

***TUSCANY MEADOWS
COMMUNITY HEALTH RISK ASSESSMENT
PITTSBURG, CALIFORNIA***

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Introduction

This report presents the results of a health risk assessment conducted for the Tuscan Meadows Project in Pittsburg, California. The project proposes to subdivide the approximate 170-acre property and construct up to 917 single-family dwelling units and 365 multi-family units. Existing residential land uses bound the site to the south and the west. Two impacts with respect to health risk were evaluated: (1) impacts to new sensitive receptors that will be introduced as part of the project, and (2) impacts to existing sensitive receptors from project construction activities.

Discussion of TACs

Toxic Air Contaminants (TACs) are a broad class of compounds known to cause morbidity or mortality (usually because they cause cancer or serious illness) 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 near a highway). Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, state, and federal level. The identification, regulation, and monitoring of TACs is relatively new compared to that for criteria air pollutants that have established ambient air quality standards. TACs are regulated or evaluated on the basis of risk to human health rather than comparison to an ambient air quality standard or emission-based threshold.

Diesel Particulate Matter

Diesel exhaust, in the form of diesel particulate matter (DPM), is the predominant TAC in urban air with the potential to cause cancer. It is estimated to represent about two-thirds of the cancer risk from TACs (based on the statewide average). According to the California Air Resource 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 CARB, and are listed as carcinogens either under the State's Proposition 65 or under the federal Hazardous Air Pollutants programs. California has adopted a comprehensive diesel risk reduction program. The U.S. Environmental Protection Agency (EPA) and CARB have adopted low-sulfur diesel fuel standards in 2006 that reduce diesel particulate matter substantially. CARB recently adopted new regulations requiring the retrofit and/or replacement of construction equipment on-highway diesel trucks and diesel buses in order to lower PM_{2.5} emissions and reduce statewide cancer risk from diesel exhaust.

Fine Particulate Matter (PM_{2.5})

Particulate matter in excess of state and federal standards represents another challenge for the Bay Area. Elevated concentrations of 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.

Sensitive Receptors

There are groups of people more affected by air pollution than others. CARB has identified the following persons who are most likely to be affected by air pollution: children under 14, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, elementary schools, and parks. The closest sensitive receptors to the project site are single-family residences located to the south and west. Residences are also located to the east and north of the project site, but further away from the site. In addition, the project proposes residences that would be considered sensitive receptors.

Thresholds of Significance

The Bay Area Air Quality Management District (BAAQMD) identified significance thresholds for exposure to TACs and PM_{2.5} as part of its California Environmental Quality Act (CEQA) Air Quality Guidelines¹ that were recently vacated. The Guidelines include thresholds to evaluate single source and cumulative source impacts of TACs and PM_{2.5} on existing sensitive receptors and proposed sensitive receptors. The single source impact thresholds are based on BAAQMD Risk Management Policy and are used by BAAQMD to evaluate impacts from new sources. The cumulative community risk thresholds that were identified by BAAQMD are the only thresholds of this kind. Therefore, these thresholds are used to evaluate impacts from this project. The following are the significance criteria that are used to judge this project's impacts:

Single Source Impacts

If emissions of TACs or PM_{2.5} exceed any of the thresholds of significance listed below, the proposed project would result in a significant impact and mitigation would be required.

- An excess cancer risk level of more than 10 in 1 million, or a non-cancer (chronic or acute) hazard index greater than 1.0.
- An incremental increase of more than 0.3 micrograms per cubic meter (µg/m³) annual average PM_{2.5}.

Cumulative Source Impacts

A project would have a cumulatively considerable impact if the aggregate total of all past, present, and foreseeable future sources within a 1,000 foot radius of the fence line of a source or from the location of a receptor, plus the contribution from the project, exceeds the following thresholds.

- An excess cancer risk levels of more than 100 in one million or a chronic non-cancer hazard index (from all local sources) greater than 10.0.
- 0.8 µg/m³ annual average PM_{2.5}.

TAC Sources Considered

Community health risk assessments typically look at all substantial sources of TACs located within 1,000 feet of project sites. These sources include freeways or State highways, busy

¹ BAAQMD, 2012. *BAAQMD CEQA Air Quality Guidelines*. Updated: May 2012.

surface streets, and stationary sources identified by BAAQMD. A review of the project area indicates that Buchanan Road and one nearby stationary source are the only sources of TAC emissions identified within 1,000 feet of the project site with the potential to cause significant health risk impacts.

This health risk assessment evaluated impacts on the project site of nearby sources through screening review of Buchanan Road traffic and nearby stationary sources. The construction emissions from the project upon existing sensitive receptors were also evaluated.

Roadway Community Risk Impacts – Buchanan Road and Somersville Road

Traffic on high volume roadways are a source of TAC emissions that may adversely affect sensitive receptors that reside in close proximity. For roadways, BAAQMD has published screening tables and data to determine if roadways with traffic volumes of over 10,000 vehicles per day may have a significant effect on a proposed project. In the vicinity of the project area, Buchanan Road and Somersville Road were calculated to have more than 10,000 average daily traffic (ADT) under the cumulative plus project with bypass condition using data supplied by the project traffic consultant. This calculation used the PM peak hour volume (which was found to be higher than AM peak hour) of 2,454 vehicles for Buchanan Road and assumed that the ADT in the project area would be approximately ten times that of peak hour volume, or 24,540 ADT. For Somersville Road, the calculation used the PM peak hour volume of 2,285 vehicles to estimate an ADT of 22,850. No other local roadways with high traffic volumes are located close to the project site.

Using the BAAQMD roadway screening analysis table for Contra Costa County, cancer risk at a distance of 10 feet from the roadways would be 3.2 in one million for Buchanan Road and 3.4 in one million for Somersville Road. $PM_{2.5}$ concentrations would be $0.1 \mu g/m^3$ for both roadways. The screening analysis indicates that both roadways would have a cancer risk of less than 10 in one million and $PM_{2.5}$ concentrations below $0.3 \mu g/m^3$. Hazard index for both roadways would be well below the threshold of 1.0. *Therefore, local roadway sources of TACs are considered to have a less than significant impact on the project site.*

Stationary Sources

Stationary sources that emit TACs were searched using the BAAQMD Google Earth Stationary Source Screening Analysis Tool. One source within 1,000 of the project site was identified: Chevron Pipeline Company located at 2360 Buchanan Road, adjacent to the project site. BAAQMD reports the source level of cancer risk, hazard index, and $PM_{2.5}$ concentration. The source was reported to have a screening cancer risk of below 10 in one million. Reported $PM_{2.5}$ concentration and hazard index were also found to be well below the BAAQMD community risk significance thresholds. *Therefore, stationary sources of TACs are considered to have a less than significant impact on the project site.*

Construction Impacts

This analysis also addressed impacts from construction of the proposed project. The closest sensitive receptors to the project site are single-family residences located to the south and west. There are additional residences farther away from the project site to the north and east that were also included in this analysis. A health risk assessment of the project construction activities was conducted that evaluated potential health effects of sensitive receptors at these nearby residences from construction emissions of DPM. A dispersion model was used to predict the off-site DPM concentrations resulting from project construction, so that lifetime cancer risks could be predicted. Figure 1 shows the project site and sensitive receptor locations (residences) where potential health impacts were evaluated.

Figure 1 – Project Site, Construction Areas, and Off-Site Residential Receptor Locations



Construction Emissions Modeling

Construction period emissions were computed using the California Emissions Estimator Model, Version 2013.2.2 (CalEEMod) along with projected construction activity. The anticipated length of equipment use for different phases of construction was based on site-specific construction activity schedules. The number and types of construction equipment and diesel vehicles were based on CalEEMod defaults for this type and size of project. It was assumed that cranes and welders would operate for one hour per day on average. While cranes may not be necessary at all, it was conservatively assumed that they possibly could operate on site. The project is anticipated to be constructed over a period of 22 years beginning in 2015 and would include construction in 12 areas within the project site. These construction areas are shown on Figure 1.

Each area was anticipated to require approximately 2 years to construct. CalEEMod was used to predict emissions from each construction area for construction beginning in the year 2015 or 2020. Emissions for construction activities during 2015 and 2016 were used to represent emissions for Construction Areas 1 through 3 and the area with multi-family homes (Area 12). Emissions for construction activities during 2020 and 2021 were used to represent emissions for Construction Areas 4 through 11.

Dispersion Modeling

The CalEEMod model provided total annual PM_{2.5} exhaust emissions (assumed to be diesel particulate matter) for the off-road construction equipment and for the exhaust emissions from on-road vehicles (e.g., vendor trucks and worker vehicles). The on-road emissions are a result of on-road vendor deliveries during construction, and overall trip lengths of 0.3 mile were used to account for the approximate length such vehicles would typically travel on-site. Fugitive PM_{2.5} dust emissions were also calculated by CalEEMod. The project CalEEMod emission calculations are provided in *Attachment 1*.

The U.S. EPA ISCST3 dispersion model was used to predict concentrations of DPM and PM_{2.5} at new on-site residences and existing sensitive receptors (residences) in the vicinity near project site that could be affected by emissions from project construction activities. For each of the 12 construction areas the ISCST3 modeling utilized two area sources to represent the construction emissions, one for DPM exhaust emissions and the other for fugitive PM_{2.5} dust emissions. To represent the construction equipment exhaust emissions, an emission release height of 6 meters was used for the area source. The elevated source height reflects the height of the equipment exhaust pipes and buoyancy of the exhaust plume. For modeling fugitive PM_{2.5} emissions, a near ground level release height of 2 meters was used for the area source. Construction emissions were modeled as occurring daily between 7 a.m. and 4 p.m.

The ISCST3 model used a five-year data set (2005 - 2009) of hourly meteorological data from the Dow Chemical Company site in Pittsburg prepared and provided by BAAQMD. The meteorological monitoring site is about 1.6 miles north of the project site. Annual DPM and PM_{2.5} concentrations from construction activities for the period from 2015 through 2038 were calculated by the model. DPM and PM_{2.5} concentrations were calculated at nearby off-site residences at a receptor height of 1.5 meters (4.9 feet). Figure 1 shows the project site, the construction area used in the modeling, and locations of nearby residential receptors. Additionally, DPM and PM_{2.5} concentrations were calculated for on-site receptors. These on-site

receptors were placed at locations of proposed residential sites within Construction Areas 2 and 3, and represent potential new residential areas that would be constructed during early phases of the project and would be exposed to DPM emissions from continuing project construction in other areas. A receptor height of 1.5 meters was also used for these receptors.

Cancer Risk and Hazards

Increased cancer risks for on-site and nearby off-site sensitive receptors (residences) were calculated using maximum-modeled DPM concentrations from project construction activities based on the most recent methods recommended by BAAQMD². Cancer risks for infant, child, and adult exposures to project generated DPM were evaluated.

Potential cancer risks from inhalation of toxic air contaminants are calculated based on the annual average concentration, an inhalation dose, and the cancer potency of the toxic air contaminant. The inhalation dose depends on a person's breathing rate, exposure time and frequency of exposure, and the exposure duration over a 70-year lifetime period. These parameters vary depending on whether an infant or child exposure or an adult exposure is being evaluated. For infant and child exposures the BAAQMD recommends using a breathing rate of 581 liters per day per kilogram of body weight (L/kg-day) and for adult exposures a breathing rate of 302 L/kg-day³. Exposure at these breathing rates to the modeled DPM concentration at a given location is assumed to occur for 24-hours per day for 350 days per year. An overall 70-year period is used to evaluate increased lifetime cancer risks.

To account for increased susceptibility of infants and children to carcinogens (cancer causing TACs) as compared to adults, age-specific sensitivity weighting factors (ASFs) are applied to the infant and child exposures. The BAAQMD recommends weighting the cancer risk by a factor of 10 for exposures that occur from the third trimester of pregnancy to 2 years of age (infant exposure), and by a factor of 3 for exposure that occur from 2 years of age through 15 years of age⁴. Because the potential for cancer risk is increased for infants and children during the first several years of exposure, this initial period is of greatest concern when evaluating cancer risks from construction activities. This is particularly true for projects that do not have uniform emissions over the entire exposure period, such as a long term construction project with discrete construction activities that occur in different areas of the project site during different years of construction, resulting in high DPM concentrations at different sensitive receptors that vary over time. Different DPM concentrations will occur due to the location of construction activities relative to sensitive receptors near each construction area and prevailing meteorological conditions.

For the proposed project, since construction will be phased over time with construction occurring in different areas over an approximate 22 year period, increased cancer risks were calculated at each receptor location assuming that each year of construction could be the first year of exposure. By doing so, the construction period that results in the greatest child/infant exposure and associated maximum cancer risk was identified. This methodology is very conservative since it

² Bay Area Air Quality Management District (BAAQMD), 2012, *Recommended Methods for Screening and Modeling Local Risks and Hazards*, May.

³ Bay Area Air Quality Management District (BAAQMD), 2010a, *Air Toxics NSR Program Health Risk Screening Analysis Guidelines*, January.

⁴ Ibid.

assumes that at each receptor location there is a woman in the third trimester of pregnancy during each year of construction.

This method was used for evaluating exposures to on-site and off-site residential receptors. On-site receptors were evaluated in areas that would be constructed during early phases of the project and would be exposed to DPM emissions from continuing project construction in other areas. Off-site receptors were placed at locations of existing residences.

The maximum increased cancer risk based on initial exposure as an infant was 15.8 in one million. This cancer risk occurs at an off-site residence adjacent to the southern property boundary next to construction area 6 (refer to Figure 1) with exposure beginning in 2025. This increased cancer risk would be greater than the BAAQMD significance threshold of a cancer risk of 10 in one million. *This would be a significant impact.*

Potential non-cancer health effects due to chronic exposure to DPM were also evaluated. The chronic inhalation reference exposure level (REL) for DPM is $5 \mu\text{g}/\text{m}^3$. The maximum predicted annual DPM concentration was $0.14 \mu\text{g}/\text{m}^3$, which is much lower than the REL. The Hazard Index (HI), which is the ratio of the annual DPM concentration to the REL, is 0.03. This HI is much lower than the BAAQMD significance criterion of a HI greater than 1.0.

The modeled maximum annual $\text{PM}_{2.5}$ concentration, which includes both $\text{PM}_{2.5}$ exhaust and fugitive dust, was $0.22 \mu\text{g}/\text{m}^3$ occurring at the same location of where the maximum cancer risk occurs. This $\text{PM}_{2.5}$ concentration is below the BAAQMD threshold of $0.3 \mu\text{g}/\text{m}^3$ used to judge the significance of impacts for $\text{PM}_{2.5}$.

Based on the above results, the project would have a potentially significant impact with respect to community risk caused by construction activities. Implementation of Mitigation Measure AQ-1 and AQ-2 would reduce this impact to a less than significant level.

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

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

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

5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used;
6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes. 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; and
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.

Mitigation Measure AQ-2: Equipment Selection to minimize emissions. Such equipment selection would include the following:

1. All diesel-powered equipment larger than 50 horsepower and operating on the site for more than two days consecutively shall meet U.S. EPA particulate matter emissions standards for Tier 2 engines or equivalent; or the construction contractor shall use other measures to minimize construction period diesel particulate matter emissions to reduce the predicted cancer risk below the threshold. Such measures may include the use of alternative-powered equipment (e.g., LPG-powered forklifts), alternative fuels (e.g., biofuels), added exhaust devices, or a combination of measures, provided that these measures are approved by the lead agency;
2. For construction of Areas 4 through 11, 40 percent of all diesel-powered equipment larger than 50 horsepower and operating on the site for more than two days consecutively shall meet U.S. EPA particulate matter emissions standards for Tier 4 engines or equivalent; or the construction contractor shall use other measures to minimize construction period diesel particulate matter emissions to reduce the predicted cancer risk below the threshold. Such measures may include the use of alternative-powered equipment (e.g., LPG-powered forklifts), alternative fuels (e.g., biofuels), added exhaust devices, or a combination of measures, provided that these measures are approved by the lead agency;
3. All generators shall be alternatively fueled or meet U.S. EPA particulate matter standards for Tier 4 engines; and
4. Minimize the number of hours that equipment will operate including the use of idling restrictions.

