APPENDIX C

HEALTH RISK ASSESSMENT

WINCHESTER HOTEL COMMUNITY RISK ASSESSMENT

San José, California

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Introduction

The purpose of this report is to address the potential construction community risk impacts associated with the construction of the proposed hotel project located at 1212 and 1224 S. Winchester Boulevard in San José, California. The impact of existing sources of toxic air contaminants (TACs) upon the project site are also addressed. The analysis was conducted following guidance provided by the Bay Area Air Quality Management District (BAAQMD).[1] 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 source of TACs.

Project Description

The 0.69-acre project site is currently occupied by two single-family residences. The project proposes to demolish the existing uses and construct a six-story, 119-room hotel. Parking would be provided by one below-grade parking level with 69 parking spaces. According to provided information, construction is anticipated to start in January 2021 with a duration of 15 months. Full occupancy is expected by 2023.

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 ($PM_{2.5}$).

Air Pollutants of Concern

High ozone levels are caused by the cumulative emissions of reactive organic gases (ROG) and nitrogen oxides (NO_X). These precursor pollutants react under certain meteorological conditions to form high ozone levels. Controlling the emissions of these precursor pollutants is the focus of the Bay Area's attempts to reduce ozone levels. The highest ozone levels in the Bay Area occur in the eastern and southern inland valleys that are downwind of air pollutant sources. High ozone levels aggravate respiratory and cardiovascular diseases, reduced lung function, and increase coughing and chest discomfort.

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

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

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 industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter [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.

Regulatory Setting

Federal Regulations

The United States Environmental Protection Agency (EPA) sets nationwide emission standards for mobile sources, which include on-road (highway) motor vehicles such trucks, buses, and automobiles, and non-road (off-road) vehicles and equipment used in construction, agricultural, industrial, and mining activities (such as bulldozers and loaders). The EPA also sets nationwide fuel standards. California also has the ability to set motor vehicle emission standards and standards for fuel used in California, as long as they are the same or more stringent than the federal standards.

In the past decade the EPA has established a number of emission standards for on- and non-road heavy-duty diesel engines used in trucks and other equipment. This was done in part because diesel engines are a significant source of NO_X and particulate matter (PM_{10} and $PM_{2.5}$) and because the EPA has identified DPM as a probable carcinogen. Implementation of the heavy-duty diesel on-road vehicle standards and the non-road diesel engine standards are estimated to reduce particulate matter and NO_X emissions from diesel engines up to 95 percent in 2030 when the heavy-duty vehicle fleet is completely replaced with newer heavy-duty vehicles that comply with these emission standards.[2]

In concert with the diesel engine emission standards, the EPA has also substantially reduced the amount of sulfur allowed in diesel fuels. The sulfur contained in diesel fuel is a significant contributor to the formation of particulate matter in diesel-fueled engine exhaust. The new standards reduced the amount of sulfur allowed by 97 percent for highway diesel fuel (from 500

[2] USEPA, 2000. *Regulatory Announcement, Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements*. EPA420-F-00-057. December.

parts per million by weight [ppmw] to 15 ppmw), and by 99 percent for off-highway diesel fuel (from about 3,000 ppmw to 15 ppmw). The low sulfur highway fuel (15 ppmw sulfur), also called ultra-low sulfur diesel (ULSD), is currently required for use by all vehicles in the U.S.

All of the above federal diesel engine and diesel fuel requirements have been adopted by California, in some cases with modifications making the requirements more stringent or the implementation dates sooner.

State Regulations

To address the issue of diesel emissions in the state, CARB developed the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles.[3] In addition to requiring more stringent emission standards for new on-road and off-road mobile sources and stationary diesel-fueled engines to reduce particulate matter emissions by 90 percent, a significant component of the plan involves application of emission control strategies to existing diesel vehicles and equipment. Many of the measures of the Diesel Risk Reduction Plan have been approved and adopted, including the federal on-road and non-road diesel engine emission standards for new engines, as well as adoption of regulations for low sulfur fuel in California.

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. CARB regulations require on-road diesel trucks to be retrofitted with particulate matter controls or replaced to meet 2010 or later engine standards that have much lower DPM and $PM_{2.5}$ emissions. This regulation will substantially reduce these emissions between 2013 and 2023. While new trucks and buses will meet strict federal standards, this measure is intended to accelerate the rate at which the fleet either turns over so there are more cleaner vehicles on the road or is retrofitted to meet similar standards. With this regulation, older, more polluting trucks would be removed from the roads sooner.

CARB has also adopted and implemented regulations to reduce DPM and NO_X emissions from in-use (existing) and new off-road heavy-duty diesel vehicles (e.g., loaders, tractors, bulldozers, backhoes, off-highway trucks, etc.). The regulations apply to diesel-powered off-road vehicles with engines 25 horsepower (hp) or greater. The regulations are intended to reduce particulate matter and NO_X exhaust emissions by requiring owners to turn over their fleet (replace older equipment with newer equipment) or retrofit existing equipment in order to achieve specified fleet-averaged emission rates. Implementation of this regulation, in conjunction with stringent federal off-road equipment engine emission limits for new vehicles, will significantly reduce emissions of DPM and NO_X.

Bay Area Air Quality Management District (BAAQMD)

BAAQMD has jurisdiction over an approximately 5,600-square mile area, commonly referred to as the San Francisco Bay Area (Bay Area). The District's boundary encompasses the nine San

[3] California Air Resources Board, 2000. Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles. October.

Francisco Bay Area counties, including Alameda County, Contra Costa County, Marin County, San Francisco County, San Mateo County, Santa Clara County, Napa County, southwestern Solano County, and southern Sonoma County.

BAAQMD is the lead agency in developing plans to address attainment and maintenance of the National Ambient Air Quality Standards and California Ambient Air Quality Standards. The District also has permit authority over most types of stationary equipment utilized for the proposed project. The BAAQMD is responsible for permitting and inspection of stationary sources; enforcement of regulations, including setting fees, levying fines, and enforcement actions; and ensuring that public nuisances are minimized.

The BAAQMD California Environmental Quality Act (*CEQA) Air Quality Guidelines*[4] were prepared to assist in the evaluation of air quality impacts of projects and plans proposed within the Bay Area. The guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process consistent with CEQA requirements including thresholds of significance, mitigation measures, and background air quality information. They also include assessment methodologies for air toxics, odors, and greenhouse gas emissions. *Attachment 1* includes detailed community risk modeling methodology.

San José Envision 2040 General Plan

The San José Envision 2040 General Plan includes goals, policies, and actions to reduce exposure of the City's sensitive population to exposure of air pollution and toxic air contaminants or TACs. The following goals, policies, and actions are applicable to the proposed project and this assessment:

Applicable Goals – Air Pollutant Emission Reduction

Goal MS-10 Minimize emissions from new development.

Applicable Policies – Air Pollutant Emission Reduction

MS-10.1 Assess projected air emissions from new development in conformance with the Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines and relative to state and federal standards. Identify and implement feasible air emission reduction measures.

MS-10.2 Consider the cumulative air quality impacts from proposed developments for proposed land use designation changes and new development, consistent with the region's Clean Air Plan and State law.

MS-10.3 Promote the expansion and improvement of public transportation services and facilities, where appropriate, to both encourage energy conservation and reduce air pollution.

[4] Bay Area Air Quality Management District, 2017. *CEQA Air Quality Guidelines*. May.

Applicable Goals – Toxic Air Contaminants

Goal MS-11 Minimize exposure of people to air pollution and toxic air contaminants such as ozone, carbon monoxide, lead, and particulate matter.

Applicable Policies – Toxic Air Contaminants

MS-11.2 For projects that emit toxic air contaminants, require project proponents to prepare health risk assessments in accordance with BAAQMD-recommended procedures as part of environmental review and employ effective mitigation to reduce possible health risks to a less than significant level. Alternatively, require new projects (such as, but not limited to, industrial, manufacturing, and processing facilities) that are sources of TACs to be located an adequate distance from residential areas and other sensitive receptors.

MS-11.5 Encourage the use of pollution absorbing trees and vegetation in buffer areas between substantial sources of TACs and sensitive land uses.

Actions – Toxic Air Contaminants

MS-11.7 Consult with BAAQMD to identify stationary and mobile TAC sources and determine the need for and requirements of a health risk assessment for proposed developments.

MS-11.8 For new projects that generate truck traffic, require signage which reminds drivers that the State truck idling law limits truck idling to five minutes.

<u>Sensitive Receptors</u>

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, and elementary schools. For cancer risk assessments, children are the most sensitive receptors, since they are more susceptible to cancer causing TACs. Residential locations are assumed to include infants and small children. The closest sensitive receptors to the project site are single-family homes adjacent to the northern and eastern project site boundaries and the senior nursing home adjacent to the southern project site boundary. There are more sensitive receptors at farther distances. In addition, there are students at Castlemont Elementary School (3 years and older) located southeast of the project site opposite Payne Avenue. This project would not introduce new sensitive receptors (i.e. residents) to the area.

Significance Thresholds

In June 2010, BAAQMD adopted thresholds of significance to assist in the review of projects under CEQA and these significance thresholds were contained in the District's 2011 CEQA Air Quality Guidelines. These thresholds were designed to establish the level at which BAAQMD believed air pollution emissions would cause significant environmental impacts under CEQA. The thresholds were challenged through a series of court challenges and were mostly upheld. BAAQMD updated the CEQA Air Quality Guidelines in 2017 to include the latest significance thresholds, which were used in this analysis and are summarized in Table 1.

Table 1. Community Risk Significance Thresholds

Health Risks and Hazards	Single Sources Within 1,000-foot Zone of Influence	Combined Sources (Cumulative from all sources within 1,000-foot zone of influence)
Excess Cancer Risk	>10.0 per one million	>100 per one million
Hazard Index	>1.0	>10.0
Incremental annual $PM_{2.5}$	>0.3 µg/m^3	>0.8 µg/m^3
Note: 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.		

Construction Community Risk Impacts and Mitigation Measures

Project impacts related to increased community risk can occur either by generating emissions of TACs and air pollutants and by introducing a new sensitive receptor, such as a residential use, in proximity to an existing source of TACs. Temporary project construction activity would generate emissions of DPM from equipment and trucks and also generate dust on a temporary basis that could affect nearby sensitive receptors. A construction community health risk assessment was prepared to address project construction impacts on the surrounding off-site sensitive receptors.

Community risk impacts are addressed by predicting increased lifetime cancer risk, the increase in annual $PM_{2.5}$ concentrations, and computing the Hazard Index (HI) for non-cancer health risks. Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. These exhaust emissions 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 $PM_{2.5}$. A health risk assessment of the project construction activities was conducted that evaluated potential health effects to nearby sensitive receptors from construction emissions of DPM and $PM_{2.5}$.[5] This assessment included dispersion modeling to predict the offsite and onsite concentrations resulting from project construction, so that lifetime cancer risks and non-cancer health effects could be evaluated. The methodology for computing community risks impacts is contained in *Attachment 1*.

CalEEMod Modeling

The California Emissions Estimator Model (CalEEMod) Version 2016.3.2 was used to estimate emissions from construction of the site assuming full build-out of the project. The CalEEMod modeling was performed by EMC Planning Group. The model output from CalEEMod is included as *Attachment 2*.

CalEEMod provided annual emissions for both on- 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. A construction build-out scenario, including equipment list and schedule, was based on applicant provided information. Construction of the project was predicted to begin January 2021 and last 15 months. The proposed project land uses and demolition/earthwork volumes were modeled as follows:

- 119 rooms and 86,548.5 square feet entered as “Hotel” on 0.36 acres,
- 69 spaces and 20,531.4-sf entered as “Enclosed Parking with Elevator”,
- 11,880.1-sf entered as “Other Asphalt Surfaces” on 0.27 acres,
- 2,681-sf entered as “Other Non-Asphalt Surfaces” on 0.06 acres,
- 23,828-sf of existing building demolition,
- 11,000 cubic yards (cy) of soil export during grading, and
- 409 cement truck total round trips during building construction.

[5] DPM is identified by California as a toxic air contaminant due to the potential to cause cancer.

The CalEEMod model provided total annual PM_{10} exhaust emissions (assumed to be DPM) for the off-road construction equipment and for exhaust emissions from on-road vehicles, with total emissions from all construction stages as 0.0814 tons (163 pounds). The on-road emissions are a result of haul truck travel during demolition and grading activities, worker travel, and vendor deliveries during construction. A trip length of one mile was used to represent vehicle travel while at or near the construction site. It was assumed that these emissions from on-road vehicles traveling at or near the site would occur at the construction site. Fugitive $PM_{2.5}$ dust emissions were calculated by CalEEMod as 0.0907 tons (181 pounds) for the overall construction period.

Dispersion Modeling

The U.S. EPA AERMOD dispersion model was used to predict concentrations of DPM and $PM_{2.5}$ concentrations at sensitive receptors (residences, daycare) 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] Emission sources for the construction site were grouped into two categories: exhaust emissions of DPM and fugitive $PM_{2.5}$ dust emissions. Combustion equipment exhaust emissions were modeled as a series of point sources with a 9-foot release height (construction equipment exhaust stack height) placed at 20-feet (6-meter) intervals throughout the construction site. This resulted in 88 individual point sources being used to represent mobile equipment DPM exhaust emissions in the construction area, with DPM emissions occurring throughout the project construction site. Construction fugitive $PM_{2.5}$ dust emissions were modeled as an area source encompassing the entire construction site with a near ground level release height of 7 feet (2 meters). Construction emissions were modeled as occurring daily between 7:00 a.m. to 5:00 p.m. when the majority of construction activity would occur according to the project applicant.

