

Since preparation of the Community Risk Assessment, the project has increased the total square footage of the proposed mini-storage facility from 80,621 square feet to 92,116 square feet, and decreased the square footage of the fast-food use from 3,520 square feet to 2,494 square feet. The total number of pumps at the gas station and convenience store with car wash did not change. As shown in the following Table 4.3-1, the project would result in approximately 230 fewer vehicle trips, which is the source of operational emissions for the project (aside from those

resulting from the gas station but there is no change to the intensity of that use). Therefore, the level of operational impacts described for the project in the Community Risk Assessment represents a conservative analysis for the revised project square footage.

Table 4.3-1: Community Risk Assessment Comparison to Proposed Project

Use	Trip Rate	Project Analyzed in Community Risk Assessment		Proposed Project		Difference
		Square Feet	Total Trips	Square Feet	Total Trips	
12 fueling pump gas station with convenience store with car wash	193[1] trips per fueling station	12 fueling stations	2,311	12 fueling stations	2,311	0
Fast-food restaurant with drive-through	253[2] trips per 1000 square feet	3,520	891	2,494	633	-258
Mini-storage	2.5 trips per 1000 square feet	80,621	202	92,116	230	+28
				Total Trip Difference:		-230

[1] Rate includes the assumed 63 percent pass-by trip reduction.

[2] Rate includes the assumed 49 percent pass-by trip reduction.

Construction period emissions discussed in this section reflect CalEEMod modeling based on the amount of ground disturbance; the construction timeframe, phasing, and schedule; and proposed equipment and duration of its use. These assumptions have not changed for the revised project; therefore, the construction period emissions analysis in the Community Risk Assessment is valid.

Amie Ashton | Project Manager
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