Implementation of *Mitigation Measure AQ-1* is considered to reduce exhaust emissions by 5 percent. Implementation of *Mitigation Measure AQ-2* would further reduce on-site diesel

exhaust emissions. The computed maximum excess residential child cancer risk with implementation of *Mitigation Measures AQ-1 and AQ-2* would be reduced to a child cancer risk of 8.0 in one million, which is below the BAAQMD threshold of 10 per one million. *After implementation of these recommended measures, the project would have a less-than-significant impact with respect to community risk caused by construction activities.*

Cumulative Risk

Cumulative TAC impacts to proposed sensitive receptors were evaluated by adding the cancer risk, Hazard Index, and PM_{2.5} concentrations from each source and comparing those to the BAAQMD Community Risk significance thresholds for cumulative sources. Table 1 shows the community risk impacts from each source upon sensitive receptors. As shown in Table 1, cumulative risk would be well below the significance thresholds established by BAAQMD.

Table 1 Cumulative Risk at Proposed Site

Distance from Receptor (feet)	Plant No.	Facility Name	Street Address	Cancer Risk (per million)	Hazard Index	PM2.5 (µg/m ³)
10	Buchanan Road			3.2	<0.02	0.1
10	Somerville Road			3.4	<0.02	0.1
10	247	Chevron Pipeline Company	2360 Buchanan Road	0.0	0.0	0.0
Total				6.6	<0.04	0.2
BAAQMD Thresholds				100	10.0	0.8

Source: BAAQMD Screening Analysis Tools, 2013

NA = Not applicable

Attachment 1

CalEEMod Input and Output Worksheets

Tuscany Meadows Single-Family Residential by Phase

Contra Costa County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	83.00	Dwelling Unit	14.20	149,400.00	237

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	4			Operational Year	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Land Use - Lot acreage for SFR from vesting tentative map (170-14.6 MFR/11 phases).

Construction Phase - Used applicant schedule. No demolition or site preparation (all in grading phase).

Off-road Equipment - Cranes and welders, one hour per day. Not likely to be cranes or welders at all.

Construction Off-road Equipment Mitigation - Tier 4 generator, Tier 2 all other equipment mitigation scenario

Grading - Assume 14.2 acres of grading.

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	20.00	159.00
tblConstructionPhase	NumDays	300.00	192.00
tblConstructionPhase	NumDays	30.00	60.00
tblConstructionPhase	NumDays	20.00	30.00
tblConstructionPhase	PhaseEndDate	9/27/2016	1/16/2016
tblConstructionPhase	PhaseEndDate	2/16/2016	2/17/2016
tblConstructionPhase	PhaseEndDate	5/22/2015	5/23/2015
tblConstructionPhase	PhaseEndDate	7/3/2015	5/23/2015
tblConstructionPhase	PhaseStartDate	2/18/2016	6/9/2015

tblConstructionPhase	PhaseStartDate	5/24/2015	5/26/2015
tblConstructionPhase	PhaseStartDate	5/24/2015	4/14/2015
tblGrading	AcresOfGrading	150.00	14.20
tblLandUse	LotAcreage	26.95	14.20
tblOffRoadEquipment	UsageHours	7.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblProjectCharacteristics	OperationalYear	2014	2020

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2015	1.4731	4.7523	3.3722	4.5700e-003	0.2258	0.2851	0.5109	0.1102	0.2661	0.3763	0.0000	420.5260	420.5260	0.1016	0.0000	422.6603
2016	0.1191	0.3804	0.3090	4.6000e-004	5.9300e-003	0.0278	0.0337	1.6000e-003	0.0261	0.0277	0.0000	40.7519	40.7519	7.9200e-003	0.0000	40.9183
Total	1.5922	5.1327	3.6812	5.0300e-003	0.2318	0.3128	0.5446	0.1118	0.2922	0.4040	0.0000	461.2779	461.2779	0.1096	0.0000	463.5786

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					
2015	1.1377	3.1559	2.9756	4.5700e-003	0.1110	0.1017	0.2127	0.0492	0.1015	0.1507	0.0000	420.5256	420.5256	0.1016	0.0000	422.6598

2016	0.0892	0.2601	0.3037	4.6000e-004	5.9300e-003	9.8700e-003	0.0158	1.6000e-003	9.8500e-003	0.0114	0.0000	40.7519	40.7519	7.9200e-003	0.0000	40.9183
Total	1.2269	3.4160	3.2793	5.0300e-003	0.1170	0.1115	0.2285	0.0508	0.1114	0.1621	0.0000	461.2774	461.2774	0.1096	0.0000	463.5781

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	22.95	33.45	10.92	0.00	49.53	64.34	58.04	54.61	61.88	59.87	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	3/1/2015	5/23/2015	5	60	
2	Paving	Paving	4/14/2015	5/23/2015	5	30	
3	Building Construction	Building Construction	5/26/2015	2/17/2016	5	192	
4	Architectural Coating	Architectural Coating	6/9/2015	1/16/2016	5	159	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 14.2

Acres of Paving: 0

Residential Indoor: 302,535; Residential Outdoor: 100,845; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36

Paving	Rollers	2	8.00	80	0.38
Building Construction	Cranes	1	1.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	1.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	8	20.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	30.00	9.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	6.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Clean Paved Roads

3.2 Grading - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1882	0.0000	0.1882	0.1001	0.0000	0.1001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	0.2033	2.3714	1.5252	1.8500e-003		0.1141	0.1141		0.1049	0.1049	0.0000	176.5266	176.5266	0.0527	0.0000	177.6333
Total	0.2033	2.3714	1.5252	1.8500e-003	0.1882	0.1141	0.3023	0.1001	0.1049	0.2051	0.0000	176.5266	176.5266	0.0527	0.0000	177.6333

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5300e-003	3.7000e-003	0.0363	6.0000e-005	5.4600e-003	5.0000e-005	5.5100e-003	1.4500e-003	4.0000e-005	1.5000e-003	0.0000	5.1080	5.1080	3.0000e-004	0.0000	5.1143
Total	2.5300e-003	3.7000e-003	0.0363	6.0000e-005	5.4600e-003	5.0000e-005	5.5100e-003	1.4500e-003	4.0000e-005	1.5000e-003	0.0000	5.1080	5.1080	3.0000e-004	0.0000	5.1143

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					0.0734	0.0000	0.0734	0.0391	0.0000	0.0391	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0568	1.5284	1.1383	1.8500e-003		0.0414	0.0414		0.0414	0.0414	0.0000	176.5264	176.5264	0.0527	0.0000	177.6331
Total	0.0568	1.5284	1.1383	1.8500e-003	0.0734	0.0414	0.1147	0.0391	0.0414	0.0804	0.0000	176.5264	176.5264	0.0527	0.0000	177.6331

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5300e-003	3.7000e-003	0.0363	6.0000e-005	5.4600e-003	5.0000e-005	5.5100e-003	1.4500e-003	4.0000e-005	1.5000e-003	0.0000	5.1080	5.1080	3.0000e-004	0.0000	5.1143
Total	2.5300e-003	3.7000e-003	0.0363	6.0000e-005	5.4600e-003	5.0000e-005	5.5100e-003	1.4500e-003	4.0000e-005	1.5000e-003	0.0000	5.1080	5.1080	3.0000e-004	0.0000	5.1143

3.3 Paving - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0336	0.3651	0.2172	3.2000e-004		0.0205	0.0205		0.0189	0.0189	0.0000	30.7794	30.7794	9.1900e-003	0.0000	30.9724
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0336	0.3651	0.2172	3.2000e-004		0.0205	0.0205		0.0189	0.0189	0.0000	30.7794	30.7794	9.1900e-003	0.0000	30.9724

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	9.2000e-004	1.3400e-003	0.0132	2.0000e-005	1.9800e-003	2.0000e-005	2.0000e-003	5.3000e-004	2.0000e-005	5.4000e-004	0.0000	1.8516	1.8516	1.1000e-004	0.0000	1.8539
Total	9.2000e-004	1.3400e-003	0.0132	2.0000e-005	1.9800e-003	2.0000e-005	2.0000e-003	5.3000e-004	2.0000e-005	5.4000e-004	0.0000	1.8516	1.8516	1.1000e-004	0.0000	1.8539

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	0.0132	0.2857	0.2455	3.2000e-004		9.4900e-003	9.4900e-003		9.4900e-003	9.4900e-003	0.0000	30.7794	30.7794	9.1900e-003	0.0000	30.9724
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0132	0.2857	0.2455	3.2000e-004		9.4900e-003	9.4900e-003		9.4900e-003	9.4900e-003	0.0000	30.7794	30.7794	9.1900e-003	0.0000	30.9724

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	9.2000e-004	1.3400e-003	0.0132	2.0000e-005	1.9800e-003	2.0000e-005	2.0000e-003	5.3000e-004	2.0000e-005	5.4000e-004	0.0000	1.8516	1.8516	1.1000e-004	0.0000	1.8539
Total	9.2000e-004	1.3400e-003	0.0132	2.0000e-005	1.9800e-003	2.0000e-005	2.0000e-003	5.3000e-004	2.0000e-005	5.4000e-004	0.0000	1.8516	1.8516	1.1000e-004	0.0000	1.8539

3.4 Building Construction - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2018	1.7213	1.1587	1.6100e-003		0.1325	0.1325		0.1245	0.1245	0.0000	147.9053	147.9053	0.0353	0.0000	148.6473
Total	0.2018	1.7213	1.1587	1.6100e-003		0.1325	0.1325		0.1245	0.1245	0.0000	147.9053	147.9053	0.0353	0.0000	148.6473

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	0.0101	0.0819	0.1107	1.7000e-004	4.5800e-003	1.3200e-003	5.8900e-003	1.3100e-003	1.2100e-003	2.5200e-003	0.0000	15.5045	15.5045	1.4000e-004	0.0000	15.5075
Worker	9.9900e-003	0.0146	0.1433	2.6000e-004	0.0216	1.9000e-004	0.0218	5.7400e-003	1.7000e-004	5.9100e-003	0.0000	20.1765	20.1765	1.1800e-003	0.0000	20.2013
Total	0.0201	0.0965	0.2540	4.3000e-004	0.0262	1.5100e-003	0.0277	7.0500e-003	1.3800e-003	8.4300e-003	0.0000	35.6810	35.6810	1.3200e-003	0.0000	35.7088

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	0.0549	1.0635	1.1259	1.6100e-003		0.0422	0.0422		0.0422	0.0422	0.0000	147.9052	147.9052	0.0353	0.0000	148.6471
Total	0.0549	1.0635	1.1259	1.6100e-003		0.0422	0.0422		0.0422	0.0422	0.0000	147.9052	147.9052	0.0353	0.0000	148.6471

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	0.0101	0.0819	0.1107	1.7000e-004	4.5800e-003	1.3200e-003	5.8900e-003	1.3100e-003	1.2100e-003	2.5200e-003	0.0000	15.5045	15.5045	1.4000e-004	0.0000	15.5075
Worker	9.9900e-003	0.0146	0.1433	2.6000e-004	0.0216	1.9000e-004	0.0218	5.7400e-003	1.7000e-004	5.9100e-003	0.0000	20.1765	20.1765	1.1800e-003	0.0000	20.2013
Total	0.0201	0.0965	0.2540	4.3000e-004	0.0262	1.5100e-003	0.0277	7.0500e-003	1.3800e-003	8.4300e-003	0.0000	35.6810	35.6810	1.3200e-003	0.0000	35.7088

3.4 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0404	0.3490	0.2473	3.5000e-004		0.0264	0.0264		0.0248	0.0248	0.0000	31.5856	31.5856	7.4800e-003	0.0000	31.7428

Total	0.0404	0.3490	0.2473	3.5000e-004		0.0264	0.0264		0.0248	0.0248	0.0000	31.5856	31.5856	7.4800e-003	0.0000	31.7428
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Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.9200e-003	0.0153	0.0220	4.0000e-005	9.9000e-004	2.3000e-004	1.2100e-003	2.8000e-004	2.1000e-004	4.9000e-004	0.0000	3.2974	3.2974	3.0000e-005	0.0000	3.2980
Worker	1.9200e-003	2.8200e-003	0.0276	6.0000e-005	4.6400e-003	4.0000e-005	4.6800e-003	1.2300e-003	3.0000e-005	1.2700e-003	0.0000	4.1933	4.1933	2.3000e-004	0.0000	4.1981
Total	3.8400e-003	0.0181	0.0496	1.0000e-004	5.6300e-003	2.7000e-004	5.8900e-003	1.5100e-003	2.4000e-004	1.7600e-003	0.0000	7.4907	7.4907	2.6000e-004	0.0000	7.4961

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	0.0118	0.2289	0.2423	3.5000e-004		9.0800e-003	9.0800e-003		9.0800e-003	9.0800e-003	0.0000	31.5855	31.5855	7.4800e-003	0.0000	31.7427
Total	0.0118	0.2289	0.2423	3.5000e-004		9.0800e-003	9.0800e-003		9.0800e-003	9.0800e-003	0.0000	31.5855	31.5855	7.4800e-003	0.0000	31.7427

Mitigated Construction Off-Site

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	1.8700e-003	2.7400e-003	0.0269	5.0000e-005	4.0400e-003	3.0000e-005	4.0800e-003	1.0800e-003	3.0000e-005	1.1100e-003	0.0000	3.7799	3.7799	2.2000e-004	0.0000	3.7846
Total	1.8700e-003	2.7400e-003	0.0269	5.0000e-005	4.0400e-003	3.0000e-005	4.0800e-003	1.0800e-003	3.0000e-005	1.1100e-003	0.0000	3.7799	3.7799	2.2000e-004	0.0000	3.7846

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	0.9789					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.4300e-003	0.1741	0.1356	2.2000e-004		7.0400e-003	7.0400e-003		7.0400e-003	7.0400e-003	0.0000	18.8941	18.8941	2.4600e-003	0.0000	18.9457
Total	0.9874	0.1741	0.1356	2.2000e-004		7.0400e-003	7.0400e-003		7.0400e-003	7.0400e-003	0.0000	18.8941	18.8941	2.4600e-003	0.0000	18.9457

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	1.8700e-003	2.7400e-003	0.0269	5.0000e-005	4.0400e-003	3.0000e-005	4.0800e-003	1.0800e-003	3.0000e-005	1.1100e-003	0.0000	3.7799	3.7799	2.2000e-004	0.0000	3.7846
Total	1.8700e-003	2.7400e-003	0.0269	5.0000e-005	4.0400e-003	3.0000e-005	4.0800e-003	1.0800e-003	3.0000e-005	1.1100e-003	0.0000	3.7799	3.7799	2.2000e-004	0.0000	3.7846

3.5 Architectural Coating - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0728					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0300e-003	0.0131	0.0104	2.0000e-005		1.0800e-003	1.0800e-003		1.0800e-003	1.0800e-003	0.0000	1.4043	1.4043	1.7000e-004	0.0000	1.4078
Total	0.0748	0.0131	0.0104	2.0000e-005		1.0800e-003	1.0800e-003		1.0800e-003	1.0800e-003	0.0000	1.4043	1.4043	1.7000e-004	0.0000	1.4078

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	1.2000e-004	1.8000e-004	1.7800e-003	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2713	0.2713	2.0000e-005	0.0000	0.2716
Total	1.2000e-004	1.8000e-004	1.7800e-003	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2713	0.2713	2.0000e-005	0.0000	0.2716

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	0.0728					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.3000e-004	0.0129	0.0101	2.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004	0.0000	1.4043	1.4043	1.7000e-004	0.0000	1.4078
Total	0.0734	0.0129	0.0101	2.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004	0.0000	1.4043	1.4043	1.7000e-004	0.0000	1.4078

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	1.2000e-004	1.8000e-004	1.7800e-003	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2713	0.2713	2.0000e-005	0.0000	0.2716
Total	1.2000e-004	1.8000e-004	1.7800e-003	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2713	0.2713	2.0000e-005	0.0000	0.2716

Tuscany Meadows Single-Family Residential by Phase, Health Risk Run

Contra Costa County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	83.00	Dwelling Unit	14.20	149,400.00	237

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	4			Operational Year	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Land Use - Lot acreage for SFR from vesting tentative map (170-14.6 MFR/11 phases).