The modeling used a 5-year meteorological data set (2013-2017) from the San José International Airport prepared for use with the AERMOD model by the BAAQMD. Annual DPM and $PM_{2.5}$ concentrations from construction activities at the project site during the 2021-2022 period were calculated using the model. DPM and $PM_{2.5}$ concentrations were calculated at nearby sensitive receptor locations. Receptor heights of 5 feet (1.5 meters) and 15 feet (4.5 meters) were used to represent the breathing heights of residences on the first and second floors in nearby single-family homes, multi-family developments, and senior nursing home. A breathing height of 3 feet (1 meter) was used to model the construction risks for students at the elementary school.

Construction Community Risk Results

The maximum increased cancer risks were calculated using the modeled TAC concentrations combined with the Office of Environmental Health Hazard Assessment (OEHHA)guidance for age sensitivity factors and exposure parameters as recommended by BAAQMD (see *Attachment 1)*. Non-cancer health hazards and maximum $PM_{2.5}$ concentrations were also calculated and identified. 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 during the entire construction period. For the elementary school, students were assumed to be

[6] Bay Area Air Quality Management District (BAAQMD), 2012, *Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0.* May.

three years and older. The child (ages 2 through 16 years old) cancer risk parameters were used to calculate the increased cancer risk for the students.

The maximum modeled annual $PM_{2.5}$ concentration was calculated based on combined exhaust and fugitive concentrations. The maximum computed HI value was based on the ratio of the maximum DPM concentration modeled and the chronic inhalation refence exposure level of 5 $\mu g/m^3$. *Attachment 3* to this report includes the emission calculations used for the construction area source modeling and the cancer risk calculations.

The maximum modeled annual DPM and $PM_{2.5}$ concentrations, which includes both the DPM and fugitive $PM_{2.5}$ concentrations at nearby sensitive receptors, were used to identify the maximally exposed individuals (MEIs), as shown in Figure 1. Results of this assessment indicated that the construction residential MEI was located at an adjacent single-family home east of the project site. The maximum increased cancer risks would exceed the BAAQMD significance threshold of 10 in one million and the maximum $PM_{2.5}$ concentrations would exceed the BAAQMD significance threshold of 0.3 $\mu g/m^3$. Table 2 summarizes the maximum cancer risks, $PM_{2.5}$ concentrations, and health hazard indexes for project related construction activities affecting the residential MEI.

Additionally, modeling was conducted to predict the cancer risks, non-cancer health hazards, and maximum $PM_{2.5}$ concentrations associated with construction activities at the nearby senior nursing home and elementary school. The maximum increased cancer risks were adjusted using adult and child exposure parameters. The unmitigated $PM_{2.5}$ concentration at the adjacent senior nursing home does exceed the BAAQMD single-source significance threshold. The unmitigated cancer risk and HI at the adjacent senior nursing home and the unmitigated cancer risk, $PM_{2.5}$ concentration, and HI at the nearby elementary school do not exceed their respective BAAQMD single-source significance thresholds, as shown in Table 2.

Table 2. Construction Risk Impacts at the Off-site MEI

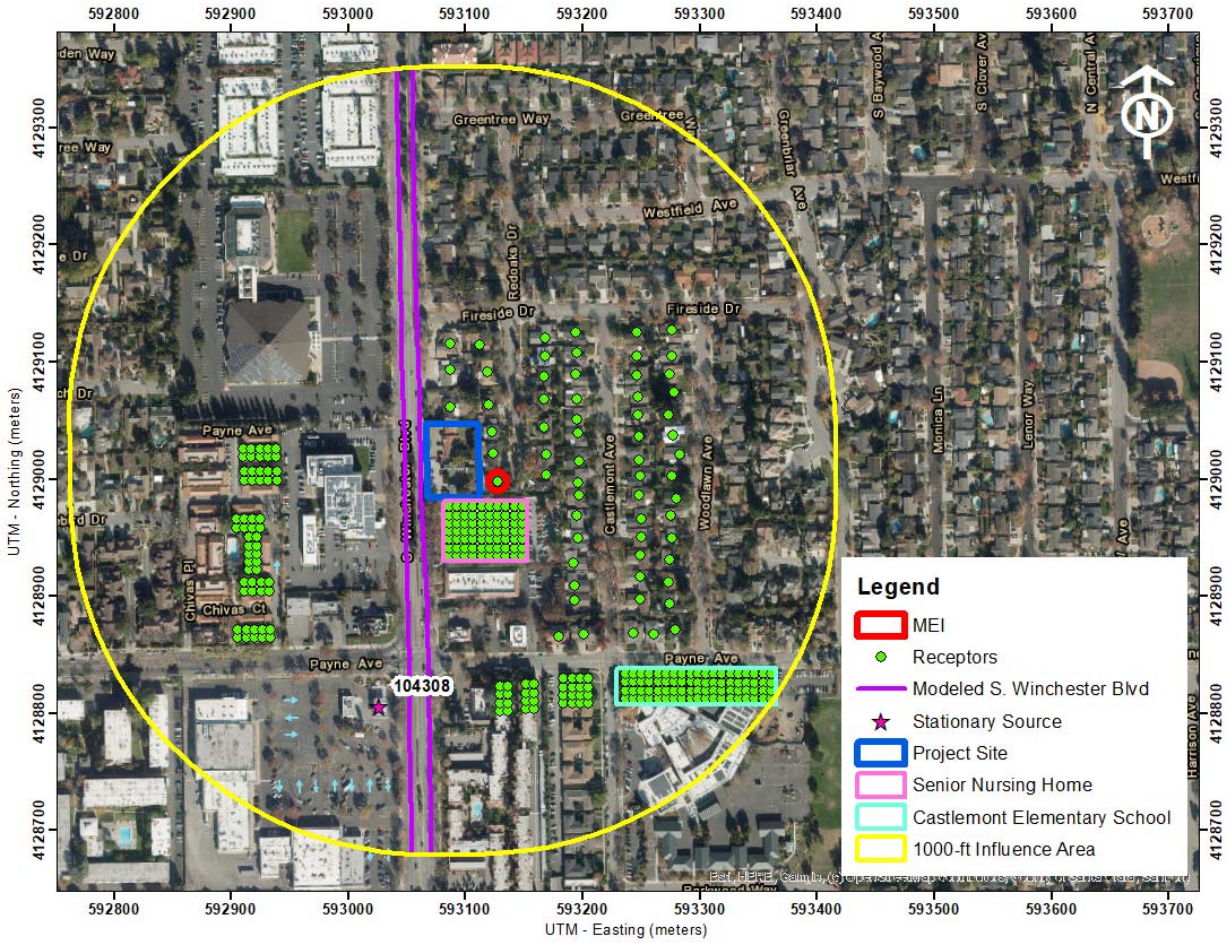
Source		Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Most Affected Residential Receptor (MEI)				
Project Construction	Unmitigated	**33.1 (infant)**	**1.46**	0.04
	Mitigated	3.7 (infant)	0.29	<0.01
	BAAQMD Single-Source Threshold	***>10.0***	***>0.3***	***>1.0***
Exceed Threshold?	Unmitigated	***Yes***	***Yes***	*No*
	Mitigated	*No*	*No*	*No*
Most Affected Senior Nursing Home Adult Receptor				
Project Construction	Unmitigated	0.6 (adult)	**1.33**	0.04
	Mitigated	0.1 (adult)	0.26	<0.01
	BAAQMD Single-Source Threshold	***>10.0***	***>0.3***	***>1.0***
Exceed Threshold?	Unmitigated	*No*	***Yes***	*No*
	Mitigated	*No*	*No*	*No*
Most Affected Elementary School Child Receptor				
Project Construction	Unmitigated	2.2 (child)	0.07	0.01
	BAAQMD Single-Source Threshold	***>10.0***	***>0.3***	***>1.0***
Exceed Threshold?	Unmitigated	*No*	*No*	*No*

Figure 1. Project Construction Site, Locations of Modeled DPM Point Sources, Locations of Off-Site Sensitive Receptors, and Maximum TAC Location

Cumulative Impact of All TAC Sources on the Offsite Project MEI

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 (i.e. influence area). These sources include rail lines, highways, busy surface streets, and stationary sources identified by BAAQMD. A review of the project influence area indicates that the average daily traffic (ADT) on S. Winchester Boulevard would exceed 10,000 vehicles. Other nearby streets are assumed to have less than 10,000 vehicles per day. A review of BAAQMD's stationary source geographic information systems (GIS) map tool identified one stationary source with the potential to affect the MEI. Figure 2 shows the location of sources affecting the project site and MEI. Community risk impacts from these sources upon the MEI are reported in Table 3. Details of the modeling and community risk calculations are included in *Attachment 4.*

Figure 2. Project Site and Nearby TAC and $PM_{2.5}$ Sources



Local Roadways – S. Winchester Boulevard

A refined analysis of potential health impacts from vehicle traffic on S. Winchester Boulevard was conducted. The refined analysis involved predicting emissions for the traffic volume and mix of vehicle types on the roadway near the project site and using an atmospheric dispersion model to predict exposure to TACs. The associated cancer risks are then computed based on the modeled exposures. *Attachment 1* includes a description of how community risk impacts, including cancer risk are computed.

Traffic Emissions Modeling

This analysis involved the development of DPM, organic TACs, and $PM_{2.5}$ emissions for traffic on both roadways using the Caltrans version of the EMFAC2017 emissions model, known as CT-EMFAC2017. CT-EMFAC2017 provides emission factors for mobile source criteria pollutants and TACs, including DPM. Emission processes modeled include running exhaust for DPM, $PM_{2.5}$ and total organic compounds (e.g., TOG), running evaporative losses for TOG, and tire and brake wear and fugitive road dust for $PM_{2.5}$. All $PM_{2.5}$ emissions from all vehicles were used, rather than just the $PM_{2.5}$ fraction from diesel powered vehicles, because all vehicle types

(i.e., gasoline and diesel powered) produce $PM_{2.5}$. Additionally, $PM_{2.5}$ emissions from vehicle tire and brake wear and from re-entrained roadway dust were included in these emissions. DPM emissions are projected to decrease in the future and are reflected in the CT-EMFAC2017 emissions data. Inputs to the model include region (i.e., Santa Clara County), type of road, truck percentage (CT-EMFAC2017 Santa Clara County default truck percentages), traffic mix assigned by CT-EMFAC2017 for the county, year of analysis, and season. The CT-EMFAC2017 model was used to develop vehicle emission factors for the year 2023. Year 2023 emissions were conservatively assumed as being representative of future conditions over the time period that cancer risks are evaluated (30 years).

The ADT on S. Winchester Boulevard was based on the AM and PM peak-hour background plus project traffic volumes data provided in the project's traffic report.[7] Traffic volumes were then assumed to increase one percent per year from the year of volumes counts to the operational year. The estimated ADT on S. Winchester Boulevard would be 22,802 vehicles. Average hourly traffic distributions for Santa Clara County roadways were developed using the EMFAC model,[8] which were then applied to the ADT volumes to obtain estimated hourly traffic volumes and emissions for the roadway. An average travel speed of 40 miles per hour (mph) on S. Winchester Boulevard was used for all hours of the day based on posted speed limit signs on the roadway. The first year of occupation was assumed to be 2023.

Dispersion Modeling

Dispersion modeling of TAC and $PM_{2.5}$ emissions was conducted using the EPA AERMOD model. TAC and $PM_{2.5}$ emissions from traffic on S. Winchester Boulevard within about 1,000 feet of the project site were evaluated. Vehicle traffic on the roadway was modeled using a series of adjacent volume sources along a line (line volume sources); with line segments used for northbound and southbound travel on Stevens Creek Boulevard. The modeled roadway segments are shown in Figure 2.

A five-year data set (2013-2017) of hourly meteorological data from the San José International Airport was used for the modeling. Other inputs to the model included road geometries and elevations, hourly traffic emissions, and the MEI receptor location. Concentrations were calculated at the construction MEI with receptor heights of 5 feet (1.5 meters) to represent the breathing heights of residents on the first floor.

Results from S. Winchester Boulevard are listed in Table 3**.** Details of the emission calculations, dispersion modeling, and cancer risk calculations are contained in *Attachment 4*.

[7] Hexagon Transportation Consultants, Inc. *1212 South Winchester Hotel Development Transportation Analysis*. July 2020.

[8] The Burden output from EMFAC2007, a previous version of CARB's EMFAC model, was used for this since the current web-based version of EMFAC2017 does not include Burden type output with hour by hour traffic volume information.

BAAQMD Permitted Stationary Sources

Permitted stationary sources of air pollution near the project site were identified using BAAQMD's *Permitted Stationary Sources 2018* GIS website.[9] This mapping tool identifies the location of nearby stationary sources and their estimated risk and hazard impacts. One source was identified using this tool with the sources being a gas dispensing facility. A stationary source information request was not submitted to BAAQMD since screening risk values for the gas dispensing facility were available on the GIS website.

The website provided screening average daily emissions for all the sources were adjusted for distance using BAAQMD's *Gasoline Dispensing Facility Distance Multiplier*. Results from this modeling the screening calculator are listed in Table 3 and are included in *Attachment 4*.

Cumulative Health Risk Impact at Construction MEI

Table 3 reports both the project and cumulative community risk impacts at the sensitive receptor most affected by construction (i.e. the construction residential MEI). Without mitigation, the project would have an exceedance with respect to community risk caused by project construction activities, since the maximum increased cancer risk and maximum annual $PM_{2.5}$ concentration exceed their BAAQMD single-source thresholds. The combined unmitigated annual $PM_{2.5}$ concentration would also exceed the BAAQMD cumulative-source thresholds. However, with the implementation of *Mitigation Measures AQ-1 and AQ-2,* the project's risks would be lowered to levels below the single-source thresholds and the cumulative risks would no longer exceed the cumulative threshold.

Table 3. Impacts from Combined Sources at Construction MEI

Source		Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Project Impacts				
Project Construction	Unmitigated	**33.1 (infant)**	**1.46**	0.04
	Mitigated	3.7 (infant)	0.29	<0.01
BAAQMD Single-Source Threshold		***>10.0***	***>0.3***	***>1.0***
Exceed Threshold?	Unmitigated	***Yes***	***Yes***	*No*
	Mitigated	*No*	*No*	*No*
Cumulative Sources				
S. Winchester Boulevard, ADT 22,802		2.4	0.18	<0.01
Chevron #6027 (Facility ID #104308, Gas Station) MEI Distance 615 feet		0.3	--	<0.01
Combined Sources	Unmitigated	35.8 (infant)	**1.64**	<0.06
	Mitigated	6.4 (infant)	0.47	<0.03
BAAQMD Cumulative Source Threshold		***>100***	***>0.8***	***>10.0***
Exceed Threshold?	Unmitigated	*No*	***Yes***	*No*
	Mitigated	*No*	*No*	*No*

[9] BAAQMD, Web: https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=2387ae674013413f987b1071715daa65

Mitigation Measure AQ-1: Implement BAAQMD-Recommended Measures to Control Particulate Matter Emissions during Construction.

During construction, the project contractor shall implement measures to reduce emissions of fugitive particulate matter (PM_{10} and $PM_{2.5}$) and exhaust particulate matter (DPM) to ensure that short-term health impacts to nearby sensitive receptors are avoided.

Dust and Exhaust Control Measures:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered three times a day and at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.
2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
4. All vehicle speeds on unpaved roads shall be limited to 15 mph.
5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
8. Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.
9. All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph and visible dust extends beyond site boundaries.
10. Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction adjacent to sensitive receptors. Wind breaks should have at maximum 50 percent air porosity.
11. Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.

12. The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.
13. Avoid tracking of visible soil material on to public roadways by employing the following measures if necessary: (1) Site accesses to a distance of 100 feet from public paved roads shall be treated with a 6 to 12-inch compacted layer of wood chips, mulch, or gravel and (2) washing truck tires and construction equipment of prior to leaving the site.
14. Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.

Effectiveness of Mitigation Measure AQ-1

Mitigation Measure AQ-1 represents enhanced dust control mitigation measures that would achieve greater than a 58 percent reduction in on-site fugitive PM_{10} and greater than a 78 percent reduction in on-site fugitive $PM_{2.5}$ emissions. These measures are consistent with recommendations in the BAAMQD CEQA Guidance for providing "best management practices" to control construction emissions.

Mitigation Measure AQ-2: **Use construction equipment that has low DPM exhaust to minimize emissions.**

The project developer shall prepare and the project contractor shall implement a plan to reduce construction particulate emissions by at least 70 percent. The plan shall be prepared prior to the issuance of a demolition or grading permit and shall be reviewed and approved by the City of San Jose Planning Director and may include the following measures:

1. All construction equipment larger than 25 horsepower used at the site for more than two continuous days or 20 hours total shall meet U.S. EPA Tier 4 emission standards for particulate matter (PM_{10} and $PM_{2.5}$); or,

    a. Use equipment with engines that meet U.S. EPA Tier 3 standards equipped with CARB-certified Level 3 Diesel Particulate Filters,[10] that altogether achieve a 70 percent reduction in particulate matter exhaust in comparison to uncontrolled equipment; and/or,
    b. Use of alternatively fueled equipment or equipment with zero emissions (i.e. electrical equipment); and/or,
    c. Provide line power to the site during the early phases of construction to minimize the use of diesel-powered stationary equipment, such as generators.

2. The plan shall utilize the above measures or equivalent measures, and must demonstrate that particulate matter exhaust emissions would be reduced by at least 70 percent, and

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

any alternative measures shall be subject to review and approval of the City of San Jose Planning Director prior to the issuance of any permit.

Effectiveness of Mitigation Measure AQ-2

Project construction activities were analyzed with the assumption of Tier 3 equipment with CARB-certified Level 3 diesel particulate filters. The use of equipment meeting Tier 4 standards would have lower emissions. With implementation of Mitigation Measures AQ-1 along with Mitigation Measure AQ-2, the computed maximum increased lifetime residential cancer risk from construction, assuming infant exposure, would be 3.7 in one million or less, the maximum annual $PM_{2.5}$ concentration would be 0.29 $\mu g/m^3$, and the Hazard Index would be less than 0.01. The cumulative $PM_{2.5}$ concentration would also be reduced to 0.47 $\mu g/m^3$. As a result, the project's construction cancer risk, annual $PM_{2.5}$ concentration, and non-cancer health risks would be reduced below the BAAQMD single-source and cumulative-source thresholds.

Supporting Documentation

Attachment 1 is the methodology used to compute community risk impacts, including the methods to compute lifetime cancer risk from exposure to project emissions.

Attachment 2 includes the CalEEMod output provided by EMC Planning Group.

Attachment 3 is the construction health risk assessment. This includes the summary of the dispersion modeling and the cancer risk calculations for construction. AERMOD dispersion modeling files for this assessment, which are quite voluminous, are available upon request and would be provided in digital format

Attachment 4 includes the cumulative community risk calculations, modeling results, and health risk calculations from sources affecting the construction MEI.

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.[11] 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.[12] This HRA used the 2015 OEHHA risk assessment guidelines and CARB guidance. The BAAQMD has adopted recommended procedures for applying the newest OEHHA guidelines as part of Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants.[13] Exposure parameters from the OEHHA guidelines and the recent BAAQMD HRA Guidelines were used in this evaluation.

Cancer Risk

Potential increased cancer risk from inhalation of TACs is 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 and duration of exposure. 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) or liters per kilogram of body weight per 8-hour period for the case of worker or school child exposures. As recommended by the BAAQMD for residential exposures, 95th percentile breathing rates are used for the third trimester and infant exposures, and 80th percentile breathing rates for child and adult exposures. For children at schools and daycare facilities, BAAQMD recommends using the 95th percentile 8-hour breathing rates. Additionally, CARB and the BAAQMD recommend the use of a

[11] 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.
[12] CARB, 2015. *Risk Management Guidance for Stationary Sources of Air Toxics*. July 23.
[13] BAAQMD, 2016. *BAAQMD Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines*. December 2016.

residential exposure duration of 30 years for sources with long-term emissions (e.g., roadways). For workers, assumed to be adults, a 25-year exposure period is recommended by the BAAQMD. For school children a 9-year exposure period is recommended by the BAAQMD.

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. Use of the FAH factors is allowed by the BAAQMD if there are no schools in the project vicinity have a cancer risk of one in a million or greater assuming 100 percent exposure (FAH = 1.0).

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)
8HrBR = 8-hour breathing rate (L/kg body weight-8 hours)
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:

Parameter	*Exposure Type* →	Infant		Child	Adult
	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) 80th Percentile Rate		273	758	572	261
Daily Breathing Rate (L/kg-day) 95th Percentile Rate		361	1,090	745	335
8-hour Breathing Rate (L/kg-8 hours) 95th Percentile Rate		-	1,200	520	240
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 (FAH)		0.85-1.0	0.85-1.0	0.72-1.0	0.73*
* An 8-hour breathing rate (8HrBR) is used for worker and school child exposures.					

Non-Cancer Hazards

Non-cancer health risk is usually determined by comparing the predicted level of exposure to a chemical to the level of exposure that is not expected to cause any adverse effects (reference exposure level), even to the most susceptible people. 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: CalEEMod Modeling Output

Winchester Hotel_HRA - Bay Area AQMD Air District, Annual

Winchester Hotel_HRA

Bay Area AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Enclosed Parking with Elevator	69.00	Space	0.00	20,531.40	0
Other Asphalt Surfaces	11.88	1000sqft	0.27	11,880.10	0
Other Non-Asphalt Surfaces	2.68	1000sqft	0.06	2,681.00	0
Hotel	119.00	Room	0.36	86,548.50	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	64
Climate Zone	4			**Operational Year**	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Adjusted CO2 Intensity Factor for 2020

Land Use - from site plans. bldg footprint = ground floor acreage. Paving includes on-site and off-site

Construction Phase - adjusted per construction data sheet

Off-road Equipment - .

Off-road Equipment - .

Off-road Equipment - per construction data sheet

Off-road Equipment - .

Off-road Equipment - .

Off-road Equipment - .

Off-road Equipment - .

Trips and VMT - 1 mile nearby TAC. 409 Round cement trips added to Hauling trips of bldg construction phase

Demolition - from construction data sheet

Grading - soil export = 11,000 cy

Vehicle Trips - trip generation from Hexagon

Energy Use -

Sequestration - 30 net new trees

Construction Off-road Equipment Mitigation - tier 3, DPF level 3 engines and compliance with air district BMPs, Additional PM Mitigation

Energy Mitigation - compliance with 2019 BEES

Water Mitigation - compliance with MWELO

Operational Off-Road Equipment -

Stationary Sources - Emergency Generators and Fire Pumps - from construction data sheet. Fire pump and generator assuming 2 hours of operation per month for maintenance

Table Name	Column Name	Default Value	New Value
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tblConstructionPhase	NumDays	10.00	20.00
tblConstructionPhase	NumDays	2.00	40.00
tblConstructionPhase	NumDays	5.00	20.00
tblConstructionPhase	NumDays	1.00	10.00
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tblLandUse	LandUseSquareFeet	11,880.00	11,880.10
tblLandUse	LandUseSquareFeet	2,680.00	2,681.00
tblLandUse	LandUseSquareFeet	172,788.00	86,548.50
tblLandUse	LotAcreage	0.62	0.00

tblLandUse	LotAcreage	3.97	0.36
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
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tblSequestration	NumberOfNewTrees	0.00	30.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	150.00
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tblVehicleTrips	ST_TR	8.19	12.23
tblVehicleTrips	SU_TR	5.95	12.23
tblVehicleTrips	WD_TR	8.17	12.23

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					
2021	0.3108	1.7728	1.1730	2.3500e-003	0.1821	0.0772	0.2593	0.0877	0.0714	0.1591	0.0000	208.4742	208.4742	0.0573	0.0000	209.9070
2022	0.3143	0.0710	0.0986	1.5000e-004	2.2000e-004	3.3900e-003	3.6100e-003	6.0000e-005	3.2300e-003	3.2900e-003	0.0000	12.9675	12.9675	3.0500e-003	0.0000	13.0437
Maximum	**0.3143**	**1.7728**	**1.1730**	**2.3500e-003**	**0.1821**	**0.0772**	**0.2593**	**0.0877**	**0.0714**	**0.1591**	**0.0000**	**208.4742**	**208.4742**	**0.0573**	**0.0000**	**209.9070**

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					
2021	0.2116	1.2353	1.3719	2.3500e-003	0.0747	8.3300e-003	0.0830	0.0184	8.3100e-003	0.0267	0.0000	208.4740	208.4740	0.0573	0.0000	209.9068
2022	0.3095	0.0718	0.0984	1.5000e-004	2.2000e-004	7.6000e-004	9.8000e-004	6.0000e-005	7.6000e-004	8.2000e-004	0.0000	12.9675	12.9675	3.0500e-003	0.0000	13.0437
Maximum	**0.3095**	**1.2353**	**1.3719**	**2.3500e-003**	**0.0747**	**8.3300e-003**	**0.0830**	**0.0184**	**8.3100e-003**	**0.0267**	**0.0000**	**208.4740**	**208.4740**	**0.0573**	**0.0000**	**209.9068**

	ROG	NOx	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	**16.64**	**29.11**	**-15.62**	**0.00**	**58.92**	**88.72**	**68.06**	**78.93**	**87.84**	**83.02**	**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	1-4-2021	4-3-2021	0.8946	0.5702
2	4-4-2021	7-3-2021	0.3535	0.2474
3	7-4-2021	10-3-2021	0.3574	0.2478
4	10-4-2021	1-3-2022	0.4131	0.3418
5	1-4-2022	4-3-2022	0.3638	0.3602
		Highest	0.8946	0.5702

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	0.3863	2.0000e-005	1.8600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.6200e-003	3.6200e-003	1.0000e-005	0.0000	3.8600e-003
Energy	0.0207	0.1880	0.1579	1.1300e-003		0.0143	0.0143		0.0143	0.0143	0.0000	307.2264	307.2264	0.0142	5.8700e-003	309.3314
Mobile	0.3102	1.3392	3.2715	0.0117	1.0290	9.6800e-003	1.0387	0.2762	9.0300e-003	0.2852	0.0000	1,074.1375	1,074.1375	0.0389	0.0000	1,075.1095
Stationary	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	13.2249	0.0000	13.2249	0.7816	0.0000	32.7640
Water						0.0000	0.0000		0.0000	0.0000	0.9577	2.3030	3.2607	0.0986	2.3700e-003	6.4318
Total	**0.7172**	**1.5272**	**3.4312**	**0.0128**	**1.0290**	**0.0240**	**1.0530**	**0.2762**	**0.0233**	**0.2995**	**14.1825**	**1,383.6705**	**1,397.8531**	**0.9332**	**8.2400e-003**	**1,423.6406**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.3863	2.0000e-005	1.8600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.6200e-003	3.6200e-003	1.0000e-005	0.0000	3.8600e-003
Energy	0.0151	0.1376	0.1156	8.3000e-004		0.0105	0.0105		0.0105	0.0105	0.0000	242.2356	242.2356	0.0121	4.6600e-003	243.9267
Mobile	0.3102	1.3392	3.2715	0.0117	1.0290	9.6800e-003	1.0387	0.2762	9.0300e-003	0.2852	0.0000	1,074.1375	1,074.1375	0.0389	0.0000	1,075.1095
Stationary	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	13.2249	0.0000	13.2249	0.7816	0.0000	32.7640