Construction Phase - Used applicant schedule. No demolition or site preparation (all in grading phase).

Off-road Equipment - Cranes and welders, one hour per day. Not likely to be cranes or welders at all.

Trips and VMT - 0.3 mile trip lengths to calculate on-site risk.

Construction Off-road Equipment Mitigation - Tier 4 generator, Tier 2 all other equipment mitigation scenario

Grading - Assume 14.2 acres of grading.

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	20.00	159.00
tblConstructionPhase	NumDays	300.00	192.00
tblConstructionPhase	NumDays	30.00	60.00
tblConstructionPhase	NumDays	20.00	30.00
tblConstructionPhase	PhaseEndDate	9/27/2016	1/16/2016
tblConstructionPhase	PhaseEndDate	2/16/2016	2/17/2016
tblConstructionPhase	PhaseEndDate	5/22/2015	5/23/2015
tblConstructionPhase	PhaseEndDate	7/3/2015	5/23/2015

tblConstructionPhase	PhaseStartDate	2/18/2016	6/9/2015
tblConstructionPhase	PhaseStartDate	5/24/2015	5/26/2015
tblConstructionPhase	PhaseStartDate	5/24/2015	4/14/2015
tblGrading	AcresOfGrading	150.00	14.20
tblLandUse	LotAcreage	26.95	14.20
tblOffRoadEquipment	UsageHours	7.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblProjectCharacteristics	OperationalYear	2014	2020
tblTripsAndVMT	HaulingTripLength	20.00	0.30
tblTripsAndVMT	HaulingTripLength	20.00	0.30
tblTripsAndVMT	HaulingTripLength	20.00	0.30
tblTripsAndVMT	HaulingTripLength	20.00	0.30
tblTripsAndVMT	VendorTripLength	7.30	0.30
tblTripsAndVMT	VendorTripLength	7.30	0.30
tblTripsAndVMT	VendorTripLength	7.30	0.30
tblTripsAndVMT	VendorTripLength	7.30	0.30
tblTripsAndVMT	WorkerTripLength	12.40	0.30
tblTripsAndVMT	WorkerTripLength	12.40	0.30
tblTripsAndVMT	WorkerTripLength	12.40	0.30
tblTripsAndVMT	WorkerTripLength	12.40	0.30

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

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

2015	1.4648	4.6698	3.1731	4.0400e-003	0.1892	0.2836	0.4729	0.1004	0.2648	0.3652	0.0000	377.3338	377.3338	0.0999	0.0000	379.4315
2016	0.1179	0.3662	0.2814	3.7000e-004	1.7000e-004	0.0275	0.0277	5.0000e-005	0.0259	0.0259	0.0000	33.5738	33.5738	7.6800e-003	0.0000	33.7351
Total	1.5827	5.0361	3.4545	4.4100e-003	0.1894	0.3111	0.5005	0.1005	0.2906	0.3911	0.0000	410.9075	410.9075	0.1076	0.0000	413.1666

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					
2015	1.1294	3.0735	2.7764	4.0400e-003	0.0744	0.1002	0.1747	0.0393	0.1002	0.1395	0.0000	377.3333	377.3333	0.0999	0.0000	379.4311
2016	0.0880	0.2459	0.2762	3.7000e-004	1.7000e-004	9.6300e-003	9.8000e-003	5.0000e-005	9.6300e-003	9.6700e-003	0.0000	33.5737	33.5737	7.6800e-003	0.0000	33.7350
Total	1.2174	3.3194	3.0526	4.4100e-003	0.0746	0.1099	0.1845	0.0394	0.1098	0.1492	0.0000	410.9070	410.9070	0.1076	0.0000	413.1661

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	23.08	34.09	11.63	0.00	60.61	64.69	63.15	60.80	62.21	61.85	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	3/1/2015	5/23/2015	5	60	
2	Paving	Paving	4/14/2015	5/23/2015	5	30	
3	Building Construction	Building Construction	5/26/2015	2/17/2016	5	192	
4	Architectural Coating	Architectural Coating	6/9/2015	1/16/2016	5	159	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 14.2

Acres of Paving: 0

Residential Indoor: 302,535; Residential Outdoor: 100,845; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Building Construction	Cranes	1	1.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	1.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	8	20.00	0.00	0.00	0.30	0.30	0.30	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	0.30	0.30	0.30	LD_Mix	HDT_Mix	HHDT
Building Construction	9	30.00	9.00	0.00	0.30	0.30	0.30	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	6.00	0.00	0.00	0.30	0.30	0.30	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Clean Paved Roads

3.2 Grading - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1882	0.0000	0.1882	0.1001	0.0000	0.1001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2033	2.3714	1.5252	1.8500e-003		0.1141	0.1141		0.1049	0.1049	0.0000	176.5266	176.5266	0.0527	0.0000	177.6333
Total	0.2033	2.3714	1.5252	1.8500e-003	0.1882	0.1141	0.3023	0.1001	0.1049	0.2051	0.0000	176.5266	176.5266	0.0527	0.0000	177.6333

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	1.6500e-003	4.6000e-004	6.4000e-003	0.0000	1.4000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.2493	0.2493	3.0000e-005	0.0000	0.2499
Total	1.6500e-003	4.6000e-004	6.4000e-003	0.0000	1.4000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.2493	0.2493	3.0000e-005	0.0000	0.2499

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					0.0734	0.0000	0.0734	0.0391	0.0000	0.0391	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0568	1.5284	1.1383	1.8500e-003		0.0414	0.0414		0.0414	0.0414	0.0000	176.5264	176.5264	0.0527	0.0000	177.6331
Total	0.0568	1.5284	1.1383	1.8500e-003	0.0734	0.0414	0.1147	0.0391	0.0414	0.0804	0.0000	176.5264	176.5264	0.0527	0.0000	177.6331

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	1.6500e-003	4.6000e-004	6.4000e-003	0.0000	1.4000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.2493	0.2493	3.0000e-005	0.0000	0.2499
Total	1.6500e-003	4.6000e-004	6.4000e-003	0.0000	1.4000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.2493	0.2493	3.0000e-005	0.0000	0.2499

3.3 Paving - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Total	0.0132	0.2857	0.2455	3.2000e-004		9.4900e-003	9.4900e-003		9.4900e-003	9.4900e-003	0.0000	30.7794	30.7794	9.1900e-003	0.0000	30.9724
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Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-004	1.7000e-004	2.3200e-003	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.0904	0.0904	1.0000e-005	0.0000	0.0906
Total	6.0000e-004	1.7000e-004	2.3200e-003	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.0904	0.0904	1.0000e-005	0.0000	0.0906

3.4 Building Construction - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2018	1.7213	1.1587	1.6100e-003		0.1325	0.1325		0.1245	0.1245	0.0000	147.9053	147.9053	0.0353	0.0000	148.6473
Total	0.2018	1.7213	1.1587	1.6100e-003		0.1325	0.1325		0.1245	0.1245	0.0000	147.9053	147.9053	0.0353	0.0000	148.6473

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	7.1600e-003	0.0190	0.0925	2.0000e-005	2.0000e-004	1.2000e-004	3.3000e-004	6.0000e-005	1.1000e-004	1.7000e-004	0.0000	1.7197	1.7197	3.0000e-005	0.0000	1.7203
Worker	6.5200e-003	1.8300e-003	0.0253	1.0000e-005	5.4000e-004	2.0000e-005	5.7000e-004	1.5000e-004	2.0000e-005	1.7000e-004	0.0000	0.9845	0.9845	1.2000e-004	0.0000	0.9871
Total	0.0137	0.0209	0.1177	3.0000e-005	7.4000e-004	1.4000e-004	9.0000e-004	2.1000e-004	1.3000e-004	3.4000e-004	0.0000	2.7042	2.7042	1.5000e-004	0.0000	2.7074

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	0.0549	1.0635	1.1259	1.6100e-003		0.0422	0.0422		0.0422	0.0422	0.0000	147.9052	147.9052	0.0353	0.0000	148.6471
Total	0.0549	1.0635	1.1259	1.6100e-003		0.0422	0.0422		0.0422	0.0422	0.0000	147.9052	147.9052	0.0353	0.0000	148.6471

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	7.1600e-003	0.0190	0.0925	2.0000e-005	2.0000e-004	1.2000e-004	3.3000e-004	6.0000e-005	1.1000e-004	1.7000e-004	0.0000	1.7197	1.7197	3.0000e-005	0.0000	1.7203
Worker	6.5200e-003	1.8300e-003	0.0253	1.0000e-005	5.4000e-004	2.0000e-005	5.7000e-004	1.5000e-004	2.0000e-005	1.7000e-004	0.0000	0.9845	0.9845	1.2000e-004	0.0000	0.9871
Total	0.0137	0.0209	0.1177	3.0000e-005	7.4000e-004	1.4000e-004	9.0000e-004	2.1000e-004	1.3000e-004	3.4000e-004	0.0000	2.7042	2.7042	1.5000e-004	0.0000	2.7074

3.4 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0404	0.3490	0.2473	3.5000e-004		0.0264	0.0264		0.0248	0.0248	0.0000	31.5856	31.5856	7.4800e-003	0.0000	31.7428
Total	0.0404	0.3490	0.2473	3.5000e-004		0.0264	0.0264		0.0248	0.0248	0.0000	31.5856	31.5856	7.4800e-003	0.0000	31.7428

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	1.3700e-003	3.7700e-003	0.0186	0.0000	4.0000e-005	2.0000e-005	6.0000e-005	1.0000e-005	2.0000e-005	3.0000e-005	0.0000	0.3658	0.3658	1.0000e-005	0.0000	0.3659
Worker	1.3000e-003	3.5000e-004	4.9000e-003	0.0000	1.2000e-004	1.0000e-005	1.2000e-004	3.0000e-005	0.0000	4.0000e-005	0.0000	0.2048	0.2048	2.0000e-005	0.0000	0.2053
Total	2.6700e-003	4.1200e-003	0.0235	0.0000	1.6000e-004	3.0000e-005	1.8000e-004	4.0000e-005	2.0000e-005	7.0000e-005	0.0000	0.5706	0.5706	3.0000e-005	0.0000	0.5712

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	0.0118	0.2289	0.2423	3.5000e-004		9.0800e-003	9.0800e-003		9.0800e-003	9.0800e-003	0.0000	31.5855	31.5855	7.4800e-003	0.0000	31.7427
Total	0.0118	0.2289	0.2423	3.5000e-004		9.0800e-003	9.0800e-003		9.0800e-003	9.0800e-003	0.0000	31.5855	31.5855	7.4800e-003	0.0000	31.7427

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	1.3700e-003	3.7700e-003	0.0186	0.0000	4.0000e-005	2.0000e-005	6.0000e-005	1.0000e-005	2.0000e-005	3.0000e-005	0.0000	0.3658	0.3658	1.0000e-005	0.0000	0.3659
Worker	1.3000e-003	3.5000e-004	4.9000e-003	0.0000	1.2000e-004	1.0000e-005	1.2000e-004	3.0000e-005	0.0000	4.0000e-005	0.0000	0.2048	0.2048	2.0000e-005	0.0000	0.2053
Total	2.6700e-003	4.1200e-003	0.0235	0.0000	1.6000e-004	3.0000e-005	1.8000e-004	4.0000e-005	2.0000e-005	7.0000e-005	0.0000	0.5706	0.5706	3.0000e-005	0.0000	0.5712

3.5 Architectural Coating - 2015

Unmitigated Construction On-Site

Off-Road	8.4300e-003	0.1741	0.1356	2.2000e-004		7.0400e-003	7.0400e-003		7.0400e-003	7.0400e-003	0.0000	18.8941	18.8941	2.4600e-003	0.0000	18.9457
Total	0.9874	0.1741	0.1356	2.2000e-004		7.0400e-003	7.0400e-003		7.0400e-003	7.0400e-003	0.0000	18.8941	18.8941	2.4600e-003	0.0000	18.9457

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	1.2200e-003	3.4000e-004	4.7400e-003	0.0000	1.0000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1844	0.1844	2.0000e-005	0.0000	0.1849
Total	1.2200e-003	3.4000e-004	4.7400e-003	0.0000	1.0000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1844	0.1844	2.0000e-005	0.0000	0.1849

3.5 Architectural Coating - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0728					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0300e-003	0.0131	0.0104	2.0000e-005		1.0800e-003	1.0800e-003		1.0800e-003	1.0800e-003	0.0000	1.4043	1.4043	1.7000e-004	0.0000	1.4078
Total	0.0748	0.0131	0.0104	2.0000e-005		1.0800e-003	1.0800e-003		1.0800e-003	1.0800e-003	0.0000	1.4043	1.4043	1.7000e-004	0.0000	1.4078

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	2.0000e-005	3.2000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0133	0.0133	0.0000	0.0000	0.0133
Total	8.0000e-005	2.0000e-005	3.2000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0133	0.0133	0.0000	0.0000	0.0133

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	0.0728					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.3000e-004	0.0129	0.0101	2.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004	0.0000	1.4043	1.4043	1.7000e-004	0.0000	1.4078
Total	0.0734	0.0129	0.0101	2.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004	0.0000	1.4043	1.4043	1.7000e-004	0.0000	1.4078

Mitigated Construction Off-Site

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

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	2.0000e-005	3.2000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0133	0.0133	0.0000	0.0000	0.0133
Total	8.0000e-005	2.0000e-005	3.2000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0133	0.0133	0.0000	0.0000	0.0133

Tuscany Meadows Single-Family Residential by Phase - 2020

Contra Costa County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	83.00	Dwelling Unit	14.20	149,400.00	237

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	4			Operational Year	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Land Use - Lot acreage for SFR from vesting tentative map (170-14.6 MFR/11 phases).

Construction Phase - Used applicant schedule. No demolition or site preparation (all in grading phase).

Off-road Equipment - Cranes and welders, one hour per day. Not likely to be cranes or welders at all.

Grading - Assume 14.2 acres of grading.