Water						0.0000	0.0000		0.0000	0.0000	0.9577	2.2936	3.2513	0.0986	2.3700e-003	6.4223
Total	**0.7117**	**1.4769**	**3.3889**	**0.0125**	**1.0290**	**0.0202**	**1.0492**	**0.2762**	**0.0195**	**0.2957**	**14.1825**	**1,318.6704**	**1,332.8529**	**0.9312**	**7.0300e-003**	**1,358.2265**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.77**	**3.30**	**1.23**	**2.34**	**0.00**	**15.97**	**0.36**	**0.00**	**16.42**	**1.28**	**0.00**	**4.70**	**4.65**	**0.22**	**14.68**	**4.59**

2.3 Vegetation

Vegetation

	CO2e
Category	MT
New Trees	21.2400
Total	**21.2400**

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	1/4/2021	1/29/2021	5	20	
2	Site Preparation	Site Preparation	2/1/2021	2/12/2021	5	10	
3	Grading	Grading	2/15/2021	4/9/2021	5	40	
4	Trenching	Trenching	4/12/2021	4/23/2021	5	10	
5	Building Construction	Building Construction	4/26/2021	12/3/2021	5	160	
6	Architectural Coating	Architectural Coating	12/6/2021	2/25/2022	5	60	
7	Paving	Paving	2/28/2022	3/25/2022	5	20	

Acres of Grading (Site Preparation Phase): 5

Acres of Grading (Grading Phase): 20

Acres of Paving: 0.33

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 129,823; Non-Residential Outdoor: 43,274; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	2	8.00	81	0.73
Demolition	Excavators	1	8.00	158	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Concrete/Industrial Saws	0	8.00	81	0.73
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Trenching	Excavators	1	8.00	158	0.38
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	8.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Architectural Coating	Aerial Lifts	1	8.00	63	0.31
Architectural Coating	Air Compressors	1	4.00	78	0.48
Paving	Cement and Mortar Mixers	2	8.00	9	0.56
Paving	Pavers	0	7.00	130	0.42
Paving	Rollers	0	7.00	80	0.38

Paving	Tractors/Loaders/Backhoes	2	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	7	18.00	0.00	108.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	5	13.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	1,375.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Trenching	2	5.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Building Construction	4	51.00	20.00	818.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	2	10.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Paving	4	10.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Replace Ground Cover

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0117	0.0000	0.0117	1.7800e-003	0.0000	1.7800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	0.0261	0.2489	0.2144	3.6000e-004		0.0132	0.0132		0.0124	0.0124	0.0000	30.9856	30.9856	7.1700e-003	0.0000	31.1648
Total	**0.0261**	**0.2489**	**0.2144**	**3.6000e-004**	**0.0117**	**0.0132**	**0.0249**	**1.7800e-003**	**0.0124**	**0.0142**	**0.0000**	**30.9856**	**30.9856**	**7.1700e-003**	**0.0000**	**31.1648**

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	1.1000e-004	5.4200e-003	8.2000e-004	1.0000e-005	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.6924	0.6924	8.0000e-005	0.0000	0.6944
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	1.8000e-004	8.0000e-005	1.0800e-003	0.0000	1.3000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1435	0.1435	1.0000e-005	0.0000	0.1436
Total	**2.9000e-004**	**5.5000e-003**	**1.9000e-003**	**1.0000e-005**	**1.8000e-004**	**0.0000**	**1.9000e-004**	**5.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.8358**	**0.8358**	**9.0000e-005**	**0.0000**	**0.8381**

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					4.5700e-003	0.0000	4.5700e-003	3.5000e-004	0.0000	3.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.1400e-003	0.1742	0.2319	3.6000e-004		1.5600e-003	1.5600e-003		1.5600e-003	1.5600e-003	0.0000	30.9855	30.9855	7.1700e-003	0.0000	31.1647
Total	**8.1400e-003**	**0.1742**	**0.2319**	**3.6000e-004**	**4.5700e-003**	**1.5600e-003**	**6.1300e-003**	**3.5000e-004**	**1.5600e-003**	**1.9100e-003**	**0.0000**	**30.9855**	**30.9855**	**7.1700e-003**	**0.0000**	**31.1647**

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	1.1000e-004	5.4200e-003	8.2000e-004	1.0000e-005	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.6924	0.6924	8.0000e-005	0.0000	0.6944
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	1.8000e-004	8.0000e-005	1.0800e-003	0.0000	1.3000e-004	0.0000	1.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1435	0.1435	1.0000e-005	0.0000	0.1436
Total	**2.9000e-004**	**5.5000e-003**	**1.9000e-003**	**1.0000e-005**	**1.8000e-004**	**0.0000**	**1.9000e-004**	**5.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.8358**	**0.8358**	**9.0000e-005**	**0.0000**	**0.8381**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0328	0.0000	0.0328	0.0168	0.0000	0.0168	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0103	0.1129	0.0629	1.2000e-004		5.2800e-003	5.2800e-003		4.8600e-003	4.8600e-003	0.0000	10.7580	10.7580	3.4800e-003	0.0000	10.8450
Total	**0.0103**	**0.1129**	**0.0629**	**1.2000e-004**	**0.0328**	**5.2800e-003**	**0.0380**	**0.0168**	**4.8600e-003**	**0.0217**	**0.0000**	**10.7580**	**10.7580**	**3.4800e-003**	**0.0000**	**10.8450**

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	7.0000e-005	3.0000e-005	3.9000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0518	0.0518	0.0000	0.0000	0.0519
Total	**7.0000e-005**	**3.0000e-005**	**3.9000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0518**	**0.0518**	**0.0000**	**0.0000**	**0.0519**

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					0.0128	0.0000	0.0128	3.2800e-003	0.0000	3.2800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.0000e-003	0.0619	0.0754	1.2000e-004		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004	0.0000	10.7580	10.7580	3.4800e-003	0.0000	10.8450
Total	**3.0000e-003**	**0.0619**	**0.0754**	**1.2000e-004**	**0.0128**	**4.8000e-004**	**0.0133**	**3.2800e-003**	**4.8000e-004**	**3.7600e-003**	**0.0000**	**10.7580**	**10.7580**	**3.4800e-003**	**0.0000**	**10.8450**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Worker	7.0000e-005	3.0000e-005	3.9000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0518	0.0518	0.0000	0.0000	0.0519
Total	**7.0000e-005**	**3.0000e-005**	**3.9000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0518**	**0.0518**	**0.0000**	**0.0000**	**0.0519**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1317	0.0000	0.1317	0.0674	0.0000	0.0674	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0467	0.4999	0.3374	6.3000e-004		0.0231	0.0231		0.0212	0.0212	0.0000	55.7233	55.7233	0.0180	0.0000	56.1738
Total	**0.0467**	**0.4999**	**0.3374**	**6.3000e-004**	**0.1317**	**0.0231**	**0.1547**	**0.0674**	**0.0212**	**0.0887**	**0.0000**	**55.7233**	**55.7233**	**0.0180**	**0.0000**	**56.1738**

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	1.3800e-003	0.0691	0.0105	9.0000e-005	5.9000e-004	6.0000e-005	6.5000e-004	1.6000e-004	6.0000e-005	2.2000e-004	0.0000	8.8147	8.8147	1.0600e-003	0.0000	8.8411
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	3.1000e-004	1.4000e-004	1.8100e-003	0.0000	2.2000e-004	0.0000	2.3000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2391	0.2391	1.0000e-005	0.0000	0.2394
Total	**1.6900e-003**	**0.0692**	**0.0123**	**9.0000e-005**	**8.1000e-004**	**6.0000e-005**	**8.8000e-004**	**2.2000e-004**	**6.0000e-005**	**2.8000e-004**	**0.0000**	**9.0539**	**9.0539**	**1.0700e-003**	**0.0000**	**9.0805**

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					0.0514	0.0000	0.0514	0.0132	0.0000	0.0132	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0156	0.3112	0.4113	6.3000e-004		2.2600e-003	2.2600e-003		2.2600e-003	2.2600e-003	0.0000	55.7232	55.7232	0.0180	0.0000	56.1738
Total	**0.0156**	**0.3112**	**0.4113**	**6.3000e-004**	**0.0514**	**2.2600e-003**	**0.0536**	**0.0132**	**2.2600e-003**	**0.0154**	**0.0000**	**55.7232**	**55.7232**	**0.0180**	**0.0000**	**56.1738**

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	1.3800e-003	0.0691	0.0105	9.0000e-005	5.9000e-004	6.0000e-005	6.5000e-004	1.6000e-004	6.0000e-005	2.2000e-004	0.0000	8.8147	8.8147	1.0600e-003	0.0000	8.8411
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	3.1000e-004	1.4000e-004	1.8100e-003	0.0000	2.2000e-004	0.0000	2.3000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.2391	0.2391	1.0000e-005	0.0000	0.2394
Total	**1.6900e-003**	**0.0692**	**0.0123**	**9.0000e-005**	**8.1000e-004**	**6.0000e-005**	**8.8000e-004**	**2.2000e-004**	**6.0000e-005**	**2.8000e-004**	**0.0000**	**9.0539**	**9.0539**	**1.0700e-003**	**0.0000**	**9.0805**

3.5 Trenching - 2021

Unmitigated Construction On-Site

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

Category	tons/yr										MT/yr					
Off-Road	2.0800e-003	0.0203	0.0277	4.0000e-005		1.0800e-003	1.0800e-003		9.9000e-004	9.9000e-004	0.0000	3.6337	3.6337	1.1800e-003	0.0000	3.6631
Total	**2.0800e-003**	**0.0203**	**0.0277**	**4.0000e-005**		**1.0800e-003**	**1.0800e-003**		**9.9000e-004**	**9.9000e-004**	**0.0000**	**3.6337**	**3.6337**	**1.1800e-003**	**0.0000**	**3.6631**

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	3.0000e-005	1.0000e-005	1.5000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0199	0.0199	0.0000	0.0000	0.0200
Total	**3.0000e-005**	**1.0000e-005**	**1.5000e-004**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0199**	**0.0199**	**0.0000**	**0.0000**	**0.0200**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.0200e-003	0.0210	0.0313	4.0000e-005		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	3.6337	3.6337	1.1800e-003	0.0000	3.6631
Total	**1.0200e-003**	**0.0210**	**0.0313**	**4.0000e-005**		**1.8000e-004**	**1.8000e-004**		**1.8000e-004**	**1.8000e-004**	**0.0000**	**3.6337**	**3.6337**	**1.1800e-003**	**0.0000**	**3.6631**

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	3.0000e-005	1.0000e-005	1.5000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0199	0.0199	0.0000	0.0000	0.0200
Total	**3.0000e-005**	**1.0000e-005**	**1.5000e-004**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0199**	**0.0199**	**0.0000**	**0.0000**	**0.0200**

3.6 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0612	0.6524	0.4359	8.3000e-004		0.0336	0.0336		0.0309	0.0309	0.0000	72.9558	72.9558	0.0236	0.0000	73.5457
Total	**0.0612**	**0.6524**	**0.4359**	**8.3000e-004**		**0.0336**	**0.0336**		**0.0309**	**0.0309**	**0.0000**	**72.9558**	**72.9558**	**0.0236**	**0.0000**	**73.5457**

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	8.2000e-004	0.0411	6.2400e-003	5.0000e-005	3.5000e-004	4.0000e-005	3.9000e-004	1.0000e-004	3.0000e-005	1.3000e-004	0.0000	5.2440	5.2440	6.3000e-004	0.0000	5.2597
Vendor	2.6000e-003	0.1045	0.0256	1.3000e-004	1.4700e-003	9.0000e-005	1.5600e-003	4.3000e-004	8.0000e-005	5.1000e-004	0.0000	12.7032	12.7032	1.3600e-003	0.0000	12.7373
Worker	4.1900e-003	1.8500e-003	0.0246	4.0000e-005	3.0200e-003	4.0000e-005	3.0600e-003	8.1000e-004	4.0000e-005	8.5000e-004	0.0000	3.2521	3.2521	1.3000e-004	0.0000	3.2553
Total	**7.6100e-003**	**0.1474**	**0.0564**	**2.2000e-004**	**4.8400e-003**	**1.7000e-004**	**5.0100e-003**	**1.3400e-003**	**1.5000e-004**	**1.4900e-003**	**0.0000**	**21.1993**	**21.1993**	**2.1200e-003**	**0.0000**	**21.2522**

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	0.0204	0.4263	0.5253	8.3000e-004		3.4200e-003	3.4200e-003		3.4200e-003	3.4200e-003	0.0000	72.9557	72.9557	0.0236	0.0000	73.5456
Total	**0.0204**	**0.4263**	**0.5253**	**8.3000e-004**		**3.4200e-003**	**3.4200e-003**		**3.4200e-003**	**3.4200e-003**	**0.0000**	**72.9557**	**72.9557**	**0.0236**	**0.0000**	**73.5456**