Construction Off-road Equipment Mitigation - Tier 4 equipment mitigation scenario

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	20.00	159.00
tblConstructionPhase	NumDays	300.00	192.00
tblConstructionPhase	NumDays	30.00	60.00
tblConstructionPhase	NumDays	20.00	29.00
tblConstructionPhase	PhaseEndDate	9/28/2021	1/16/2021
tblConstructionPhase	PhaseEndDate	2/16/2021	2/17/2021
tblConstructionPhase	PhaseEndDate	5/22/2020	5/23/2020
tblConstructionPhase	PhaseEndDate	7/2/2020	5/23/2020
tblConstructionPhase	PhaseStartDate	2/18/2021	6/9/2020

tblConstructionPhase	PhaseStartDate	5/24/2020	5/26/2020
tblConstructionPhase	PhaseStartDate	5/24/2020	4/14/2020
tblGrading	AcresOfGrading	150.00	14.20
tblLandUse	LotAcreage	26.95	14.20
tblOffRoadEquipment	UsageHours	7.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblProjectCharacteristics	OperationalYear	2014	2020

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					
2020	1.2849	2.9511	2.7929	4.5600e-003	0.2258	0.1568	0.3826	0.1102	0.1462	0.2564	0.0000	389.6114	389.6114	0.0976	0.0000	391.6601
2021	0.0991	0.2301	0.2762	4.6000e-004	5.9300e-003	0.0134	0.0193	1.6000e-003	0.0126	0.0142	0.0000	38.3087	38.3087	7.3300e-003	0.0000	38.4626
Total	1.3840	3.1812	3.0691	5.0200e-003	0.2318	0.1701	0.4019	0.1118	0.1588	0.2706	0.0000	427.9200	427.9200	0.1049	0.0000	430.1227

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					
2020	1.0419	0.2726	2.7591	4.5600e-003	0.1110	7.2500e-003	0.1183	0.0492	7.1800e-003	0.0563	0.0000	389.6110	389.6110	0.0976	0.0000	391.6597

2021	0.0795	0.0297	0.2868	4.6000e-004	5.9300e-003	7.2000e-004	6.6500e-003	1.6000e-003	7.1000e-004	2.3100e-003	0.0000	38.3086	38.3086	7.3300e-003	0.0000	38.4625
Total	1.1214	0.3023	3.0459	5.0200e-003	0.1170	7.9700e-003	0.1249	0.0508	7.8900e-003	0.0586	0.0000	427.9196	427.9196	0.1049	0.0000	430.1223

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	18.97	90.50	0.76	0.00	49.53	95.31	68.91	54.61	95.03	78.33	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	3/1/2020	5/23/2020	5	60	
2	Paving	Paving	4/14/2020	5/23/2020	5	29	
3	Building Construction	Building Construction	5/26/2020	2/17/2021	5	192	
4	Architectural Coating	Architectural Coating	6/9/2020	1/16/2021	5	159	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 14.2

Acres of Paving: 0

Residential Indoor: 302,535; Residential Outdoor: 100,845; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36

Paving	Rollers	2	8.00	80	0.38
Building Construction	Cranes	1	1.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	1.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	8	20.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	30.00	9.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	6.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Clean Paved Roads

3.2 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1882	0.0000	0.1882	0.1001	0.0000	0.1001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	0.1365	1.4815	1.1528	1.8500e-003		0.0679	0.0679		0.0624	0.0624	0.0000	162.6866	162.6866	0.0526	0.0000	163.7915
Total	0.1365	1.4815	1.1528	1.8500e-003	0.1882	0.0679	0.2561	0.1001	0.0624	0.1626	0.0000	162.6866	162.6866	0.0526	0.0000	163.7915

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	1.5000e-003	2.2400e-003	0.0215	6.0000e-005	5.4600e-003	4.0000e-005	5.5000e-003	1.4500e-003	4.0000e-005	1.4900e-003	0.0000	4.2260	4.2260	2.0000e-004	0.0000	4.2302
Total	1.5000e-003	2.2400e-003	0.0215	6.0000e-005	5.4600e-003	4.0000e-005	5.5000e-003	1.4500e-003	4.0000e-005	1.4900e-003	0.0000	4.2260	4.2260	2.0000e-004	0.0000	4.2302

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					0.0734	0.0000	0.0734	0.0391	0.0000	0.0391	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0227	0.0983	1.0434	1.8500e-003		3.0300e-003	3.0300e-003		3.0300e-003	3.0300e-003	0.0000	162.6864	162.6864	0.0526	0.0000	163.7913
Total	0.0227	0.0983	1.0434	1.8500e-003	0.0734	3.0300e-003	0.0764	0.0391	3.0300e-003	0.0421	0.0000	162.6864	162.6864	0.0526	0.0000	163.7913

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	1.5000e-003	2.2400e-003	0.0215	6.0000e-005	5.4600e-003	4.0000e-005	5.5000e-003	1.4500e-003	4.0000e-005	1.4900e-003	0.0000	4.2260	4.2260	2.0000e-004	0.0000	4.2302
Total	1.5000e-003	2.2400e-003	0.0215	6.0000e-005	5.4600e-003	4.0000e-005	5.5000e-003	1.4500e-003	4.0000e-005	1.4900e-003	0.0000	4.2260	4.2260	2.0000e-004	0.0000	4.2302

3.3 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0193	0.1999	0.2081	3.2000e-004		0.0107	0.0107		9.8600e-003	9.8600e-003	0.0000	28.4230	28.4230	9.1900e-003	0.0000	28.6160
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0193	0.1999	0.2081	3.2000e-004		0.0107	0.0107		9.8600e-003	9.8600e-003	0.0000	28.4230	28.4230	9.1900e-003	0.0000	28.6160

Unmitigated Construction Off-Site

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

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	8.1000e-004	7.7800e-003	2.0000e-005	1.9800e-003	1.0000e-005	1.9900e-003	5.3000e-004	1.0000e-005	5.4000e-004	0.0000	1.5319	1.5319	7.0000e-005	0.0000	1.5335
Total	5.4000e-004	8.1000e-004	7.7800e-003	2.0000e-005	1.9800e-003	1.0000e-005	1.9900e-003	5.3000e-004	1.0000e-005	5.4000e-004	0.0000	1.5319	1.5319	7.0000e-005	0.0000	1.5335

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	3.9800e-003	0.0173	0.2455	3.2000e-004		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004	0.0000	28.4230	28.4230	9.1900e-003	0.0000	28.6160
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	3.9800e-003	0.0173	0.2455	3.2000e-004		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004	0.0000	28.4230	28.4230	9.1900e-003	0.0000	28.6160

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.4000e-004	8.1000e-004	7.7800e-003	2.0000e-005	1.9800e-003	1.0000e-005	1.9900e-003	5.3000e-004	1.0000e-005	5.4000e-004	0.0000	1.5319	1.5319	7.0000e-005	0.0000	1.5335
Total	5.4000e-004	8.1000e-004	7.7800e-003	2.0000e-005	1.9800e-003	1.0000e-005	1.9900e-003	5.3000e-004	1.0000e-005	5.4000e-004	0.0000	1.5319	1.5319	7.0000e-005	0.0000	1.5335

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1169	1.0865	1.0831	1.6100e-003		0.0690	0.0690		0.0648	0.0648	0.0000	139.8175	139.8175	0.0330	0.0000	140.5098
Total	0.1169	1.0865	1.0831	1.6100e-003		0.0690	0.0690		0.0648	0.0648	0.0000	139.8175	139.8175	0.0330	0.0000	140.5098

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	6.3400e-003	0.0451	0.0835	1.7000e-004	4.5800e-003	7.0000e-004	5.2800e-003	1.3100e-003	6.5000e-004	1.9600e-003	0.0000	14.2122	14.2122	1.1000e-004	0.0000	14.2145
Worker	5.9100e-003	8.8500e-003	0.0848	2.6000e-004	0.0216	1.6000e-004	0.0217	5.7400e-003	1.5000e-004	5.8800e-003	0.0000	16.6928	16.6928	7.9000e-004	0.0000	16.7095
Total	0.0123	0.0539	0.1683	4.3000e-004	0.0262	8.6000e-004	0.0270	7.0500e-003	8.0000e-004	7.8400e-003	0.0000	30.9050	30.9050	9.0000e-004	0.0000	30.9240

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	0.0187	0.0889	1.1213	1.6100e-003		2.4600e-003	2.4600e-003		2.4600e-003	2.4600e-003	0.0000	139.8173	139.8173	0.0330	0.0000	140.5096
Total	0.0187	0.0889	1.1213	1.6100e-003		2.4600e-003	2.4600e-003		2.4600e-003	2.4600e-003	0.0000	139.8173	139.8173	0.0330	0.0000	140.5096

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	6.3400e-003	0.0451	0.0835	1.7000e-004	4.5800e-003	7.0000e-004	5.2800e-003	1.3100e-003	6.5000e-004	1.9600e-003	0.0000	14.2122	14.2122	1.1000e-004	0.0000	14.2145
Worker	5.9100e-003	8.8500e-003	0.0848	2.6000e-004	0.0216	1.6000e-004	0.0217	5.7400e-003	1.5000e-004	5.8800e-003	0.0000	16.6928	16.6928	7.9000e-004	0.0000	16.7095
Total	0.0123	0.0539	0.1683	4.3000e-004	0.0262	8.6000e-004	0.0270	7.0500e-003	8.0000e-004	7.8400e-003	0.0000	30.9050	30.9050	9.0000e-004	0.0000	30.9240

3.4 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	0.0225	0.2119	0.2308	3.5000e-004		0.0127	0.0127		0.0119	0.0119	0.0000	30.0925	30.0925	7.0400e-003	0.0000	30.2403

Total	0.0225	0.2119	0.2308	3.5000e-004		0.0127	0.0127		0.0119	0.0119	0.0000	30.0925	30.0925	7.0400e-003	0.0000	30.2403
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Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.2800e-003	7.9800e-003	0.0173	4.0000e-005	9.9000e-004	1.4000e-004	1.1200e-003	2.8000e-004	1.3000e-004	4.1000e-004	0.0000	3.0544	3.0544	2.0000e-005	0.0000	3.0549
Worker	1.2000e-003	1.7800e-003	0.0170	5.0000e-005	4.6400e-003	3.0000e-005	4.6800e-003	1.2300e-003	3.0000e-005	1.2700e-003	0.0000	3.5290	3.5290	1.6000e-004	0.0000	3.5324
Total	2.4800e-003	9.7600e-003	0.0343	9.0000e-005	5.6300e-003	1.7000e-004	5.8000e-003	1.5100e-003	1.6000e-004	1.6800e-003	0.0000	6.5835	6.5835	1.8000e-004	0.0000	6.5874

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	4.0100e-003	0.0191	0.2413	3.5000e-004		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004	0.0000	30.0925	30.0925	7.0400e-003	0.0000	30.2403
Total	4.0100e-003	0.0191	0.2413	3.5000e-004		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004	0.0000	30.0925	30.0925	7.0400e-003	0.0000	30.2403

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	1.2800e-003	7.9800e-003	0.0173	4.0000e-005	9.9000e-004	1.4000e-004	1.1200e-003	2.8000e-004	1.3000e-004	4.1000e-004	0.0000	3.0544	3.0544	2.0000e-005	0.0000	3.0549
Worker	1.2000e-003	1.7800e-003	0.0170	5.0000e-005	4.6400e-003	3.0000e-005	4.6800e-003	1.2300e-003	3.0000e-005	1.2700e-003	0.0000	3.5290	3.5290	1.6000e-004	0.0000	3.5324
Total	2.4800e-003	9.7600e-003	0.0343	9.0000e-005	5.6300e-003	1.7000e-004	5.8000e-003	1.5100e-003	1.6000e-004	1.6800e-003	0.0000	6.5835	6.5835	1.8000e-004	0.0000	6.5874

3.5 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.9789					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0179	0.1246	0.1355	2.2000e-004		8.2100e-003	8.2100e-003		8.2100e-003	8.2100e-003	0.0000	18.8941	18.8941	1.4600e-003	0.0000	18.9248
Total	0.9969	0.1246	0.1355	2.2000e-004		8.2100e-003	8.2100e-003		8.2100e-003	8.2100e-003	0.0000	18.8941	18.8941	1.4600e-003	0.0000	18.9248

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	1.1100e-003	1.6600e-003	0.0159	5.0000e-005	4.0400e-003	3.0000e-005	4.0700e-003	1.0800e-003	3.0000e-005	1.1000e-003	0.0000	3.1273	3.1273	1.5000e-004	0.0000	3.1304
Total	1.1100e-003	1.6600e-003	0.0159	5.0000e-005	4.0400e-003	3.0000e-005	4.0700e-003	1.0800e-003	3.0000e-005	1.1000e-003	0.0000	3.1273	3.1273	1.5000e-004	0.0000	3.1304

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	0.9789					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.2000e-003	9.5300e-003	0.1356	2.2000e-004		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004	0.0000	18.8941	18.8941	1.4600e-003	0.0000	18.9248
Total	0.9811	9.5300e-003	0.1356	2.2000e-004		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004	0.0000	18.8941	18.8941	1.4600e-003	0.0000	18.9248

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	1.1100e-003	1.6600e-003	0.0159	5.0000e-005	4.0400e-003	3.0000e-005	4.0700e-003	1.0800e-003	3.0000e-005	1.1000e-003	0.0000	3.1273	3.1273	1.5000e-004	0.0000	3.1304
Total	1.1100e-003	1.6600e-003	0.0159	5.0000e-005	4.0400e-003	3.0000e-005	4.0700e-003	1.0800e-003	3.0000e-005	1.1000e-003	0.0000	3.1273	3.1273	1.5000e-004	0.0000	3.1304

3.5 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	0.0728					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.2000e-003	8.4000e-003	0.0100	2.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004	0.0000	1.4043	1.4043	1.0000e-004	0.0000	1.4063
Total	0.0740	8.4000e-003	0.0100	2.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004	0.0000	1.4043	1.4043	1.0000e-004	0.0000	1.4063

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	1.1000e-004	1.1000e-003	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2284	0.2284	1.0000e-005	0.0000	0.2286
Total	8.0000e-005	1.1000e-004	1.1000e-003	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2284	0.2284	1.0000e-005	0.0000	0.2286

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	0.0728					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6000e-004	7.1000e-004	0.0101	2.0000e-005		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	1.4043	1.4043	1.0000e-004	0.0000	1.4063
Total	0.0729	7.1000e-004	0.0101	2.0000e-005		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	1.4043	1.4043	1.0000e-004	0.0000	1.4063

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	1.1000e-004	1.1000e-003	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2284	0.2284	1.0000e-005	0.0000	0.2286
Total	8.0000e-005	1.1000e-004	1.1000e-003	0.0000	3.0000e-004	0.0000	3.0000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2284	0.2284	1.0000e-005	0.0000	0.2286

Tuscany Meadows Single-Family 2020 Residential by Phase - 2020, Health Risk Run

Contra Costa County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	83.00	Dwelling Unit	14.20	149,400.00	237

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	4			Operational Year	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Land Use - Lot acreage for SFR from vesting tentative map (170-14.6 MFR/11 phases).

Construction Phase - Used applicant schedule. No demolition or site preparation (all in grading phase).

Off-road Equipment - Cranes and welders, one hour per day. Not likely to be cranes or welders at all.

Trips and VMT - 0.3 mile trip length to calculate risk from on-site trips.

Grading - Assume 14.2 acres of grading.