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	8.2000e-004	0.0411	6.2400e-003	5.0000e-005	3.5000e-004	4.0000e-005	3.9000e-004	1.0000e-004	3.0000e-005	1.3000e-004	0.0000	5.2440	5.2440	6.3000e-004	0.0000	5.2597
Vendor	2.6000e-003	0.1045	0.0256	1.3000e-004	1.4700e-003	9.0000e-005	1.5600e-003	4.3000e-004	8.0000e-005	5.1000e-004	0.0000	12.7032	12.7032	1.3600e-003	0.0000	12.7373
Worker	4.1900e-003	1.8500e-003	0.0246	4.0000e-005	3.0200e-003	4.0000e-005	3.0600e-003	8.1000e-004	4.0000e-005	8.5000e-004	0.0000	3.2521	3.2521	1.3000e-004	0.0000	3.2553
Total	**7.6100e-003**	**0.1474**	**0.0564**	**2.2000e-004**	**4.8400e-003**	**1.7000e-004**	**5.0100e-003**	**1.3400e-003**	**1.5000e-004**	**1.4900e-003**	**0.0000**	**21.1993**	**21.1993**	**2.1200e-003**	**0.0000**	**21.2522**

3.7 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1529					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8300e-003	0.0162	0.0231	4.0000e-005		7.4000e-004	7.4000e-004		7.3000e-004	7.3000e-004	0.0000	3.1774	3.1774	5.9000e-004	0.0000	3.1923
Total	**0.1547**	**0.0162**	**0.0231**	**4.0000e-005**		**7.4000e-004**	**7.4000e-004**		**7.3000e-004**	**7.3000e-004**	**0.0000**	**3.1774**	**3.1774**	**5.9000e-004**	**0.0000**	**3.1923**

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	5.0000e-005	6.0000e-004	0.0000	7.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0797	0.0797	0.0000	0.0000	0.0798

Total	**1.0000e-004**	**5.0000e-005**	**6.0000e-004**	**0.0000**	**7.0000e-005**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0797**	**0.0797**	**0.0000**	**0.0000**	**0.0798**

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	0.1529					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.1000e-004	0.0185	0.0250	4.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	3.1774	3.1774	5.9000e-004	0.0000	3.1923
Total	**0.1537**	**0.0185**	**0.0250**	**4.0000e-005**		**1.9000e-004**	**1.9000e-004**		**1.9000e-004**	**1.9000e-004**	**0.0000**	**3.1774**	**3.1774**	**5.9000e-004**	**0.0000**	**3.1923**

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	5.0000e-005	6.0000e-004	0.0000	7.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0797	0.0797	0.0000	0.0000	0.0798
Total	**1.0000e-004**	**5.0000e-005**	**6.0000e-004**	**0.0000**	**7.0000e-005**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0797**	**0.0797**	**0.0000**	**0.0000**	**0.0798**

3.7 Architectural Coating - 2022

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	0.3057					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.4500e-003	0.0300	0.0461	7.0000e-005		1.3000e-003	1.3000e-003		1.2800e-003	1.2800e-003	0.0000	6.3549	6.3549	1.1800e-003	0.0000	6.3843
Total	**0.3092**	**0.0300**	**0.0461**	**7.0000e-005**		**1.3000e-003**	**1.3000e-003**		**1.2800e-003**	**1.2800e-003**	**0.0000**	**6.3549**	**6.3549**	**1.1800e-003**	**0.0000**	**6.3843**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	8.0000e-005	1.0900e-003	0.0000	1.5000e-004	0.0000	1.5000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1537	0.1537	1.0000e-005	0.0000	0.1538
Total	**1.9000e-004**	**8.0000e-005**	**1.0900e-003**	**0.0000**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1537**	**0.1537**	**1.0000e-005**	**0.0000**	**0.1538**

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	0.3057					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6200e-003	0.0370	0.0499	7.0000e-005		3.9000e-004	3.9000e-004		3.9000e-004	3.9000e-004	0.0000	6.3549	6.3549	1.1800e-003	0.0000	6.3843
Total	**0.3074**	**0.0370**	**0.0499**	**7.0000e-005**		**3.9000e-004**	**3.9000e-004**		**3.9000e-004**	**3.9000e-004**	**0.0000**	**6.3549**	**6.3549**	**1.1800e-003**	**0.0000**	**6.3843**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	8.0000e-005	1.0900e-003	0.0000	1.5000e-004	0.0000	1.5000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1537	0.1537	1.0000e-005	0.0000	0.1538
Total	**1.9000e-004**	**8.0000e-005**	**1.0900e-003**	**0.0000**	**1.5000e-004**	**0.0000**	**1.5000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1537**	**0.1537**	**1.0000e-005**	**0.0000**	**0.1538**

3.8 Paving - 2022

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	4.4700e-003	0.0409	0.0509	8.0000e-005		2.0900e-003	2.0900e-003		1.9400e-003	1.9400e-003	0.0000	6.3821	6.3821	1.8600e-003	0.0000	6.4287
Paving	3.5000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.8200e-003**	**0.0409**	**0.0509**	**8.0000e-005**		**2.0900e-003**	**2.0900e-003**		**1.9400e-003**	**1.9400e-003**	**0.0000**	**6.3821**	**6.3821**	**1.8600e-003**	**0.0000**	**6.4287**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.0000e-005	4.0000e-005	5.5000e-004	0.0000	7.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0768	0.0768	0.0000	0.0000	0.0769
Total	**9.0000e-005**	**4.0000e-005**	**5.5000e-004**	**0.0000**	**7.0000e-005**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0768**	**0.0768**	**0.0000**	**0.0000**	**0.0769**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.5200e-003	0.0347	0.0468	8.0000e-005		3.6000e-004	3.6000e-004		3.6000e-004	3.6000e-004	0.0000	6.3821	6.3821	1.8600e-003	0.0000	6.4287
Paving	3.5000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.8700e-003**	**0.0347**	**0.0468**	**8.0000e-005**		**3.6000e-004**	**3.6000e-004**		**3.6000e-004**	**3.6000e-004**	**0.0000**	**6.3821**	**6.3821**	**1.8600e-003**	**0.0000**	**6.4287**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.0000e-005	4.0000e-005	5.5000e-004	0.0000	7.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0768	0.0768	0.0000	0.0000	0.0769
Total	**9.0000e-005**	**4.0000e-005**	**5.5000e-004**	**0.0000**	**7.0000e-005**	**0.0000**	**8.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0768**	**0.0768**	**0.0000**	**0.0000**	**0.0769**

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	0.3102	1.3392	3.2715	0.0117	1.0290	9.6800e-003	1.0387	0.2762	9.0300e-003	0.2852	0.0000	1,074.1375	1,074.1375	0.0389	0.0000	1,075.1095
Unmitigated	0.3102	1.3392	3.2715	0.0117	1.0290	9.6800e-003	1.0387	0.2762	9.0300e-003	0.2852	0.0000	1,074.1375	1,074.1375	0.0389	0.0000	1,075.1095

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Enclosed Parking with Elevator	0.00	0.00	0.00		
Hotel	1,455.37	1,455.37	1455.37	2,765,102	2,765,102
Other Asphalt Surfaces	0.00	0.00	0.00		

Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	1,455.37	1,455.37	1,455.37	2,765,102	2,765,102

4.3 Trip Type Information

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

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Enclosed Parking with Elevator	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749
Hotel	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749
Other Asphalt Surfaces	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749
Other Non-Asphalt Surfaces	0.578638	0.038775	0.193686	0.110919	0.015677	0.005341	0.018293	0.026358	0.002641	0.002200	0.005832	0.000891	0.000749

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	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	92.4004	92.4004	9.2400e-003	1.9100e-003	93.2011

Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	102.5781	102.5781	0.0103	2.1200e-003	103.4670
NaturalGas Mitigated	0.0151	0.1376	0.1156	8.3000e-004		0.0105	0.0105		0.0105	0.0105	0.0000	149.8352	149.8352	2.8700e-003	2.7500e-003	150.7256
NaturalGas Unmitigated	0.0207	0.1880	0.1579	1.1300e-003		0.0143	0.0143		0.0143	0.0143	0.0000	204.6483	204.6483	3.9200e-003	3.7500e-003	205.8644

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	3.83496e+006	0.0207	0.1880	0.1579	1.1300e-003		0.0143	0.0143		0.0143	0.0143	0.0000	204.6483	204.6483	3.9200e-003	3.7500e-003	205.8644
Other Asphalt Surfaces	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
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0207**	**0.1880**	**0.1579**	**1.1300e-003**		**0.0143**	**0.0143**		**0.0143**	**0.0143**	**0.0000**	**204.6483**	**204.6483**	**3.9200e-003**	**3.7500e-003**	**205.8644**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hotel	2.80781e+006	0.0151	0.1376	0.1156	8.3000e-004		0.0105	0.0105		0.0105	0.0105	0.0000	149.8352	149.8352	2.8700e-003	2.7500e-003	150.7256
Other Asphalt Surfaces	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

Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0151**	**0.1376**	**0.1156**	**8.3000e-004**		**0.0105**	**0.0105**		**0.0105**	**0.0105**	**0.0000**	**149.8352**	**149.8352**	**2.8700e-003**	**2.7500e-003**	**150.7256**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	120314	15.8263	1.5800e-003	3.3000e-004	15.9635
Hotel	659500	86.7518	8.6800e-003	1.7900e-003	87.5035
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**102.5781**	**0.0103**	**2.1200e-003**	**103.4670**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Enclosed Parking with Elevator	96169.1	12.6503	1.2700e-003	2.6000e-004	12.7599
Hotel	606272	79.7501	7.9800e-003	1.6500e-003	80.4412
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000

Total		**92.4004**	**9.2500e-003**	**1.9100e-003**	**93.2011**

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	0.3863	2.0000e-005	1.8600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.6200e-003	3.6200e-003	1.0000e-005	0.0000	3.8600e-003
Unmitigated	0.3863	2.0000e-005	1.8600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.6200e-003	3.6200e-003	1.0000e-005	0.0000	3.8600e-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	0.0459					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3403					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.7000e-004	2.0000e-005	1.8600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.6200e-003	3.6200e-003	1.0000e-005	0.0000	3.8600e-003
Total	**0.3863**	**2.0000e-005**	**1.8600e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**3.6200e-003**	**3.6200e-003**	**1.0000e-005**	**0.0000**	**3.8600e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0459					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3403					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.7000e-004	2.0000e-005	1.8600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.6200e-003	3.6200e-003	1.0000e-005	0.0000	3.8600e-003
Total	**0.3863**	**2.0000e-005**	**1.8600e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**3.6200e-003**	**3.6200e-003**	**1.0000e-005**	**0.0000**	**3.8600e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	3.2513	0.0986	2.3700e-003	6.4223
Unmitigated	3.2607	0.0986	2.3700e-003	6.4318

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Hotel	3.01865 / 0.335405	3.2607	0.0986	2.3700e-003	6.4318
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**3.2607**	**0.0986**	**2.3700e-003**	**6.4318**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Enclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Hotel	3.01865 / 0.314945	3.2513	0.0986	2.3700e-003	6.4223
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**3.2513**	**0.0986**	**2.3700e-003**	**6.4223**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	13.2249	0.7816	0.0000	32.7640
Unmitigated	13.2249	0.7816	0.0000	32.7640

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Hotel	65.15	13.2249	0.7816	0.0000	32.7640
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**13.2249**	**0.7816**	**0.0000**	**32.7640**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Enclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Hotel	65.15	13.2249	0.7816	0.0000	32.7640
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**13.2249**	**0.7816**	**0.0000**	**32.7640**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0	0	150	0.73	Diesel
Fire Pump	1	0	0	100	0.73	Diesel

Boilers

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

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (100 - 175 HP)	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Fire Pump - Diesel (100 - 175 HP)	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

11.0 Vegetation

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	21.2400	0.0000	0.0000	21.2400

11.2 Net New Trees

Species Class

	Number of Trees	Total CO2	CH4	N2O	CO2e
		MT			

Miscellaneous	30	21.2400	0.0000	0.0000	21.2400
Total		**21.2400**	**0.0000**	**0.0000**	**21.2400**

Attachment 3: Construction Health Risk Calculations

Winchester Hotel, San Jose, CA

DPM Construction Emissions and Modeling Emission Rates

Construction Year	Activity	DPM (ton/year)	Source Type	No. Sources	DPM Emissions (lb/yr)	(lb/hr)	(g/s)	Emissions per Point Source (g/s)
2021	Construction	0.0772	Point	88	154.4	0.04230	5.33E-03	6.06E-05
2022	Construction	0.0034	Point	88	6.8	0.00186	2.34E-04	2.66E-06
Total		***0.0806***			***161.2***	***0.0442***	***0.0056***	

Emissions assumed to be evenly distributed over each construction areas

hr/day = 10 (7am - 5pm)
days/yr = 365
hours/year = 3650

Winchester Hotel, San Jose, CA

PM2.5 Fugitive Dust Construction Emissions for Modeling

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	(lb/yr)	(lb/hr)	(g/s)	Modeled Area (m^2)	DPM Emission Rate $g/s/m^2$
2021	Construction	CON_FUG	0.0877	175.4	0.04805	6.05E-03	2796.352	2.17E-06
2022	Construction	CON_FUG	0.0001	0.1	0.00003	4.14E-06	2796.352	1.48E-09
Total			***0.0878***	***175.5***	***0.0481***	***0.0061***		

Emissions assumed to be evenly distributed over each construction areas

hr/day = 10 (7am - 5pm)
days/yr = 365
hours/year = 3650

DPM Construction Emissions and Modeling Emission Rates - With Mitigation

Construction Year	Activity	DPM (ton/year)	Source Type	No. Sources	DPM Emissions (lb/yr)	(lb/hr)	(g/s)	Emissions per Point Source (g/s)
2021	Construction	0.0083	Point	88	16.7	0.00456	5.75E-04	6.54E-06
2022	Construction	0.0008	Point	88	1.5	0.00042	5.25E-05	5.96E-07
Total		***0.0091***			***18.2***	***0.0050***	***0.0006***	

Emissions assumed to be evenly distributed over each construction areas

hr/day = 10 (7am - 5pm)
days/yr = 365
hours/year = 3650

PM2.5 Fugitive Dust Construction Emissions for Modeling - With Mitigation

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)	DPM Emission Rate $g/s/m^2$
2021	Construction	CON_FUG	0.0184	36.8	0.01008	1.27E-03	2796.352	4.54E-07
2022	Construction	CON_FUG	0.0001	0.1	0.00003	4.14E-06	2796.352	1.48E-09
Total			***0.0185***	***36.9***	***0.0101***	***0.0013***		

Emissions assumed to be evenly distributed over each construction areas

hr/day =	10	(7am - 5pm)
days/yr =	365	
hours/year =	3650	

Winchester Hotel, San Jose, CA - Construction Health Impact Summary

Maximum Impacts at MEI Location - Without Mitigation

	Unmitigated Emissions				
	Maximum Concentrations				
Emissions Year	Exhaust PM10/DPM ($\mu g/m^3$)	Fugitive PM2.5 ($\mu g/m^3$)	Cancer Risk (per million) Infant/Child	Hazard Index (-)	Maximum Annual PM2.5 Concentration ($\mu g/m^3$)
2021	0.1791	1.2775	31.84	0.04	1.46
2022	0.0079	0.0009	1.29	0.00	0.01
Total	-	-	**33.1**	-	-
Maximum	0.1791	1.2775	**-**	**0.04**	**1.46**

Maximum Impacts at MEI Location - With Mitigation

	Mitigated Emissions				
	Maximum Concentrations				
Emissions Year	Exhaust PM10/DPM ($\mu g/m^3$)	Fugitive PM2.5 ($\mu g/m^3$)	Cancer Risk (per million) Infant/Child	Hazard Index (-)	Maximum Annual PM2.5 Concentration ($\mu g/m^3$)
2021	0.0193	0.2673	3.44	0.004	0.29
2022	0.0018	0.0009	0.29	0.0004	0.00
Total	-	-	**3.7**	-	-
Maximum	0.0193	0.2673	**-**	**0.004**	**0.29**

- Tier 3 DPF 3 Engine Mitigation

Maximum Impacts at A Grace Subacute Nursing Home - Without Mitigation

	Unmitigated Emissions				
	Maximum Concentrations				
Emissions Year	Exhaust PM10/DPM ($\mu g/m^3$)	Fugitive PM2.5 ($\mu g/m^3$)	Cancer Risk (per million) Infant/Child	Hazard Index (-)	Maximum Annual PM2.5 Concentration ($\mu g/m^3$)
2021	0.1940	1.1862	0.56	0.04	1.33
2022	0.0085	0.0008	0.02	0.002	0.01
Total	-	-	**0.6**	-	-
Maximum	0.1940	1.1862	**-**	**0.04**	**1.33**

Maximum Impacts at A Grace Subacute Nursing Home - With Mitigation

	Mitigated Emissions				
	Maximum Concentrations				
Emissions Year	Exhaust PM10/DPM ($\mu g/m^3$)	Fugitive PM2.5 ($\mu g/m^3$)	Cancer Risk (per million) Infant/Child	Hazard Index (-)	Maximum Annual PM2.5 Concentration ($\mu g/m^3$)
2021	0.0209	0.2482	0.06	0.004	0.26
2022	0.0019	0.0008	0.01	0.0004	0.00
Total	-	-	**0.1**	-	-
Maximum	0.0209	0.2482	**-**	**0.004**	**0.26**

- Tier 3 DPF 3 Engine Mitigation

Maximum Impacts at Castlemont Elementary School

	Unmitigated Emissions				
	Maximum Concentrations				
Construction Year	Exhaust PM2.5/DPM ($\mu g/m^3$)	Fugitive PM2.5 ($\mu g/m^3$)	Child Cancer Risk (per million)	Hazard Index (-)	Maximum Annual PM2.5 Concentration ($\mu g/m^3$)
2021	0.0292	0.0433	2.06	0.01	0.07
2022	0.0013	0.00003	0.09	0.0003	0.001
Total	-	-	**2.2**	-	-
Maximum	0.0292	0.0433	**-**	**0.01**	**0.07**

Winchester Hotel, San Jose, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 1.5 meter receptor height

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				Maximum		
			DPM Conc (ug/m3)		Age	Infant/Child	Modeled DPM Conc (ug/m3)		Age	Adult			
Exposure	Exposure Duration				Sensitivity	Cancer Risk			Sensitivity	Cancer Risk	Hazard	Fugitive	Total
Year	(years)	Age	Year	Annual	Factor	(per million)	Year	Annual	Factor	(per million)	Index	PM2.5	PM2.5
0	0.25	-0.25 - 0*	2021	0.1791	10	2.43	2021	0.1791	-	-			
1	1	0 - 1	2021	0.1791	10	29.41	2021	0.1791	1	0.51	0.036	1.2775	1.4565
2	1	1 - 2	2022	0.0079	10	1.29	2022	0.0079	1	0.02	0.002	0.0009	0.0087
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						**33.1**				**0.54**			

* Third trimester of pregnancy

Winchester Hotel, San Jose, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 4.5 meter receptor height

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				Maximum		
			DPM Conc (ug/m3)		Age	Infant/Child	Modeled DPM Conc (ug/m3)		Age	Adult			
Exposure	Exposure Duration				Sensitivity	Cancer Risk			Sensitivity	Cancer Risk	Hazard	Fugitive	Total
Year	(years)	Age	Year	Annual	Factor	(per million)	Year	Annual	Factor	(per million)	Index	PM2.5	PM2.5
0	0.25	-0.25 - 0*	2021	0.0172	10	0.23	2021	0.0172	-	-			
1	1	0 - 1	2021	0.0172	10	2.83	2021	0.0172	1	0.05	0.003	0.0257	0.0430
2	1	1 - 2	2022	0.0008	10	0.12	2022	0.0008	1	0.00	0.000	0.0000	0.0008
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						**3.2**				**0.05**			

* Third trimester of pregnancy

Winchester Hotel, San Jose, CA - Construction Impacts - With Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 1.5 meter receptor height

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				Maximum		
			DPM Conc (ug/m3)		Age	Infant/Child Cancer	Modeled DPM Conc (ug/m3)		Age	Adult Cancer			
Exposure Year	Exposure Duration (years)	Age	Year	Annual	Sensitivity Factor	Risk (per million)	Year	Annual	Sensitivity Factor	Risk (per million)	Hazard Index	Fugitive PM2.5	Total PM2.5
0	0.25	-0.25 - 0*	2021	0.0193	10	0.26	2021	0.0193	-	-			
1	1	0 - 1	2021	0.0193	10	3.17	2021	0.0193	1	0.06	0.004	0.2673	0.2866
2	1	1 - 2	2022	0.0018	10	0.29	2022	0.0018	1	0.01	0.0004	0.0009	0.0026
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						**3.7**				**0.06**			

* Third trimester of pregnancy

Winchester Hotel, San Jose, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at A Grace Subacute & Skilled Care Nursing Home (Adult Seniors Only) - 1.5 meter receptor height

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

			Adult - Exposure Information				Maximum		
			Modeled						
Exposure	Exposure Duration		DPM Conc (ug/m3)		Age Sensitivity	Adult Cancer Risk	Hazard	Fugitive	Total
Year	(years)	Age	Year	Annual	Factor	(per million)	Index	PM2.5	PM2.5
1	1	55-56	2021	0.1940	1	0.56	0.039	1.1862	1.3302
2	1	56-57	2022	0.0085	1	0.02	0.002	0.0008	0.0093
Total Increased Cancer Risk						**0.58**			

* Assumed Adult Seniors Only

Winchester Hotel, San Jose, CA - Construction Impacts - With Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at A Grace Subacute & Skilled Care Nursing Home (Adult Seniors Only) - 1.5 meter receptor height

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

			Adult - Exposure Information				Maximum		
			Modeled						
			DPM Conc (ug/m3)		Age	Adult			
Exposure	Exposure Duration				Sensitivity	Cancer Risk	Hazard	Fugitive	Total
Year	(years)	Age	Year	Annual	Factor	(per million)	Index	PM2.5	PM2.5
1	1	55-56	2021	0.0209	1	0.06	0.004	0.2482	0.2637
2	1	56-57	2022	0.0019	1	0.01	0.0004	0.0008	0.0025
Total Increased Cancer Risk						**0.07**			

* Assumed Adult Seniors Only

Winchester Hotel, San Jose, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Castlemont Elementary School (3+ years old) - 1.0 meters - Child Exposure

Student Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT 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)

Inhalation Dose = C_{air} x SAF x 8-Hr BR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
SAF = Student Adjustment Factor (unitless)
= (24 hrs/8 hrs) x (7 days/7 days) = 3
8-Hr BR = Eight-hour breathing rate (L/kg body weight-per 8 hrs)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant	School Child	Adult
Age -->	**0 - <2**	**2 - <16**	**16 - 30**
Parameter			
ASF =	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00
8-Hr BR* =	1200	520	240
A =	1	1	1
EF =	350	350	250
AT =	70	70	70
SAF =	3.00	3.00	1.00

* 95th percentile 8-hr breathing rates for moderate intensity activities

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Exposure Duration (years)	Age	Child - Exposure Information: DPM Conc (ug/m3) Year	DPM Conc (ug/m3) Annual	Age* Sensitivity Factor	Child Cancer Risk (per million)
1	1	3 - 4	2021	0.0292	3	2.1
2	1	4 - 5	2022	0.0013	3	0.1
Total Increased Cancer Risk						**2.2**

* Children assumed to be 3 years of age or older

Maximum		
Hazard Index	**Fugitive PM2.5**	**Total PM2.5**
0.006	0.0433	0.0725
0.0003	0.00003	0.0013

Attachment 4: Community Risk Calculations and Screening

S. Winchester Boulevard Traffic Emissions and Health Risk Calculations

File Name:	Winchester Hotel Santa Clara (SF) - 2023 - Annual.EF
CT-EMFAC2017 Version:	1.0.2.27401
Run Date:	8/12/2020 15:49
Area:	Santa Clara (SF)
Analysis Year:	2023
Season:	Annual

Vehicle Category	VMT Fraction Across Category	Diesel VMT Fraction Within Category	Gas VMT Fraction Within Category
Truck 1	0.026	0.487	0.513
Truck 2	0.036	0.938	0.047
Non-Truck	0.938	0.014	0.958

Road Type:	Major/Collector		
Silt Loading Factor:	CARB	0.032 g/m2	
Precipitation Correction:	CARB	P = 64 days	N = 365 days

Fleet Average Running Exhaust Emission Factors (grams/veh-mile)

Pollutant Name	<= 5 mph	10 mph	15 mph	20 mph	25 mph	30 mph	35 mph	40 mph	45 mph
PM2.5	0.009457	0.006198	0.004236	0.003051	0.002336	0.001907	0.001664	0.001551	0.001539
TOG	0.200703	0.131848	0.088154	0.062068	0.046876	0.037363	0.031255	0.027433	0.02527
Diesel PM	0.001333	0.001078	0.000832	0.000664	0.000572	0.000533	0.000535	0.000575	0.000649

Fleet Average Running Loss Emission Factors (grams/veh-hour)

Pollutant Name	Emission Factor
TOG	1.369896

Fleet Average Tire Wear Factors (grams/veh-mile)

Pollutant Name	Emission Factor
PM2.5	0.002188

Fleet Average Brake Wear Factors (grams/veh-mile)

Pollutant Name	Emission Factor
PM2.5	0.017348

Fleet Average Road Dust Factors (grams/veh-mile)

Pollutant Name	Emission Factor
PM2.5	0.016823

==========END==========

Winchester Hotel- Offsite Residential
Cumulative Operation - S. Winchester Boulevard
DPM Modeling - Roadway Links, Traffic Volumes, and DPM Emissions
Year = 2023

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
DPM_SB_WIN	S. Winchester Boulevard Southbound	SB	3	671.2	0.42	17.0	55.7	3.4	40	11,401
DPM_NB_WN	S. Winchester Boulevard Northbound	NB	2	672.4	0.42	13.3	43.7	3.4	40	11,401
									Total	22,802

Emission Factors

Speed Category	1	2	3	4
Travel Speed (mph)	40			
Emissions per Vehicle (g/VMT)	0.00058			