Construction Off-road Equipment Mitigation - Tier 4 equipment mitigation scenario

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	20.00	159.00
tblConstructionPhase	NumDays	300.00	192.00
tblConstructionPhase	NumDays	30.00	60.00
tblConstructionPhase	NumDays	20.00	29.00
tblConstructionPhase	PhaseEndDate	9/28/2021	1/16/2021
tblConstructionPhase	PhaseEndDate	2/16/2021	2/17/2021
tblConstructionPhase	PhaseEndDate	5/22/2020	5/23/2020
tblConstructionPhase	PhaseEndDate	7/2/2020	5/23/2020

tblConstructionPhase	PhaseStartDate	2/18/2021	6/9/2020
tblConstructionPhase	PhaseStartDate	5/24/2020	5/26/2020
tblConstructionPhase	PhaseStartDate	5/24/2020	4/14/2020
tblGrading	AcresOfGrading	150.00	14.20
tblLandUse	LotAcreage	26.95	14.20
tblOffRoadEquipment	UsageHours	7.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblProjectCharacteristics	OperationalYear	2014	2020
tblTripsAndVMT	HaulingTripLength	20.00	0.30
tblTripsAndVMT	HaulingTripLength	20.00	0.30
tblTripsAndVMT	HaulingTripLength	20.00	0.30
tblTripsAndVMT	HaulingTripLength	20.00	0.30
tblTripsAndVMT	VendorTripLength	7.30	0.30
tblTripsAndVMT	VendorTripLength	7.30	0.30
tblTripsAndVMT	VendorTripLength	7.30	0.30
tblTripsAndVMT	VendorTripLength	7.30	0.30
tblTripsAndVMT	WorkerTripLength	12.40	0.30
tblTripsAndVMT	WorkerTripLength	12.40	0.30
tblTripsAndVMT	WorkerTripLength	12.40	0.30
tblTripsAndVMT	WorkerTripLength	12.40	0.30

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					

2020	1.2807	2.9076	2.6746	4.0400e-003	0.1892	0.1559	0.3451	0.1004	0.1454	0.2458	0.0000	352.6472	352.6472	0.0964	0.0000	354.6711
2021	0.0983	0.2230	0.2589	3.7000e-004	1.7000e-004	0.0132	0.0134	5.0000e-005	0.0124	0.0125	0.0000	32.0191	32.0191	7.1600e-003	0.0000	32.1694
Total	1.3790	3.1306	2.9335	4.4100e-003	0.1894	0.1691	0.3585	0.1005	0.1578	0.2583	0.0000	384.6663	384.6663	0.1035	0.0000	386.8404

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					
2020	1.0376	0.2291	2.6409	4.0400e-003	0.0744	6.4000e-003	0.0808	0.0393	6.3900e-003	0.0457	0.0000	352.6468	352.6468	0.0964	0.0000	354.6706
2021	0.0788	0.0226	0.2694	3.7000e-004	1.7000e-004	5.7000e-004	7.4000e-004	5.0000e-005	5.7000e-004	6.1000e-004	0.0000	32.0191	32.0191	7.1600e-003	0.0000	32.1693
Total	1.1164	0.2517	2.9103	4.4100e-003	0.0746	6.9700e-003	0.0816	0.0394	6.9600e-003	0.0463	0.0000	384.6658	384.6658	0.1035	0.0000	386.8400

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	19.04	91.96	0.79	0.00	60.61	95.88	77.24	60.80	95.59	82.06	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	3/1/2020	5/23/2020	5	60	
2	Paving	Paving	4/14/2020	5/23/2020	5	29	
3	Building Construction	Building Construction	5/26/2020	2/17/2021	5	192	
4	Architectural Coating	Architectural Coating	6/9/2020	1/16/2021	5	159	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 14.2

Acres of Paving: 0

Residential Indoor: 302,535; Residential Outdoor: 100,845; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Building Construction	Cranes	1	1.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	1.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	8	20.00	0.00	0.00	0.30	0.30	0.30	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	0.30	0.30	0.30	LD_Mix	HDT_Mix	HHDT
Building Construction	9	30.00	9.00	0.00	0.30	0.30	0.30	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	6.00	0.00	0.00	0.30	0.30	0.30	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Clean Paved Roads

3.2 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1882	0.0000	0.1882	0.1001	0.0000	0.1001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1365	1.4815	1.1528	1.8500e-003		0.0679	0.0679		0.0624	0.0624	0.0000	162.6866	162.6866	0.0526	0.0000	163.7915
Total	0.1365	1.4815	1.1528	1.8500e-003	0.1882	0.0679	0.2561	0.1001	0.0624	0.1626	0.0000	162.6866	162.6866	0.0526	0.0000	163.7915

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	1.1400e-003	2.7000e-004	3.8900e-003	0.0000	1.4000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.2066	0.2066	2.0000e-005	0.0000	0.2069
Total	1.1400e-003	2.7000e-004	3.8900e-003	0.0000	1.4000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.2066	0.2066	2.0000e-005	0.0000	0.2069

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					0.0734	0.0000	0.0734	0.0391	0.0000	0.0391	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0227	0.0983	1.0434	1.8500e-003		3.0300e-003	3.0300e-003		3.0300e-003	3.0300e-003	0.0000	162.6864	162.6864	0.0526	0.0000	163.7913
Total	0.0227	0.0983	1.0434	1.8500e-003	0.0734	3.0300e-003	0.0764	0.0391	3.0300e-003	0.0421	0.0000	162.6864	162.6864	0.0526	0.0000	163.7913

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	1.1400e-003	2.7000e-004	3.8900e-003	0.0000	1.4000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.2066	0.2066	2.0000e-005	0.0000	0.2069
Total	1.1400e-003	2.7000e-004	3.8900e-003	0.0000	1.4000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.2066	0.2066	2.0000e-005	0.0000	0.2069

3.3 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Total	3.9800e-003	0.0173	0.2455	3.2000e-004		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004	0.0000	28.4230	28.4230	9.1900e-003	0.0000	28.6160
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Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.1000e-004	1.0000e-004	1.4100e-003	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.0749	0.0749	1.0000e-005	0.0000	0.0750
Total	4.1000e-004	1.0000e-004	1.4100e-003	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.0749	0.0749	1.0000e-005	0.0000	0.0750

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1169	1.0865	1.0831	1.6100e-003		0.0690	0.0690		0.0648	0.0648	0.0000	139.8175	139.8175	0.0330	0.0000	140.5098
Total	0.1169	1.0865	1.0831	1.6100e-003		0.0690	0.0690		0.0648	0.0648	0.0000	139.8175	139.8175	0.0330	0.0000	140.5098

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.2900e-003	0.0135	0.0716	2.0000e-005	2.0000e-004	6.0000e-005	2.6000e-004	6.0000e-005	5.0000e-005	1.1000e-004	0.0000	1.5759	1.5759	3.0000e-005	0.0000	1.5765
Worker	4.5000e-003	1.0600e-003	0.0154	1.0000e-005	5.4000e-004	2.0000e-005	5.7000e-004	1.5000e-004	2.0000e-005	1.7000e-004	0.0000	0.8159	0.8159	7.0000e-005	0.0000	0.8174
Total	8.7900e-003	0.0145	0.0869	3.0000e-005	7.4000e-004	8.0000e-005	8.3000e-004	2.1000e-004	7.0000e-005	2.8000e-004	0.0000	2.3918	2.3918	1.0000e-004	0.0000	2.3939

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	0.0187	0.0889	1.1213	1.6100e-003		2.4600e-003	2.4600e-003		2.4600e-003	2.4600e-003	0.0000	139.8173	139.8173	0.0330	0.0000	140.5096
Total	0.0187	0.0889	1.1213	1.6100e-003		2.4600e-003	2.4600e-003		2.4600e-003	2.4600e-003	0.0000	139.8173	139.8173	0.0330	0.0000	140.5096

Mitigated Construction Off-Site

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

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.2900e-003	0.0135	0.0716	2.0000e-005	2.0000e-004	6.0000e-005	2.6000e-004	6.0000e-005	5.0000e-005	1.1000e-004	0.0000	1.5759	1.5759	3.0000e-005	0.0000	1.5765
Worker	4.5000e-003	1.0600e-003	0.0154	1.0000e-005	5.4000e-004	2.0000e-005	5.7000e-004	1.5000e-004	2.0000e-005	1.7000e-004	0.0000	0.8159	0.8159	7.0000e-005	0.0000	0.8174
Total	8.7900e-003	0.0145	0.0869	3.0000e-005	7.4000e-004	8.0000e-005	8.3000e-004	2.1000e-004	7.0000e-005	2.8000e-004	0.0000	2.3918	2.3918	1.0000e-004	0.0000	2.3939

3.4 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	0.0225	0.2119	0.2308	3.5000e-004		0.0127	0.0127		0.0119	0.0119	0.0000	30.0925	30.0925	7.0400e-003	0.0000	30.2403
Total	0.0225	0.2119	0.2308	3.5000e-004		0.0127	0.0127		0.0119	0.0119	0.0000	30.0925	30.0925	7.0400e-003	0.0000	30.2403

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	8.5000e-004	2.5700e-003	0.0148	0.0000	4.0000e-005	1.0000e-005	5.0000e-005	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.3387	0.3387	1.0000e-005	0.0000	0.3388
Worker	9.2000e-004	2.1000e-004	3.0500e-003	0.0000	1.2000e-004	1.0000e-005	1.2000e-004	3.0000e-005	0.0000	4.0000e-005	0.0000	0.1725	0.1725	1.0000e-005	0.0000	0.1728
Total	1.7700e-003	2.7800e-003	0.0179	0.0000	1.6000e-004	2.0000e-005	1.7000e-004	4.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.5111	0.5111	2.0000e-005	0.0000	0.5116

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	4.0100e-003	0.0191	0.2413	3.5000e-004		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004	0.0000	30.0925	30.0925	7.0400e-003	0.0000	30.2403
Total	4.0100e-003	0.0191	0.2413	3.5000e-004		5.3000e-004	5.3000e-004		5.3000e-004	5.3000e-004	0.0000	30.0925	30.0925	7.0400e-003	0.0000	30.2403

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	8.5000e-004	2.5700e-003	0.0148	0.0000	4.0000e-005	1.0000e-005	5.0000e-005	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.3387	0.3387	1.0000e-005	0.0000	0.3388
Worker	9.2000e-004	2.1000e-004	3.0500e-003	0.0000	1.2000e-004	1.0000e-005	1.2000e-004	3.0000e-005	0.0000	4.0000e-005	0.0000	0.1725	0.1725	1.0000e-005	0.0000	0.1728
Total	1.7700e-003	2.7800e-003	0.0179	0.0000	1.6000e-004	2.0000e-005	1.7000e-004	4.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.5111	0.5111	2.0000e-005	0.0000	0.5116

3.5 Architectural Coating - 2020

Unmitigated Construction On-Site

Off-Road	2.2000e-003	9.5300e-003	0.1356	2.2000e-004		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004	0.0000	18.8941	18.8941	1.4600e-003	0.0000	18.9248
Total	0.9811	9.5300e-003	0.1356	2.2000e-004		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004	0.0000	18.8941	18.8941	1.4600e-003	0.0000	18.9248

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.4000e-004	2.0000e-004	2.8800e-003	0.0000	1.0000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1529	0.1529	1.0000e-005	0.0000	0.1531
Total	8.4000e-004	2.0000e-004	2.8800e-003	0.0000	1.0000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1529	0.1529	1.0000e-005	0.0000	0.1531

3.5 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	0.0728					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.2000e-003	8.4000e-003	0.0100	2.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004	0.0000	1.4043	1.4043	1.0000e-004	0.0000	1.4063
Total	0.0740	8.4000e-003	0.0100	2.0000e-005		5.2000e-004	5.2000e-004		5.2000e-004	5.2000e-004	0.0000	1.4043	1.4043	1.0000e-004	0.0000	1.4063

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	1.0000e-005	2.0000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0112	0.0112	0.0000	0.0000	0.0112
Total	6.0000e-005	1.0000e-005	2.0000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0112	0.0112	0.0000	0.0000	0.0112

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	0.0728					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6000e-004	7.1000e-004	0.0101	2.0000e-005		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	1.4043	1.4043	1.0000e-004	0.0000	1.4063
Total	0.0729	7.1000e-004	0.0101	2.0000e-005		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	1.4043	1.4043	1.0000e-004	0.0000	1.4063

Mitigated Construction Off-Site

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

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	1.0000e-005	2.0000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0112	0.0112	0.0000	0.0000	0.0112
Total	6.0000e-005	1.0000e-005	2.0000e-004	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0112	0.0112	0.0000	0.0000	0.0112

Tuscany Meadows Multi-Family Residential

Contra Costa County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	365.00	Dwelling Unit	14.60	365,000.00	1044

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	4			Operational Year	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWahr)	641.35	CH4 Intensity (lb/MWahr)	0.029	N2O Intensity (lb/MWahr)	0.006

1.3 User Entered Comments & Non-Default Data

Land Use - Lot acreage for MFR from vesting tentative map.

Construction Phase - Used applicant schedule. No demolition or site preparation (all in grading phase).

Construction Off-road Equipment Mitigation - Generator Tier 4, Tier 2 other equipment - mitigation scenario

Off-road Equipment - 1 hour/day for welders.

Grading - Assume 14.6 acres of grading.

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	20.00	161.00
tblConstructionPhase	NumDays	300.00	192.00
tblConstructionPhase	NumDays	30.00	60.00
tblConstructionPhase	NumDays	20.00	30.00
tblGrading	AcresOfGrading	150.00	14.60
tblLandUse	LotAcreage	22.81	14.60
tblOffRoadEquipment	UsageHours	8.00	1.00
tblProjectCharacteristics	OperationalYear	2014	2020

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2015	0.5494	4.9800	4.3118	6.2900e-003	0.3666	0.2690	0.6356	0.1479	0.2495	0.3974	0.0000	561.4142	561.4142	0.1082	0.0000	563.6860
2016	2.7535	1.2318	1.5356	2.6600e-003	0.1222	0.0766	0.1988	0.0327	0.0727	0.1053	0.0000	221.3160	221.3160	0.0260	0.0000	221.8622
Total	3.3030	6.2118	5.8474	8.9500e-003	0.4888	0.3456	0.8344	0.1805	0.3222	0.5027	0.0000	782.7302	782.7302	0.1342	0.0000	785.5482

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					
2015	0.2327	3.3237	3.9243	6.2900e-003	0.2516	0.0966	0.3482	0.0868	0.0961	0.1829	0.0000	561.4138	561.4138	0.1082	0.0000	563.6856
2016	2.6664	0.9193	1.5228	2.6600e-003	0.1222	0.0296	0.1518	0.0327	0.0294	0.0621	0.0000	221.3159	221.3159	0.0260	0.0000	221.8621
Total	2.8992	4.2430	5.4471	8.9500e-003	0.3738	0.1262	0.5000	0.1194	0.1255	0.2449	0.0000	782.7296	782.7296	0.1342	0.0000	785.5477

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	12.23	31.70	6.85	0.00	23.51	63.49	40.07	33.84	61.05	51.28	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	3/1/2015	5/22/2015	5	60	
2	Paving	Paving	5/23/2015	7/3/2015	5	30	
3	Building Construction	Building Construction	7/4/2015	3/29/2016	5	192	
4	Architectural Coating	Architectural Coating	3/30/2016	11/9/2016	5	161	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 14.6

Acres of Paving: 0

Residential Indoor: 739,125; Residential Outdoor: 246,375; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	1.00	46	0.45

Architectural Coating	Air Compressors	1	6.00	78	0.48
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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
Grading	8	20.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	263.00	39.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	53.00	0.00	0.00	12.40	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Clean Paved Roads

3.2 Grading - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1884	0.0000	0.1884	0.1001	0.0000	0.1001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2033	2.3714	1.5252	1.8500e-003		0.1141	0.1141		0.1049	0.1049	0.0000	176.5266	176.5266	0.0527	0.0000	177.6333
Total	0.2033	2.3714	1.5252	1.8500e-003	0.1884	0.1141	0.3025	0.1001	0.1049	0.2051	0.0000	176.5266	176.5266	0.0527	0.0000	177.6333