Emisson Factors from CT-EMFAC2017

2023 Hourly Traffic Volumes and DPM Emissions - DPM_SB_WIN

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	3.91%	446	2.97E-05	9	6.50%	741	4.94E-05	17	5.58%	636	4.24E-05
2	2.59%	295	1.97E-05	10	7.36%	839	5.59E-05	18	3.28%	374	2.49E-05
3	2.88%	328	2.18E-05	11	6.33%	721	4.80E-05	19	2.36%	269	1.79E-05
4	3.34%	380	2.53E-05	12	6.84%	780	5.20E-05	20	0.92%	105	6.99E-06
5	2.19%	249	1.66E-05	13	6.15%	701	4.67E-05	21	2.99%	341	2.27E-05
6	3.39%	387	2.58E-05	14	6.15%	701	4.67E-05	22	4.14%	472	3.14E-05
7	5.98%	682	4.54E-05	15	5.23%	597	3.97E-05	23	2.47%	282	1.88E-05
8	4.66%	531	3.54E-05	16	3.91%	446	2.97E-05	24	0.86%	98	6.55E-06
								Total		11,401	

2023 Hourly Traffic Volumes Per Direction and DPM Emissions - DPM_NB_WN

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	3.91%	446	2.98E-05	9	6.50%	741	4.94E-05	17	5.58%	636	4.24E-05
2	2.59%	295	1.97E-05	10	7.36%	839	5.60E-05	18	3.28%	374	2.49E-05
3	2.88%	328	2.19E-05	11	6.33%	721	4.81E-05	19	2.36%	269	1.79E-05
4	3.34%	380	2.54E-05	12	6.84%	780	5.21E-05	20	0.92%	105	7.00E-06
5	2.19%	249	1.66E-05	13	6.15%	701	4.68E-05	21	2.99%	341	2.28E-05
6	3.39%	387	2.58E-05	14	6.15%	701	4.68E-05	22	4.14%	472	3.15E-05
7	5.98%	682	4.55E-05	15	5.23%	597	3.98E-05	23	2.47%	282	1.88E-05
8	4.66%	531	3.54E-05	16	3.91%	446	2.98E-05	24	0.86%	98	6.56E-06
								Total		11,401	

Winchester Hotel- Offsite Residential
Cumulative Operation - S. Winchester Boulevard
PM2.5 Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = 2023

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
PM2.5_SB_WIN	S. Winchester Boulevard Southbound	SB	3	671.2	0.42	17.0	56	1.3	40	11,401
PM2.5_NB_WIN	S. Winchester Boulevard Northbound	NB	2	672.4	0.42	13.3	44	1.3	40	11,401
									Total	22,802

Emission Factors - PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	40			
Emissions per Vehicle (g/VMT)	0.001551			

Emisson Factors from CT-EMFAC2017

2023 Hourly Traffic Volumes and PM2.5 Emissions - PM2.5_SB_WIN

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	131	2.36E-05	9	7.11%	811	1.46E-04	17	7.38%	842	1.51E-04
2	0.42%	48	8.55E-06	10	4.39%	501	9.00E-05	18	8.17%	932	1.67E-04
3	0.41%	46	8.35E-06	11	4.66%	532	9.55E-05	19	5.70%	649	1.17E-04
4	0.26%	30	5.39E-06	12	5.89%	671	1.21E-04	20	4.27%	487	8.76E-05
5	0.50%	57	1.03E-05	13	6.15%	701	1.26E-04	21	3.26%	372	6.68E-05
6	0.90%	103	1.85E-05	14	6.04%	688	1.24E-04	22	3.30%	376	6.76E-05
7	3.79%	432	7.77E-05	15	7.01%	799	1.44E-04	23	2.46%	280	5.04E-05
8	7.76%	885	1.59E-04	16	7.14%	813	1.46E-04	24	1.86%	213	3.82E-05
								Total		11,401	

2023 Hourly Traffic Volumes Per Direction and PM2.5 Emissions - PM2.5_NB_WIN

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	131	2.36E-05	9	7.11%	811	1.46E-04	17	7.38%	842	1.52E-04
2	0.42%	48	8.57E-06	10	4.39%	501	9.01E-05	18	8.17%	932	1.68E-04
3	0.41%	46	8.37E-06	11	4.66%	532	9.57E-05	19	5.70%	649	1.17E-04
4	0.26%	30	5.40E-06	12	5.89%	671	1.21E-04	20	4.27%	487	8.77E-05
5	0.50%	57	1.03E-05	13	6.15%	701	1.26E-04	21	3.26%	372	6.69E-05
6	0.90%	103	1.86E-05	14	6.04%	688	1.24E-04	22	3.30%	376	6.77E-05
7	3.79%	432	7.78E-05	15	7.01%	799	1.44E-04	23	2.46%	280	5.05E-05
8	7.76%	885	1.59E-04	16	7.14%	813	1.46E-04	24	1.86%	213	3.83E-05
								Total		11,401	

Winchester Hotel- Offsite Residential
Cumulative Operation - S. Winchester Boulevard
TOG Exhaust Modeling - Roadway Links, Traffic Volumes, and TOG Exhaust Emissions
Year = 2023

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
TEXH_SB_WIN	S. Winchester Boulevard Southbound	SB	3	671.2	0.42	17.0	56	1.3	40	11,401
TEXH_NB_WIN	S. Winchester Boulevard Northbound	NB	2	672.4	0.42	13.3	44	1.3	40	11,401
									Total	22,802

Emission Factors - TOG Exhaust

Speed Category	1	2	3	4
Travel Speed (mph)	40			
Emissions per Vehicle (g/VMT)	0.02743			

Emisson Factors from CT-EMFAC2017

2023 Hourly Traffic Volumes and TOG Exhaust Emissions - TEXH_SB_WIN

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	131	4.17E-04	9	7.11%	811	2.58E-03	17	7.38%	842	2.68E-03
2	0.42%	48	1.51E-04	10	4.39%	501	1.59E-03	18	8.17%	932	2.96E-03
3	0.41%	46	1.48E-04	11	4.66%	532	1.69E-03	19	5.70%	649	2.06E-03
4	0.26%	30	9.54E-05	12	5.89%	671	2.13E-03	20	4.27%	487	1.55E-03
5	0.50%	57	1.81E-04	13	6.15%	701	2.23E-03	21	3.26%	372	1.18E-03
6	0.90%	103	3.28E-04	14	6.04%	688	2.19E-03	22	3.30%	376	1.20E-03
7	3.79%	432	1.37E-03	15	7.01%	799	2.54E-03	23	2.46%	280	8.91E-04
8	7.76%	885	2.81E-03	16	7.14%	813	2.59E-03	24	1.86%	213	6.75E-04
								Total		11,401	

2023 Hourly Traffic Volumes Per Direction and TOG Exhaust Emissions - TEXH_NB_WIN

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	131	4.18E-04	9	7.11%	811	2.58E-03	17	7.38%	842	2.68E-03
2	0.42%	48	1.52E-04	10	4.39%	501	1.59E-03	18	8.17%	932	2.97E-03
3	0.41%	46	1.48E-04	11	4.66%	532	1.69E-03	19	5.70%	649	2.07E-03
4	0.26%	30	9.55E-05	12	5.89%	671	2.14E-03	20	4.27%	487	1.55E-03
5	0.50%	57	1.82E-04	13	6.15%	701	2.23E-03	21	3.26%	372	1.18E-03
6	0.90%	103	3.28E-04	14	6.04%	688	2.19E-03	22	3.30%	376	1.20E-03
7	3.79%	432	1.38E-03	15	7.01%	799	2.55E-03	23	2.46%	280	8.93E-04
8	7.76%	885	2.82E-03	16	7.14%	813	2.59E-03	24	1.86%	213	6.77E-04
								Total		11,401	

Winchester Hotel- Offsite Residential
Cumulative Operation - S. Winchester Boulevard
TOG Evaporative Emissions Modeling - Roadway Links, Traffic Volumes, and TOG Evaporative Emissions
Year = 2023

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
TEVAP_SB_WIN	S. Winchester Boulevard Southbound	SB	3	671.2	0.42	17.0	56	1.3	40	11,401
TEVAP_NB_WIN	S. Winchester Boulevard Northbound	NB	2	672.4	0.42	13.3	44	1.3	40	11,401
									Total	22,802

Emission Factors - PM2.5 - Evaporative TOG

Speed Category	1	2	3	4
Travel Speed (mph)	40			
Emissions per Vehicle per Hour (g/hour)	1.36990			
Emissions per Vehicle per Mile (g/VMT)	0.03425			

Emisson Factors from CT-EMFAC2017

2023 Hourly Traffic Volumes and TOG Evaporative Emissions - TEVAP_SB_WIN

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	131	5.21E-04	9	7.11%	811	3.22E-03	17	7.38%	842	3.34E-03
2	0.42%	48	1.89E-04	10	4.39%	501	1.99E-03	18	8.17%	932	3.70E-03
3	0.41%	46	1.84E-04	11	4.66%	532	2.11E-03	19	5.70%	649	2.58E-03
4	0.26%	30	1.19E-04	12	5.89%	671	2.66E-03	20	4.27%	487	1.93E-03
5	0.50%	57	2.26E-04	13	6.15%	701	2.78E-03	21	3.26%	372	1.47E-03
6	0.90%	103	4.09E-04	14	6.04%	688	2.73E-03	22	3.30%	376	1.49E-03
7	3.79%	432	1.72E-03	15	7.01%	799	3.17E-03	23	2.46%	280	1.11E-03
8	7.76%	885	3.51E-03	16	7.14%	813	3.23E-03	24	1.86%	213	8.43E-04
								Total		11,401	

2023 Hourly Traffic Volumes Per Direction and TOG Evaporative Emissions - TEVAP_NB_WIN

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	131	5.22E-04	9	7.11%	811	3.22E-03	17	7.38%	842	3.35E-03
2	0.42%	48	1.89E-04	10	4.39%	501	1.99E-03	18	8.17%	932	3.70E-03
3	0.41%	46	1.85E-04	11	4.66%	532	2.11E-03	19	5.70%	649	2.58E-03
4	0.26%	30	1.19E-04	12	5.89%	671	2.67E-03	20	4.27%	487	1.94E-03
5	0.50%	57	2.27E-04	13	6.15%	701	2.79E-03	21	3.26%	372	1.48E-03
6	0.90%	103	4.10E-04	14	6.04%	688	2.74E-03	22	3.30%	376	1.49E-03
7	3.79%	432	1.72E-03	15	7.01%	799	3.18E-03	23	2.46%	280	1.11E-03
8	7.76%	885	3.52E-03	16	7.14%	813	3.23E-03	24	1.86%	213	8.45E-04
								Total		11,401	

Winchester Hotel- Offsite Residential
Cumulative Operation - S. Winchester Boulevard
Fugitive Road PM2.5 Modeling - Roadway Links, Traffic Volumes, and Fugitive Road PM2.5 Emissions
Year = 2023

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
FUG_SB_WIN	S. Winchester Boulevard Southbound	SB	3	671.2	0.42	17.0	56	1.3	40	11,401
FUG_NB_WIN	S. Winchester Boulevard Northbound	NB	2	672.4	0.42	13.3	44	1.3	40	11,401
									Total	22,802

Emission Factors - Fugitive PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	40			
Tire Wear - Emissions per Vehicle (g/VMT)	0.00219			
Brake Wear - Emissions per Vehicle (g/VMT)	0.01735			
Road Dust - Emissions per Vehicle (g/VMT)	0.01682			
otal Fugitive PM2.5 - Emissions per Vehicle (g/VMT)	0.03636			

Emisson Factors from CT-EMFAC2017

2023 Hourly Traffic Volumes and Fugitive PM2.5 Emissions - FUG_SB_WIN

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	131	5.53E-04	9	7.11%	811	3.42E-03	17	7.38%	842	3.55E-03
2	0.42%	48	2.00E-04	10	4.39%	501	2.11E-03	18	8.17%	932	3.92E-03
3	0.41%	46	1.96E-04	11	4.66%	532	2.24E-03	19	5.70%	649	2.74E-03
4	0.26%	30	1.26E-04	12	5.89%	671	2.83E-03	20	4.27%	487	2.05E-03
5	0.50%	57	2.40E-04	13	6.15%	701	2.95E-03	21	3.26%	372	1.57E-03
6	0.90%	103	4.34E-04	14	6.04%	688	2.90E-03	22	3.30%	376	1.58E-03
7	3.79%	432	1.82E-03	15	7.01%	799	3.37E-03	23	2.46%	280	1.18E-03
8	7.76%	885	3.73E-03	16	7.14%	813	3.43E-03	24	1.86%	213	8.95E-04
								Total		11,401	

2023 Hourly Traffic Volumes Per Direction and Fugitive PM2.5 Emissions - FUG_NB_WIN

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	131	5.54E-04	9	7.11%	811	3.42E-03	17	7.38%	842	3.55E-03
2	0.42%	48	2.01E-04	10	4.39%	501	2.11E-03	18	8.17%	932	3.93E-03
3	0.41%	46	1.96E-04	11	4.66%	532	2.24E-03	19	5.70%	649	2.74E-03
4	0.26%	30	1.27E-04	12	5.89%	671	2.83E-03	20	4.27%	487	2.06E-03
5	0.50%	57	2.41E-04	13	6.15%	701	2.96E-03	21	3.26%	372	1.57E-03
6	0.90%	103	4.35E-04	14	6.04%	688	2.90E-03	22	3.30%	376	1.59E-03
7	3.79%	432	1.82E-03	15	7.01%	799	3.37E-03	23	2.46%	280	1.18E-03
8	7.76%	885	3.73E-03	16	7.14%	813	3.43E-03	24	1.86%	213	8.97E-04
								Total		11,401	

Winchester Hotel, San Jose, CA - Nearby Roadway Cumulative Traffic - TACs & PM2.5
AERMOD Risk Modeling Parameters and Maximum Concentrations
at Construction MEI Receptor