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5300e-003	3.7000e-003	0.0363	6.0000e-005	5.4600e-003	5.0000e-005	5.5100e-003	1.4500e-003	4.0000e-005	1.5000e-003	0.0000	5.1080	5.1080	3.0000e-004	0.0000	5.1143
Total	2.5300e-003	3.7000e-003	0.0363	6.0000e-005	5.4600e-003	5.0000e-005	5.5100e-003	1.4500e-003	4.0000e-005	1.5000e-003	0.0000	5.1080	5.1080	3.0000e-004	0.0000	5.1143

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					0.0735	0.0000	0.0735	0.0391	0.0000	0.0391	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0568	1.5284	1.1383	1.8500e-003		0.0414	0.0414		0.0414	0.0414	0.0000	176.5264	176.5264	0.0527	0.0000	177.6331
Total	0.0568	1.5284	1.1383	1.8500e-003	0.0735	0.0414	0.1148	0.0391	0.0414	0.0804	0.0000	176.5264	176.5264	0.0527	0.0000	177.6331

Mitigated Construction Off-Site

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

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5300e-003	3.7000e-003	0.0363	6.0000e-005	5.4600e-003	5.0000e-005	5.5100e-003	1.4500e-003	4.0000e-005	1.5000e-003	0.0000	5.1080	5.1080	3.0000e-004	0.0000	5.1143
Total	2.5300e-003	3.7000e-003	0.0363	6.0000e-005	5.4600e-003	5.0000e-005	5.5100e-003	1.4500e-003	4.0000e-005	1.5000e-003	0.0000	5.1080	5.1080	3.0000e-004	0.0000	5.1143

3.3 Paving - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0348	0.3776	0.2247	3.3000e-004		0.0212	0.0212		0.0195	0.0195	0.0000	31.8408	31.8408	9.5100e-003	0.0000	32.0404
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0348	0.3776	0.2247	3.3000e-004		0.0212	0.0212		0.0195	0.0195	0.0000	31.8408	31.8408	9.5100e-003	0.0000	32.0404

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	9.5000e-004	1.3900e-003	0.0136	2.0000e-005	2.0500e-003	2.0000e-005	2.0700e-003	5.4000e-004	2.0000e-005	5.6000e-004	0.0000	1.9155	1.9155	1.1000e-004	0.0000	1.9179

Total	9.5000e-004	1.3900e-003	0.0136	2.0000e-005	2.0500e-003	2.0000e-005	2.0700e-003	5.4000e-004	2.0000e-005	5.6000e-004	0.0000	1.9155	1.9155	1.1000e-004	0.0000	1.9179
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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	0.0137	0.2955	0.2539	3.3000e-004		9.8100e-003	9.8100e-003		9.8100e-003	9.8100e-003	0.0000	31.8408	31.8408	9.5100e-003	0.0000	32.0404
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0137	0.2955	0.2539	3.3000e-004		9.8100e-003	9.8100e-003		9.8100e-003	9.8100e-003	0.0000	31.8408	31.8408	9.5100e-003	0.0000	32.0404

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	9.5000e-004	1.3900e-003	0.0136	2.0000e-005	2.0500e-003	2.0000e-005	2.0700e-003	5.4000e-004	2.0000e-005	5.6000e-004	0.0000	1.9155	1.9155	1.1000e-004	0.0000	1.9179
Total	9.5000e-004	1.3900e-003	0.0136	2.0000e-005	2.0500e-003	2.0000e-005	2.0700e-003	5.4000e-004	2.0000e-005	5.6000e-004	0.0000	1.9155	1.9155	1.1000e-004	0.0000	1.9179

3.4 Building Construction - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2007	1.8316	1.0944	1.5900e-003		0.1277	0.1277		0.1195	0.1195	0.0000	146.7536	146.7536	0.0366	0.0000	147.5224
Total	0.2007	1.8316	1.0944	1.5900e-003		0.1277	0.1277		0.1195	0.1195	0.0000	146.7536	146.7536	0.0366	0.0000	147.5224

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	0.0358	0.2896	0.3916	6.0000e-004	0.0162	4.6500e-003	0.0209	4.6400e-003	4.2800e-003	8.9200e-003	0.0000	54.8547	54.8547	4.9000e-004	0.0000	54.8650
Worker	0.0715	0.1047	1.0260	1.8300e-003	0.1545	1.3300e-003	0.1558	0.0411	1.2200e-003	0.0423	0.0000	144.4150	144.4150	8.4700e-003	0.0000	144.5928
Total	0.1073	0.3943	1.4176	2.4300e-003	0.1707	5.9800e-003	0.1766	0.0457	5.5000e-003	0.0512	0.0000	199.2697	199.2697	8.9600e-003	0.0000	199.4578

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	0.0516	1.1004	1.0646	1.5900e-003		0.0394	0.0394		0.0394	0.0394	0.0000	146.7535	146.7535	0.0366	0.0000	147.5222
Total	0.0516	1.1004	1.0646	1.5900e-003		0.0394	0.0394		0.0394	0.0394	0.0000	146.7535	146.7535	0.0366	0.0000	147.5222

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	0.0358	0.2896	0.3916	6.0000e-004	0.0162	4.6500e-003	0.0209	4.6400e-003	4.2800e-003	8.9200e-003	0.0000	54.8547	54.8547	4.9000e-004	0.0000	54.8650
Worker	0.0715	0.1047	1.0260	1.8300e-003	0.1545	1.3300e-003	0.1558	0.0411	1.2200e-003	0.0423	0.0000	144.4150	144.4150	8.4700e-003	0.0000	144.5928
Total	0.1073	0.3943	1.4176	2.4300e-003	0.1707	5.9800e-003	0.1766	0.0457	5.5000e-003	0.0512	0.0000	199.2697	199.2697	8.9600e-003	0.0000	199.4578

3.4 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0918	0.8483	0.5287	7.7000e-004		0.0581	0.0581		0.0543	0.0543	0.0000	71.0906	71.0906	0.0177	0.0000	71.4614
Total	0.0918	0.8483	0.5287	7.7000e-004		0.0581	0.0581		0.0543	0.0543	0.0000	71.0906	71.0906	0.0177	0.0000	71.4614

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	0.0154	0.1230	0.1768	2.9000e-004	7.9100e-003	1.8200e-003	9.7300e-003	2.2700e-003	1.6700e-003	3.9400e-003	0.0000	26.4765	26.4765	2.1000e-004	0.0000	26.4809
Worker	0.0312	0.0459	0.4479	8.9000e-004	0.0754	6.1000e-004	0.0760	0.0201	5.6000e-004	0.0206	0.0000	68.1158	68.1158	3.7700e-003	0.0000	68.1950
Total	0.0466	0.1689	0.6247	1.1800e-003	0.0833	2.4300e-003	0.0858	0.0223	2.2300e-003	0.0246	0.0000	94.5923	94.5923	3.9800e-003	0.0000	94.6760

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	0.0252	0.5374	0.5199	7.7000e-004		0.0192	0.0192		0.0192	0.0192	0.0000	71.0905	71.0905	0.0177	0.0000	71.4613
Total	0.0252	0.5374	0.5199	7.7000e-004		0.0192	0.0192		0.0192	0.0192	0.0000	71.0905	71.0905	0.0177	0.0000	71.4613

Mitigated Construction Off-Site

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0161	0.0236	0.2306	4.6000e-004	0.0389	3.2000e-004	0.0392	0.0103	2.9000e-004	0.0106	0.0000	35.0795	35.0795	1.9400e-003	0.0000	35.1203
Total	0.0161	0.0236	0.2306	4.6000e-004	0.0389	3.2000e-004	0.0392	0.0103	2.9000e-004	0.0106	0.0000	35.0795	35.0795	1.9400e-003	0.0000	35.1203

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	2.5694					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.1700e-003	0.1894	0.1475	2.4000e-004		7.6500e-003	7.6500e-003		7.6500e-003	7.6500e-003	0.0000	20.5537	20.5537	2.4200e-003	0.0000	20.6046
Total	2.5786	0.1894	0.1475	2.4000e-004		7.6500e-003	7.6500e-003		7.6500e-003	7.6500e-003	0.0000	20.5537	20.5537	2.4200e-003	0.0000	20.6046

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	0.0161	0.0236	0.2306	4.6000e-004	0.0389	3.2000e-004	0.0392	0.0103	2.9000e-004	0.0106	0.0000	35.0795	35.0795	1.9400e-003	0.0000	35.1203
Total	0.0161	0.0236	0.2306	4.6000e-004	0.0389	3.2000e-004	0.0392	0.0103	2.9000e-004	0.0106	0.0000	35.0795	35.0795	1.9400e-003	0.0000	35.1203

Tuscany Meadows Multi-Family Residential, Health Risk Run

Contra Costa County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Low Rise	365.00	Dwelling Unit	14.60	365,000.00	1044

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	4			Operational Year	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Land Use - Lot acreage for MFR from vesting tentative map.

Construction Phase - Used applicant schedule. No demolition or site preparation (all in grading phase).

Trips and VMT - 0.3 mile trip lengths to calculate risk from on-site trips.

Construction Off-road Equipment Mitigation - Generator Tier 4, Tier 2 other equipment - mitigation scenario

Off-road Equipment - 1 hour/day for welders.

Grading - Assume 14.6 acres of grading.

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	20.00	161.00
tblConstructionPhase	NumDays	300.00	192.00
tblConstructionPhase	NumDays	30.00	60.00
tblConstructionPhase	NumDays	20.00	30.00
tblGrading	AcresOfGrading	150.00	14.60
tblLandUse	LotAcreage	22.81	14.60
tblOffRoadEquipment	UsageHours	8.00	1.00
tblProjectCharacteristics	OperationalYear	2014	2020

tblTripsAndVMT	HaulingTripLength	20.00	0.30
tblTripsAndVMT	HaulingTripLength	20.00	0.30
tblTripsAndVMT	HaulingTripLength	20.00	0.30
tblTripsAndVMT	HaulingTripLength	20.00	0.30
tblTripsAndVMT	VendorTripLength	7.30	0.30
tblTripsAndVMT	VendorTripLength	7.30	0.30
tblTripsAndVMT	VendorTripLength	7.30	0.30
tblTripsAndVMT	VendorTripLength	7.30	0.30
tblTripsAndVMT	WorkerTripLength	12.40	0.30
tblTripsAndVMT	WorkerTripLength	12.40	0.30
tblTripsAndVMT	WorkerTripLength	12.40	0.30
tblTripsAndVMT	WorkerTripLength	12.40	0.30

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2015	0.5130	4.6617	3.3612	3.9400e-003	0.1932	0.2636	0.4568	0.1015	0.2445	0.3460	0.0000	368.5948	368.5948	0.0998	0.0000	370.6911
2016	2.7337	1.0782	0.9502	1.1200e-003	3.2400e-003	0.0742	0.0774	8.9000e-004	0.0704	0.0713	0.0000	99.6219	99.6219	0.0207	0.0000	100.0565
Total	3.2467	5.7399	4.3114	5.0600e-003	0.1965	0.3377	0.5342	0.1024	0.3149	0.4173	0.0000	468.2167	468.2167	0.1205	0.0000	470.7475

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					
2015	0.1963	3.0053	2.9738	3.9400e-003	0.0783	0.0911	0.1694	0.0404	0.0911	0.1315	0.0000	368.5944	368.5944	0.0998	0.0000	370.6906
2016	2.6466	0.7657	0.9373	1.1200e-003	3.2400e-003	0.0272	0.0304	8.9000e-004	0.0271	0.0280	0.0000	99.6218	99.6218	0.0207	0.0000	100.0564
Total	2.8429	3.7710	3.9111	5.0600e-003	0.0815	0.1183	0.1998	0.0413	0.1182	0.1595	0.0000	468.2162	468.2162	0.1205	0.0000	470.7470

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	12.44	34.30	9.29	0.00	58.50	64.97	62.59	59.68	62.46	61.78	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	3/1/2015	5/22/2015	5	60	
2	Paving	Paving	5/23/2015	7/3/2015	5	30	
3	Building Construction	Building Construction	7/4/2015	3/29/2016	5	192	
4	Architectural Coating	Architectural Coating	3/30/2016	11/9/2016	5	161	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 14.6

Acres of Paving: 0

Residential Indoor: 739,125; Residential Outdoor: 246,375; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41

Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	1.00	46	0.45
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	8	20.00	0.00	0.00	0.30	0.30	0.30	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	0.30	0.30	0.30	LD_Mix	HDT_Mix	HHDT
Building Construction	9	263.00	39.00	0.00	0.30	0.30	0.30	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	53.00	0.00	0.00	0.30	0.30	0.30	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Clean Paved Roads

3.2 Grading - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1884	0.0000	0.1884	0.1001	0.0000	0.1001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2033	2.3714	1.5252	1.8500e-003		0.1141	0.1141		0.1049	0.1049	0.0000	176.5266	176.5266	0.0527	0.0000	177.6333
Total	0.2033	2.3714	1.5252	1.8500e-003	0.1884	0.1141	0.3025	0.1001	0.1049	0.2051	0.0000	176.5266	176.5266	0.0527	0.0000	177.6333

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	1.6500e-003	4.6000e-004	6.4000e-003	0.0000	1.4000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.2493	0.2493	3.0000e-005	0.0000	0.2499
Total	1.6500e-003	4.6000e-004	6.4000e-003	0.0000	1.4000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.2493	0.2493	3.0000e-005	0.0000	0.2499

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					0.0735	0.0000	0.0735	0.0391	0.0000	0.0391	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	0.0568	1.5284	1.1383	1.8500e-003		0.0414	0.0414		0.0414	0.0414	0.0000	176.5264	176.5264	0.0527	0.0000	177.6331
Total	0.0568	1.5284	1.1383	1.8500e-003	0.0735	0.0414	0.1148	0.0391	0.0414	0.0804	0.0000	176.5264	176.5264	0.0527	0.0000	177.6331

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	1.6500e-003	4.6000e-004	6.4000e-003	0.0000	1.4000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.2493	0.2493	3.0000e-005	0.0000	0.2499
Total	1.6500e-003	4.6000e-004	6.4000e-003	0.0000	1.4000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.2493	0.2493	3.0000e-005	0.0000	0.2499

3.3 Paving - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0348	0.3776	0.2247	3.3000e-004		0.0212	0.0212		0.0195	0.0195	0.0000	31.8408	31.8408	9.5100e-003	0.0000	32.0404
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0348	0.3776	0.2247	3.3000e-004		0.0212	0.0212		0.0195	0.0195	0.0000	31.8408	31.8408	9.5100e-003	0.0000	32.0404

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2000e-004	1.7000e-004	2.4000e-003	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.0935	0.0935	1.0000e-005	0.0000	0.0937
Total	6.2000e-004	1.7000e-004	2.4000e-003	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.0935	0.0935	1.0000e-005	0.0000	0.0937

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	0.0137	0.2955	0.2539	3.3000e-004		9.8100e-003	9.8100e-003		9.8100e-003	9.8100e-003	0.0000	31.8408	31.8408	9.5100e-003	0.0000	32.0404
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0137	0.2955	0.2539	3.3000e-004		9.8100e-003	9.8100e-003		9.8100e-003	9.8100e-003	0.0000	31.8408	31.8408	9.5100e-003	0.0000	32.0404

Mitigated Construction Off-Site

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

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2000e-004	1.7000e-004	2.4000e-003	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.0935	0.0935	1.0000e-005	0.0000	0.0937
Total	6.2000e-004	1.7000e-004	2.4000e-003	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.0935	0.0935	1.0000e-005	0.0000	0.0937

3.4 Building Construction - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2007	1.8316	1.0944	1.5900e-003		0.1277	0.1277		0.1195	0.1195	0.0000	146.7536	146.7536	0.0366	0.0000	147.5224
Total	0.2007	1.8316	1.0944	1.5900e-003		0.1277	0.1277		0.1195	0.1195	0.0000	146.7536	146.7536	0.0366	0.0000	147.5224