Emission Year	2023
Receptor Information	
Number of Receptors	1 at construction MEI location
Receptor Height	1.5 meters
Receptor Distances	Construction MEI location
Meteorological Conditions	
BAAQMD San Jose Airport Met Data	2013-2017
Land Use Classification	Urban
Wind Speed	Variable
Winf Direction	Variable

S. Winchester Boulevard
Construction MEI - Maximum Concentrations

Meteorological Data Years	2023 Concentration (µg/m3)*					
	DPM	Exhaust TOG	Evaporative TOG	Total PM2.5	Fugitive PM2.5	Vehicle PM2.5
2013-2017	0.00245	0.13237	0.16528	0.18281	0.17532	0.00749

Winchester Hotel, San Jose, CA
Maximum DPM Cancer Risk Calculations From - Traffic Emissions on S. Winchester Blvd
Impacts at Construction MEI - 1.5 meter receptor height

Cancer Risk Calculation Method

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

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00
Vehicle TOG Exhaust	6.28E-03
Vehicle TOG Evaporative	3.70E-04

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
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

Maximum - Exposure Information					Concentration (ug/m3)			Cancer Risk (per million)			
Exposure Year	Exposure Duration (years)	Age	Year	Age Sensitivity Factor	DPM	Exhaust TOG	Evaporative TOG	DPM	Exhaust TOG	Evaporative TOG	TOTAL
0	0.25	-0.25 - 0*	2023	10	0.0025	0.1324	0.1653	0.033	0.010	0.0008	0.04
1	1	0 - 1	2023	10	0.0025	0.1324	0.1653	0.402	0.124	0.0091	0.54
2	1	1 - 2	2024	10	0.0025	0.1324	0.1653	0.402	0.124	0.0091	0.54
3	1	2 - 3	2025	3	0.0025	0.1324	0.1653	0.063	0.020	0.0014	0.08
4	1	3 - 4	2026	3	0.0025	0.1324	0.1653	0.063	0.020	0.0014	0.08
5	1	4 - 5	2027	3	0.0025	0.1324	0.1653	0.063	0.020	0.0014	0.08
6	1	5 - 6	2028	3	0.0025	0.1324	0.1653	0.063	0.020	0.0014	0.08
7	1	6 - 7	2029	3	0.0025	0.1324	0.1653	0.063	0.020	0.0014	0.08
8	1	7 - 8	2030	3	0.0025	0.1324	0.1653	0.063	0.020	0.0014	0.08
9	1	8 - 9	2031	3	0.0025	0.1324	0.1653	0.063	0.020	0.0014	0.08
10	1	9 - 10	2032	3	0.0025	0.1324	0.1653	0.063	0.020	0.0014	0.08
11	1	10 - 11	2033	3	0.0025	0.1324	0.1653	0.063	0.020	0.0014	0.08
12	1	11 - 12	2034	3	0.0025	0.1324	0.1653	0.063	0.020	0.0014	0.08
13	1	12 - 13	2035	3	0.0025	0.1324	0.1653	0.063	0.020	0.0014	0.08
14	1	13 - 14	2036	3	0.0025	0.1324	0.1653	0.063	0.020	0.0014	0.08
15	1	14 - 15	2037	3	0.0025	0.1324	0.1653	0.063	0.020	0.0014	0.08
16	1	15 - 16	2038	3	0.0025	0.1324	0.1653	0.063	0.020	0.0014	0.08
17	1	16-17	2039	1	0.0025	0.1324	0.1653	0.007	0.002	0.0002	0.01
18	1	17-18	2040	1	0.0025	0.1324	0.1653	0.007	0.002	0.0002	0.01
19	1	18-19	2041	1	0.0025	0.1324	0.1653	0.007	0.002	0.0002	0.01
20	1	19-20	2042	1	0.0025	0.1324	0.1653	0.007	0.002	0.0002	0.01
21	1	20-21	2043	1	0.0025	0.1324	0.1653	0.007	0.002	0.0002	0.01
22	1	21-22	2044	1	0.0025	0.1324	0.1653	0.007	0.002	0.0002	0.01
23	1	22-23	2045	1	0.0025	0.1324	0.1653	0.007	0.002	0.0002	0.01
24	1	23-24	2046	1	0.0025	0.1324	0.1653	0.007	0.002	0.0002	0.01
25	1	24-25	2047	1	0.0025	0.1324	0.1653	0.007	0.002	0.0002	0.01
26	1	25-26	2048	1	0.0025	0.1324	0.1653	0.007	0.002	0.0002	0.01
27	1	26-27	2049	1	0.0025	0.1324	0.1653	0.007	0.002	0.0002	0.01
28	1	27-28	2050	1	0.0025	0.1324	0.1653	0.007	0.002	0.0002	0.01
29	1	28-29	2051	1	0.0025	0.1324	0.1653	0.007	0.002	0.0002	0.01
30	1	29-30	2052	1	0.0025	0.1324	0.1653	0.007	0.002	0.0002	0.01
Total Increased Cancer Risk								1.82	0.562	0.041	**2.4**

Maximum Hazard Index	Maximum Fugitive PM2.5	Total PM2.5
0.0005	0.18	0.18

* Third trimester of pregnancy

Bay Area Air Quality Management District

Risk & Hazard Stationary Source Inquiry Form

This form is required when users request stationary source data from BAAQMD

This form is to be used with the BAAQMD's Google Earth stationary source screening tables.

Click here for guidance on coducting risk & hazard screening, including roadways & freeways, refer to the District's Risk & Hazard Analysis flow chart.

Click here for District's Recommended Methods for Screening and Modeling Local Risks and Hazards document.

Table A: Requester Contact Information

Date of Request	**8/20/2020**
Contact Name	Casey Divine
Affiliation	Illingworth & Rodkin, Inc.
Phone	707-794-0400 x103
Email	cdivine@illingworthrodkin.com
Project Name	Winchster Hotel
Address	1212 & 1224 S Winchester Blvd
City	San Jose
County	Santa Clara
Type (residential, commercial, mixed use, industrial, etc.)	Hotel
Project Size (# of units or building square feet)	119 rooms
Comments:	

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

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

2. 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.

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

4. Identify stationary sources within at least a 1000ft radius of project site. 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 the source's address location. Please report any mapping errors to the District.

5. List the stationary source information in Table B blue section only.

6. 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.

7. Email this completed form to District staff. 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 Areana Flores at 415-749-4616, or aflores@baaqmd.gov

Table B: Google Earth data

Distance from Receptor (feet) or MEI[1]	FACID (Plant No.)	Facility Name	Address	Cancer Risk[2]	Hazard Risk[2]	$PM_{2.5}$[2]	Source No.[3]	Type of Source[4]	Fuel Code[5]	Status/Comments	Construction MEI: Distance Adjustment Multiplier	Construction MEI: Adjusted Cancer Risk Estimate	Construction MEI: Adjusted Hazard Risk	Construction MEI: Adjusted PM2.5
615	104308	Chevron #6027	1301 S Winchester Blvd	9.95	0.04	--		Gas Dispensing Facility		2018 Dataset	0.03	0.3	0.001	#VALUE!

Footnotes:

1. Maximally exposed individual
2. These Cancer Risk, Hazard Index, and PM2.5 columns represent the values in the Google Earth Plant Information Table.
3. Each plant may have multiple permits and sources.
4. Permitted sources include diesel back-up generators, gas stations, dry cleaners, boilers, printers, auto spray booths, etc.
5. Fuel codes: 98 = diesel, 189 = Natural Gas.
6. If a Health Risk Screening Assessment (HRSA) was completed for the source, the application number will be listed here.
7. The date that the HRSA was completed.
8. Engineer who completed the HRSA. For District purposes only.
9. All HRSA completed before 1/5/2010 need to be multiplied by an age sensitivity factor of 1.7.
10. The HRSA "Chronic Health" number represents the Hazard Index.
11. Further information about common sources:
    a. Sources that only include diesel internal combustion engines can be adjusted using the BAAQMD's Diesel Multiplier worksheet.
    b. The risk from natural gas boilers used for space heating when <25 MM BTU/hr would have an estimated cancer risk of one in a million or less, and a chronic hazard index of 0.003 or less. To
    c. BAAQMD Reg 11 Rule 16 required that all co-residential (sharing a wall, floor, ceiling or is in the same building as a residential unit) dry cleaners cease use of perc on July 1, 2010. Therefore, there is no cancer risk, hazard or PM2.5 concentrations from co-residential dry cleaning businesses in the BAAQMD.
    d. Non co-residential dry cleaners must phase out use of perc by Jan. 1, 2023. Therefore, the risk from these dry cleaners does not need to be factored in over a 70-year period, but instead should reflect
    e. Gas stations can be adjusted using BAAQMD's Gas Station Distance Mulitplier worksheet.
    f. Unless otherwise noted, exempt sources are considered insignificant. See BAAQMD Reg 2 Rule 1 for a list of exempt sources.
    g. This spray booth is considered to be insignificant.

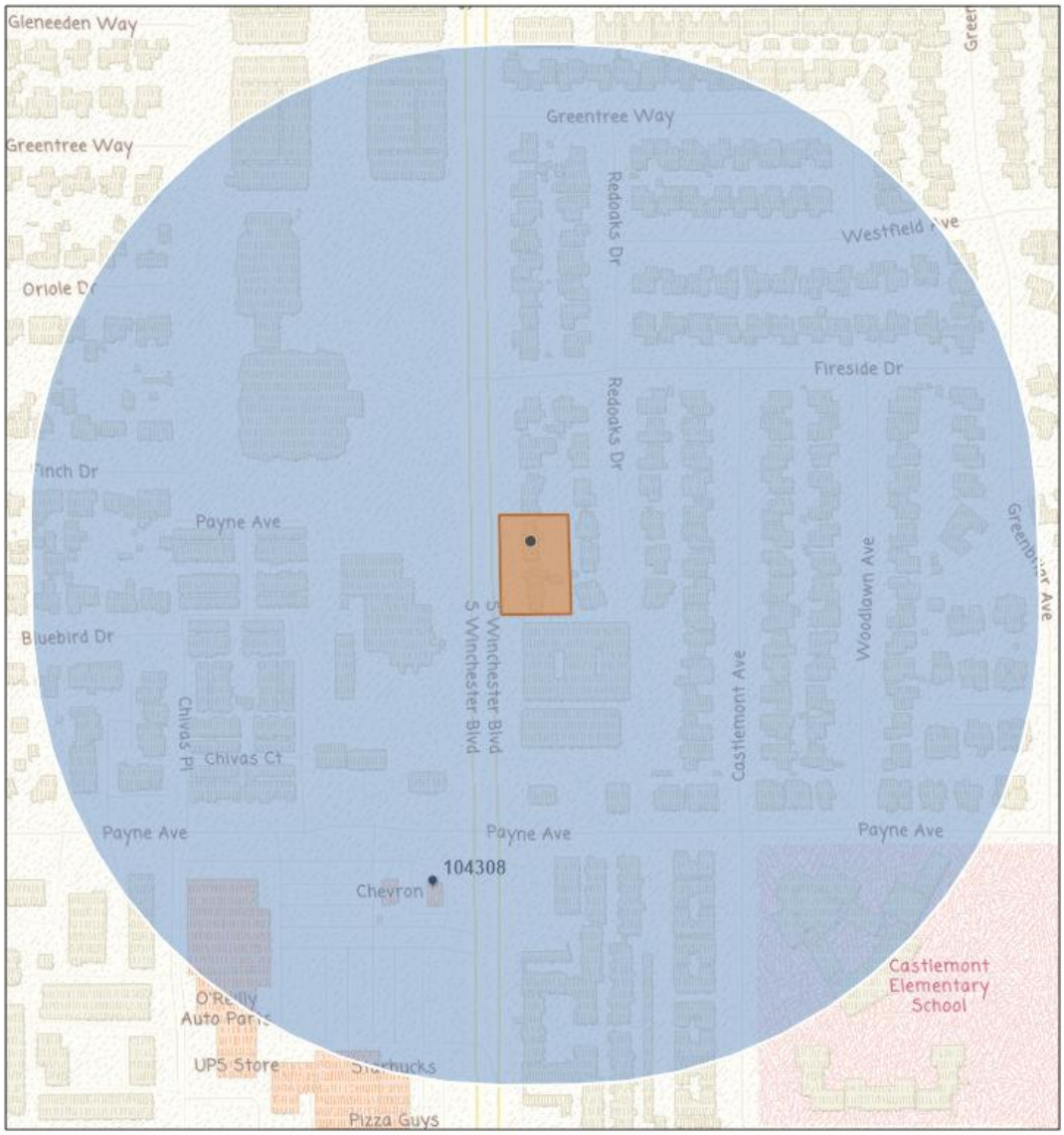
Date last updated: 03/13/2018

Stationary Source Risk & Hazards Screening Report

Area of Interest (AOI) Information

Area : 3,885,703.97 ft²

Aug 18 2020 14:11:27 Pacific Daylight Time



Summary

Name	Count	Area(ft²)	Length(ft)
Permitted Facilities 2018	1	N/A	N/A

Permitted Facilities 2018

#	FACID	Name	Address	City	St
1	104308	Chevron #6027	1301 S Winchester Blvd	San Jose	CA

#	Zip	County	Cancer	Hazard	PM_25	Type	Count
1	95128	Santa Clara	9.950	0.040	0.000	Gas Dispensing Facility	1

Note: The estimated risk and hazard impacts from these sources would be expected to be substantially lower when site specific Health Risk Screening Assessments are conducted.

The screening level map is not recommended for evaluating sensitive land uses such as schools, senior centers, day cares, and health facilities.