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	0.0253	0.0674	0.3271	7.0000e-005	7.2000e-004	4.3000e-004	1.1500e-003	2.1000e-004	3.9000e-004	6.0000e-004	0.0000	6.0842	6.0842	1.0000e-004	0.0000	6.0864
Worker	0.0467	0.0131	0.1810	9.0000e-005	3.9000e-003	1.7000e-004	4.0700e-003	1.0600e-003	1.6000e-004	1.2200e-003	0.0000	7.0469	7.0469	8.6000e-004	0.0000	7.0650
Total	0.0720	0.0804	0.5081	1.6000e-004	4.6200e-003	6.0000e-004	5.2200e-003	1.2700e-003	5.5000e-004	1.8200e-003	0.0000	13.1311	13.1311	9.6000e-004	0.0000	13.1513

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	0.0516	1.1004	1.0646	1.5900e-003		0.0394	0.0394		0.0394	0.0394	0.0000	146.7535	146.7535	0.0366	0.0000	147.5222
Total	0.0516	1.1004	1.0646	1.5900e-003		0.0394	0.0394		0.0394	0.0394	0.0000	146.7535	146.7535	0.0366	0.0000	147.5222

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	0.0253	0.0674	0.3271	7.0000e-005	7.2000e-004	4.3000e-004	1.1500e-003	2.1000e-004	3.9000e-004	6.0000e-004	0.0000	6.0842	6.0842	1.0000e-004	0.0000	6.0864
Worker	0.0467	0.0131	0.1810	9.0000e-005	3.9000e-003	1.7000e-004	4.0700e-003	1.0600e-003	1.6000e-004	1.2200e-003	0.0000	7.0469	7.0469	8.6000e-004	0.0000	7.0650
Total	0.0720	0.0804	0.5081	1.6000e-004	4.6200e-003	6.0000e-004	5.2200e-003	1.2700e-003	5.5000e-004	1.8200e-003	0.0000	13.1311	13.1311	9.6000e-004	0.0000	13.1513

3.4 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0918	0.8483	0.5287	7.7000e-004		0.0581	0.0581		0.0543	0.0543	0.0000	71.0906	71.0906	0.0177	0.0000	71.4614
Total	0.0918	0.8483	0.5287	7.7000e-004		0.0581	0.0581		0.0543	0.0543	0.0000	71.0906	71.0906	0.0177	0.0000	71.4614

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	0.0110	0.0303	0.1493	3.0000e-005	3.5000e-004	1.6000e-004	5.1000e-004	1.0000e-004	1.4000e-004	2.5000e-004	0.0000	2.9373	2.9373	5.0000e-005	0.0000	2.9383
Worker	0.0211	5.7000e-003	0.0796	4.0000e-005	1.9000e-003	8.0000e-005	1.9900e-003	5.2000e-004	7.0000e-005	5.9000e-004	0.0000	3.3269	3.3269	3.7000e-004	0.0000	3.3348
Total	0.0320	0.0360	0.2289	7.0000e-005	2.2500e-003	2.4000e-004	2.5000e-003	6.2000e-004	2.1000e-004	8.4000e-004	0.0000	6.2643	6.2643	4.2000e-004	0.0000	6.2731

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	0.0252	0.5374	0.5199	7.7000e-004		0.0192	0.0192		0.0192	0.0192	0.0000	71.0905	71.0905	0.0177	0.0000	71.4613

Total	0.0252	0.5374	0.5199	7.7000e-004		0.0192	0.0192		0.0192	0.0192	0.0000	71.0905	71.0905	0.0177	0.0000	71.4613
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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	0.0110	0.0303	0.1493	3.0000e-005	3.5000e-004	1.6000e-004	5.1000e-004	1.0000e-004	1.4000e-004	2.5000e-004	0.0000	2.9373	2.9373	5.0000e-005	0.0000	2.9383
Worker	0.0211	5.7000e-003	0.0796	4.0000e-005	1.9000e-003	8.0000e-005	1.9900e-003	5.2000e-004	7.0000e-005	5.9000e-004	0.0000	3.3269	3.3269	3.7000e-004	0.0000	3.3348
Total	0.0320	0.0360	0.2289	7.0000e-005	2.2500e-003	2.4000e-004	2.5000e-003	6.2000e-004	2.1000e-004	8.4000e-004	0.0000	6.2643	6.2643	4.2000e-004	0.0000	6.2731

3.5 Architectural Coating - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.5694					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0297	0.1910	0.1517	2.4000e-004		0.0158	0.0158		0.0158	0.0158	0.0000	20.5537	20.5537	2.4200e-003	0.0000	20.6046
Total	2.5990	0.1910	0.1517	2.4000e-004		0.0158	0.0158		0.0158	0.0158	0.0000	20.5537	20.5537	2.4200e-003	0.0000	20.6046

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	0.0108	2.9300e-003	0.0410	2.0000e-005	9.8000e-004	4.0000e-005	1.0200e-003	2.7000e-004	4.0000e-005	3.0000e-004	0.0000	1.7134	1.7134	1.9000e-004	0.0000	1.7174
Total	0.0108	2.9300e-003	0.0410	2.0000e-005	9.8000e-004	4.0000e-005	1.0200e-003	2.7000e-004	4.0000e-005	3.0000e-004	0.0000	1.7134	1.7134	1.9000e-004	0.0000	1.7174

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	2.5694					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.1700e-003	0.1894	0.1475	2.4000e-004		7.6500e-003	7.6500e-003		7.6500e-003	7.6500e-003	0.0000	20.5537	20.5537	2.4200e-003	0.0000	20.6046
Total	2.5786	0.1894	0.1475	2.4000e-004		7.6500e-003	7.6500e-003		7.6500e-003	7.6500e-003	0.0000	20.5537	20.5537	2.4200e-003	0.0000	20.6046

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	0.0108	2.9300e-003	0.0410	2.0000e-005	9.8000e-004	4.0000e-005	1.0200e-003	2.7000e-004	4.0000e-005	3.0000e-004	0.0000	1.7134	1.7134	1.9000e-004	0.0000	1.7174
Total	0.0108	2.9300e-003	0.0410	2.0000e-005	9.8000e-004	4.0000e-005	1.0200e-003	2.7000e-004	4.0000e-005	3.0000e-004	0.0000	1.7134	1.7134	1.9000e-004	0.0000	1.7174

Construction Health Risk Modeling

Tuscany Meadows, Pittsburg, CA - Without Mitigation
DPM Construction Emissions and Modeling Emission Rates

Construction Emissions Year	Construction Year	Construction Area	DPM (ton/year)	Area Source	DPM Emissions			Modeled Area (m ²)	DPM Emission Rate (g/s/m ²)
					(lb/yr)	(lb/hr)	(g/s)		
2015	2015	Area 1	0.2648	DPM_1	529.6	0.16122	2.03E-02	61,496	3.30E-07
2015	2017	Area 2	0.2648	DPM_2	529.6	0.16122	2.03E-02	58,226	3.49E-07
2015	2019	Area 3	0.2648	DPM_3	529.6	0.16122	2.03E-02	54,928	3.70E-07
Total			0.7944		1588.8	0.48365	6.09E-02	174,650	
2016	2016	Area 1	0.0259	DPM_1	51.8	0.01577	1.99E-03	61,496	3.23E-08
2016	2018	Area 2	0.0259	DPM_2	51.8	0.01577	1.99E-03	58,226	3.41E-08
2016	2020	Area 3	0.0259	DPM_3	51.8	0.01577	1.99E-03	54,928	3.62E-08
Total			0.0777		155.4	0.04731	5.96E-03	174,650	
2020	2021	Area 4	0.1454	DPM_4	290.8	0.08852	1.12E-02	43,681	2.55E-07
2020	2023	Area 5	0.1454	DPM_5	290.8	0.08852	1.12E-02	53,019	2.10E-07
2020	2025	Area 6	0.1454	DPM_6	290.8	0.08852	1.12E-02	48,063	2.32E-07
2020	2027	Area 7	0.1454	DPM_7	290.8	0.08852	1.12E-02	40,137	2.78E-07
2020	2029	Area 8	0.1454	DPM_8	290.8	0.08852	1.12E-02	32,820	3.40E-07
2020	2031	Area 9	0.1454	DPM_9	290.8	0.08852	1.12E-02	55,090	2.02E-07
2020	2033	Area 10	0.1454	DPM_10	290.8	0.08852	1.12E-02	31,535	3.54E-07
2020	2035	Area 11	0.1454	DPM_11	290.8	0.08852	1.12E-02	65,314	1.71E-07
2015	2037	Area 12	0.2648	DPM_12	529.6	0.16122	2.03E-02	53,651	3.79E-07
Total			1.4280		2856.0	0.86941	1.10E-01	423,310	
2021	2022	Area 4	0.0124	DPM_4	24.8	0.00755	9.51E-04	43,681	2.18E-08
2021	2024	Area 5	0.0124	DPM_5	24.8	0.00755	9.51E-04	53,019	1.79E-08
2021	2026	Area 6	0.0124	DPM_6	24.8	0.00755	9.51E-04	48,063	1.98E-08
2021	2028	Area 7	0.0124	DPM_7	24.8	0.00755	9.51E-04	40,137	2.37E-08
2021	2030	Area 8	0.0124	DPM_8	24.8	0.00755	9.51E-04	32,820	2.90E-08
2021	2032	Area 9	0.0124	DPM_9	24.8	0.00755	9.51E-04	55,090	1.73E-08
2021	2034	Area 10	0.0124	DPM_10	24.8	0.00755	9.51E-04	31,535	3.02E-08
2021	2036	Area 11	0.0124	DPM_11	24.8	0.00755	9.51E-04	65,314	1.46E-08
2016	2020	Area 12	0.0259	DPM_12	51.8	0.01577	1.99E-03	53,651	3.70E-08
Total			0.1251		250.2	0.0762	0.0096	423,310	

Notes:

Emissions assumed to be evenly distributed over each construction areas

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

Tuscany Meadows, Pittsburg, CA - Without Mitigation
PM2.5 Fugitive Dust Construction Emissions for Modeling

Construction Emissions Year	Construction Year	Construction Area	Area Source	PM2.5 Emissions				Modeled Area (m ²)	DPM Emission Rate g/s/m ²
				(ton/year)	(lb/yr)	(lb/hr)	(g/s)		
2015	2015	Area 1	FUG_1	0.1004	200.8	0.06113	7.70E-03	61,496	1.25E-07
2015	2017	Area 2	FUG_2	0.1004	200.8	0.06113	7.70E-03	58,226	1.32E-07
2015	2019	Area 3	FUG_3	0.1004	200.8	0.06113	7.70E-03	54,928	1.40E-07
Total				0.3012	602.4	0.18338	2.31E-02	174,650	
2016	2016	Area 1	FUG_1	0.00005	0.10	0.00003	3.84E-06	61,496	6.24E-11
2016	2018	Area 2	FUG_2	0.00005	0.10	0.00003	3.84E-06	58,226	6.59E-11
2016	2020	Area 3	FUG_3	0.00005	0.10	0.00003	3.84E-06	54,928	6.98E-11
Total				0.0002	0.3	0.00009	1.15E-05	174,650	
2020	2021	Area 4	FUG_4	0.1004	200.8	0.06113	7.70E-03	43,681	1.76E-07
2020	2023	Area 5	FUG_5	0.1004	200.8	0.06113	7.70E-03	53,019	1.45E-07
2020	2025	Area 6	FUG_6	0.1004	200.8	0.06113	7.70E-03	48,063	1.60E-07
2020	2027	Area 7	FUG_7	0.1004	200.8	0.06113	7.70E-03	40,137	1.92E-07
2020	2029	Area 8	FUG_8	0.1004	200.8	0.06113	7.70E-03	32,820	2.35E-07
2020	2031	Area 9	FUG_9	0.1004	200.8	0.06113	7.70E-03	55,090	1.40E-07
2020	2033	Area 10	FUG_10	0.1004	200.8	0.06113	7.70E-03	31,535	2.44E-07
2020	2035	Area 11	FUG_11	0.1004	200.8	0.06113	7.70E-03	65,314	1.18E-07
2015	2037	Area 12	FUG_12	0.1004	200.8	0.06113	7.70E-03	53,651	1.44E-07
Total				0.90360	1807.2	0.55014	6.93E-02	423,310	
2021	2022	Area 4	FUG_4	0.00005	0.10	0.00003	3.84E-06	43,681	8.78E-11
2021	2024	Area 5	FUG_5	0.00005	0.10	0.00003	3.84E-06	53,019	7.23E-11
2021	2026	Area 6	FUG_6	0.00005	0.10	0.00003	3.84E-06	48,063	7.98E-11
2021	2028	Area 7	FUG_7	0.00005	0.10	0.00003	3.84E-06	40,137	9.56E-11
2021	2030	Area 8	FUG_8	0.00005	0.10	0.00003	3.84E-06	32,820	1.17E-10
2021	2032	Area 9	FUG_9	0.00005	0.10	0.00003	3.84E-06	55,090	6.96E-11
2021	2034	Area 10	FUG_10	0.00005	0.10	0.00003	3.84E-06	31,535	1.22E-10
2021	2036	Area 11	FUG_11	0.00005	0.10	0.00003	3.84E-06	65,314	5.87E-11
2016	2038	Area 12	FUG_12	0.00005	0.10	0.00003	3.84E-06	53,651	7.15E-11
Total				0.00045	0.9	0.0003	0.0000	423,310	

Notes:

Emissions assumed to be evenly distributed over each construction areas

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

Tuscany Meadows, Pittsburg, CA - With Mitigation
DPM Construction Emissions and Modeling Emission Rates

Construction Emissions Year	Construction Year	Construction Area	DPM (ton/year)	Area Source	DPM Emissions			Modeled Area (m ²)	DPM Emission Rate (g/s/m ²)
					(lb/yr)	(lb/hr)	(g/s)		
2015	2015	Area 1	0.1002	DPM_1	200.4	0.06100	7.69E-03	61,496	1.25E-07
2015	2017	Area 2	0.1002	DPM_2	200.4	0.06100	7.69E-03	58,226	1.32E-07
2015	2019	Area 3	0.1002	DPM_3	200.4	0.06100	7.69E-03	54,928	1.40E-07
Total			0.3006		601.2	0.18301	2.31E-02	174,650	
2016	2016	Area 1	0.0096	DPM_1	19.3	0.00586	7.39E-04	61,496	1.20E-08
2016	2018	Area 2	0.0096	DPM_2	19.3	0.00586	7.39E-04	58,226	1.27E-08
2016	2020	Area 3	0.0096	DPM_3	19.3	0.00586	7.39E-04	54,928	1.34E-08
Total			0.0289		57.8	0.01759	2.22E-03	174,650	
2020	2021	Area 4	0.0898	DPM_4	179.6	0.05467	6.89E-03	43,681	1.58E-07
2020	2023	Area 5	0.0898	DPM_5	179.6	0.05467	6.89E-03	53,019	1.30E-07
2020	2025	Area 6	0.0898	DPM_6	179.6	0.05467	6.89E-03	48,063	1.43E-07
2020	2027	Area 7	0.0898	DPM_7	179.6	0.05467	6.89E-03	40,137	1.72E-07
2020	2029	Area 8	0.0898	DPM_8	179.6	0.05467	6.89E-03	32,820	2.10E-07
2020	2031	Area 9	0.0898	DPM_9	179.6	0.05467	6.89E-03	55,090	1.25E-07
2020	2033	Area 10	0.0898	DPM_10	179.6	0.05467	6.89E-03	31,535	2.18E-07
2020	2035	Area 11	0.0898	DPM_11	179.6	0.05467	6.89E-03	65,314	1.05E-07
2015	2037	Area 12	0.1002	DPM_12	200.4	0.06100	7.69E-03	53,651	1.43E-07
Total			0.8186		1637.1	0.49837	6.28E-02	423,310	
2021	2022	Area 4	0.0077	DPM_4	15.3	0.00467	5.88E-04	43,681	1.35E-08
2021	2024	Area 5	0.0077	DPM_5	15.3	0.00467	5.88E-04	53,019	1.11E-08
2021	2026	Area 6	0.0077	DPM_6	15.3	0.00467	5.88E-04	48,063	1.22E-08
2021	2028	Area 7	0.0077	DPM_7	15.3	0.00467	5.88E-04	40,137	1.47E-08
2021	2030	Area 8	0.0077	DPM_8	15.3	0.00467	5.88E-04	32,820	1.79E-08
2021	2032	Area 9	0.0077	DPM_9	15.3	0.00467	5.88E-04	55,090	1.07E-08
2021	2034	Area 10	0.0077	DPM_10	15.3	0.00467	5.88E-04	31,535	1.87E-08
2021	2036	Area 11	0.0077	DPM_11	15.3	0.00467	5.88E-04	65,314	9.01E-09
2016	2038	Area 12	0.0096	DPM_12	19.3	0.00586	7.39E-04	53,651	1.38E-08
Total			0.0710		141.9	0.0432	0.0054	423,310	

Notes:

Emissions assumed to be evenly distributed over each construction areas

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

Tuscany Meadows, Pittsburg, CA - With Mitigation
PM2.5 Fugitive Dust Construction Emissions for Modeling

Construction Emissions Year	Construction Year	Construction Area	Area Source	PM2.5 Emissions				Modeled Area (m ²)	DPM Emission Rate g/s/m ²
				(ton/year)	(lb/yr)	(lb/hr)	(g/s)		
2015	2015	Area 1	FUG_1	0.0393	78.6	0.02393	3.01E-03	61,496	4.90E-08
2015	2017	Area 2	FUG_2	0.0393	78.6	0.02393	3.01E-03	58,226	5.18E-08
2015	2019	Area 3	FUG_3	0.0393	78.6	0.02393	3.01E-03	54,928	5.49E-08
Total				0.1179	235.8	0.07178	9.04E-03	174,650	
2016	2016	Area 1	FUG_1	0.00005	0.10	0.00003	3.84E-06	61,496	6.24E-11
2016	2018	Area 2	FUG_2	0.00005	0.10	0.00003	3.84E-06	58,226	6.59E-11
2016	2020	Area 3	FUG_3	0.00005	0.10	0.00003	3.84E-06	54,928	6.98E-11
Total				0.0002	0.3	0.00009	1.15E-05	174,650	
2020	2021	Area 4	FUG_4	0.0393	78.6	0.02393	3.01E-03	43,681	6.90E-08
2020	2023	Area 5	FUG_5	0.0393	78.6	0.02393	3.01E-03	53,019	5.69E-08
2020	2025	Area 6	FUG_6	0.0393	78.6	0.02393	3.01E-03	48,063	6.27E-08
2020	2027	Area 7	FUG_7	0.0393	78.6	0.02393	3.01E-03	40,137	7.51E-08
2020	2029	Area 8	FUG_8	0.0393	78.6	0.02393	3.01E-03	32,820	9.19E-08
2020	2031	Area 9	FUG_9	0.0393	78.6	0.02393	3.01E-03	55,090	5.47E-08
2020	2033	Area 10	FUG_10	0.0393	78.6	0.02393	3.01E-03	31,535	9.56E-08
2020	2035	Area 11	FUG_11	0.0393	78.6	0.02393	3.01E-03	65,314	4.62E-08
2020	2037	Area 12	FUG_12	0.0393	78.6	0.02393	3.01E-03	53,651	5.62E-08
Total				0.35370	707.4	0.21534	2.71E-02	423,310	
2021	2022	Area 4	FUG_4	0.00005	0.10	0.00003	3.84E-06	43,681	8.78E-11
2021	2024	Area 5	FUG_5	0.00005	0.10	0.00003	3.84E-06	53,019	7.23E-11
2021	2026	Area 6	FUG_6	0.00005	0.10	0.00003	3.84E-06	48,063	7.98E-11
2021	2028	Area 7	FUG_7	0.00005	0.10	0.00003	3.84E-06	40,137	9.56E-11
2021	2030	Area 8	FUG_8	0.00005	0.10	0.00003	3.84E-06	32,820	1.17E-10
2021	2032	Area 9	FUG_9	0.00005	0.10	0.00003	3.84E-06	55,090	6.96E-11
2021	2034	Area 10	FUG_10	0.00005	0.10	0.00003	3.84E-06	31,535	1.22E-10
2021	2036	Area 11	FUG_11	0.00005	0.10	0.00003	3.84E-06	65,314	5.87E-11
2021	2038	Area 12	FUG_12	0.00005	0.10	0.00003	3.84E-06	53,651	7.15E-11
Total				0.00045	0.9	0.0003	0.0000	423,310	

Notes:

Emissions assumed to be evenly distributed over each construction areas

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

Tuscany Meadows, Pittsburg, CA
Off-Site Receptors
Maximum Child Cancer Risk (per million)
for Starting Year of Exposure

Initial Year of Exposure	Risk From Unmitigated Emissions	Risk From Mitigated Emissions
2015	14.5	5.5
2016	14.0	5.4
2017	15.0	5.8
2018	15.4	6.1
2019	16.0	6.5
2020	12.1	7.4
2021	12.3	7.6
2022	7.6	4.7
2023	9.6	5.9
2024	14.8	9.1
2025	15.7	9.7
2026	6.1	3.7
2027	5.5	3.4
2028	2.3	1.3
2029	2.3	1.3
2030	3.2	1.8
2031	3.3	1.9
2032	2.2	1.0
2033	2.3	1.0
2034	2.3	0.9
2035	3.3	1.3
2036	6.2	2.3
2037	7.0	2.4
2038	1.6	0.2

Maximum Impacts at Off-Site Residential Receptors - Unmitigated Emissions

Construction Year	UNMITIGATED EMISSIONS					
	Maximum Concentrations		Cancer Risk (per million)		Hazard Index (-)	Maximum Annual PM2.5 Concentration (µg/m ³)
	Exhaust PM2.5/DPM (µg/m ³)	Fugitive PM2.5 (µg/m ³)	Child	Adult		
2015	0.1387	0.0856	12.1	0.6	0.028	0.224
2016	0.0118	0.0000	1.0	0.1	0.002	0.012
2017	0.0356	0.0273	1.5	0.2	0.007	0.063
2018	0.0030	0.0000	0.1	0.0	0.001	0.003
2019	0.0130	0.0075	0.3	0.1	0.003	0.020
2020	0.0011	0.0000	0.0	0.0	0.000	0.001
2021	0.0039	0.0214	0.1	0.0	0.001	0.025
2022	0.0003	0.0000	0.0	0.0	0.000	0.000
2023	0.0084	0.0099	0.2	0.0	0.002	0.018
2024	0.0007	0.0000	0.0	0.0	0.000	0.001
2025	0.0051	0.0062	0.1	0.0	0.001	0.011
2026	0.0004	0.0000	0.0	0.0	0.000	0.000
2027	0.0040	0.0331	0.1	0.0	0.001	0.037
2028	0.0012	0.0000	0.0	0.0	0.000	0.001
Total	-	-	15.7	1.0	-	-
Maximum Annual	0.1387	0.0856	-	-	0.028	0.224

Maximum Impacts at Off-Site Residential Receptors - Mitigated Emissions

Construction Year	MITIGATED EMISSIONS					
	Maximum Concentrations		Cancer Risk (per million)		Hazard Index (-)	Maximum Annual PM2.5 Concentration (µg/m ³)
	Exhaust PM2.5/DPM (µg/m ³)	Fugitive PM2.5 (µg/m ³)	Child	Adult		
2015	0.0855	0.0856	7.5	0.4	0.017	0.171
2016	0.0073	0.0000	0.6	0.0	0.001	0.007
2017	0.0220	0.0273	0.9	0.1	0.004	0.049
2018	0.0019	0.0000	0.0	0.0	0.000	0.002
2019	0.0080	0.0075	0.2	0.0	0.002	0.016
2020	0.0007	0.0000	0.0	0.0	0.000	0.001
2021	0.0024	0.0214	0.1	0.0	0.000	0.024
2022	0.0002	0.0000	0.0	0.0	0.000	0.000
2023	0.0052	0.0099	0.1	0.0	0.001	0.015
2024	0.0004	0.0000	0.0	0.0	0.000	0.000
2025	0.0031	0.0062	0.1	0.0	0.001	0.009
2026	0.0003	0.0000	0.0	0.0	0.000	0.000
2027	0.0016	0.0331	0.0	0.0	0.000	0.035
2028	0.0002	0.0000	0.0	0.0	0.000	0.000
Total	-	-	9.7	0.6	-	-
Maximum Annual	0.0855	0.0856	-	-	0.017	0.171

Maximum Impacts at On-Site Residential Receptors - Unmitigated Emissions

Construction Year	UNMITIGATED EMISSIONS					
	Maximum Concentrations		Cancer Risk (per million)		Hazard Index (-)	Maximum Annual PM2.5 Concentration (µg/m ³)
	Exhaust PM2.5/DPM (µg/m ³)	Fugitive PM2.5 (µg/m ³)	Child	Adult		
2023	0.0755	0.0639	6.61	0.3	0.015	0.139
2024	0.0064	0.0000	0.56	0.0	0.001	0.006
2025	0.0156	0.0392	0.65	0.1	0.003	0.055
2026	0.0013	0.0000	0.03	0.0	0.000	0.001
2027	0.0071	0.0062	0.19	0.0	0.001	0.013
2028	0.0006	0.0000	0.02	0.0	0.000	0.001
2029	0.0130	0.0091	0.34	0.1	0.003	0.022
2030	0.0011	0.0000	0.03	0.0	0.000	0.001
2031	0.0043	0.0033	0.11	0.0	0.001	0.008
2032	0.0004	0.0000	0.01	0.0	0.000	0.000
2033	0.0065	0.0046	0.17	0.0	0.001	0.011
2034	0.0006	0.0000	0.01	0.0	0.000	0.001
2035	0.0090	0.0109	0.24	0.0	0.002	0.020
2036	0.0008	0.0000	0.02	0.0	0.000	0.001
2037	0.0064	0.0053	0.17	0.0	0.001	0.012
2038	0.0006	0.0000	0.02	0.0	0.000	0.001
Total	-	-	9.2	0.7	-	-
Maximum Annual	0.0755	0.0639	-	-	0.015	0.139

Tuscany Meadows, Pittsburg, CA - Construction Impacts - Unmitigated Emissions
Maximum DPM Cancer Risk Calculations From Construction
Off-Site Residential Receptor Locations - 1.5 meters

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

Where: CPF = Cancer potency factor (mg/kg-day)⁻¹

Inhalation Dose = C_{air} x DBR x A x EF x ED x 10⁻⁶ / AT

Where: C_{air} = concentration in air (µg/m³)

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

A = Inhalation absorption factor

EF = Exposure frequency (days/year)

ED = Exposure duration (years)

AT = Averaging time period over which exposure is averaged.

10⁻⁶ = Conversion factor

Values

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Exposure Duration (years)	Child - Exposure Information			Child Cancer Risk (per million)	Adult - Exposure Information			Adult Cancer Risk (per million)	Unmitigated	
				Adjust Factor		Modeled		Adjust Factor			
		DPM Conc (ug/m3)				DPM Conc (ug/m3)					
		Year	Annual			Year	Annual				
1	1	2025	0.1387	10	12.15	2025	0.13873	1	0.63	0.0856	0.224
2	1	2026	0.0118	10	1.04	2026	0.01184	1	0.05	0.0000	0.012
3	1	2027	0.0356	4.75	1.48	2027	0.0356	1	0.16	0.0273	0.063
4	1	2028	0.0030	3	0.08	2028	0.00303	1	0.01	0.0000	0.003
5	1	2029	0.0130	3	0.34	2029	0.01296	1	0.06	0.0075	0.020
6	1	2030	0.0011	3	0.03	2030	0.00111	1	0.01	0.0000	0.001
7	1	2031	0.0039	3	0.10	2031	0.00393	1	0.02	0.0214	0.025
8	1	2032	0.0003	3	0.01	2032	0.00034	1	0.00	0.0000	0.000
9	1	2033	0.0084	3	0.22	2033	0.00836	1	0.04	0.0099	0.018
10	1	2034	0.0007	3	0.02	2034	0.00071	1	0.00	0.0000	0.001
11	1	2035	0.0051	3	0.13	2035	0.00512	1	0.02	0.0062	0.011
12	1	2036	0.0004	3	0.01	2036	0.00044	1	0.00	0.0000	0.000
13	1	2037	0.0040	3	0.10	2037	0.00399	1	0.02	0.0331	0.037
14	1	2038	0.0012	3	0.03	2038	0.00115	1	0.01	0.0000	0.001
15	1		0.0000	3	0.00		0.0000	1	0.00		
16	1		0.0000	3	0.00		0.0000	1	0.00		
17	1		0.0000	1.5	0.00		0.0000	1	0.00		
18	1		0.0000	1	0.00		0.0000	1	0.00		
.	.	.	.	.	.	.	.	.	.		
.	.	.	.	.	.	.	.	.	.		
.	.	.	.	.	.	.	.	.	.		
65	1		0.0000	1	0.00		0.0000	1	0.00		
66	1		0.0000	1	0.00		0.0000	1	0.00		
67	1		0.0000	1	0.00		0.0000	1	0.00		
68	1		0.0000	1	0.00		0.0000	1	0.00		
69	1		0.0000	1	0.00		0.0000	1	0.00		
70	1		0.0000	1	0.00		0.0000	1	0.00		
Total Increased Cancer Risk					15.74				1.03		

Chelsea Wetlands, Hercules, CA - Construction Impacts - Mitigated Emissions
Maximum DPM Cancer Risk Calculations From Construction
Off-Site Residential Receptor Locations - 1.5 meters

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

Where: CPF = Cancer potency factor (mg/kg-day)⁻¹

Inhalation Dose = C_{air} x DBR x A x EF x ED x 10⁻⁶ / AT

Where: C_{air} = concentration in air (µg/m³)

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

A = Inhalation absorption factor

EF = Exposure frequency (days/year)

ED = Exposure duration (years)

AT = Averaging time period over which exposure is averaged.

10⁻⁶ = Conversion factor

Values

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Exposure Exposure Duration (years)	Child - Exposure Information			Child Cancer Risk (per million)	Adult - Exposure Information			Adult Cancer Risk (per million)
				Exposure Adjust Factor		Modeled		Exposure Adjust Factor	
		DPM Conc (ug/m3)				DPM Conc (ug/m3)			
		Year	Annual			Year	Annual		
1	1	2025	0.0855	10	7.49	2025	0.0855	1	0.39
2	1		0.0073	10	0.64	2026	0.0073	1	0.03
3	1		0.0220	4.75	0.92	2027	0.0220	1	0.10
4	1		0.0019	3	0.05	2028	0.0019	1	0.01
5	1		0.0080	3	0.21	2029	0.0080	1	0.04
6	1		0.0007	3	0.02	2030	0.0007	1	0.00
7	1		0.0024	3	0.06	2031	0.0024	1	0.01
8	1		0.0002	3	0.01	2032	0.0002	1	0.00
9	1		0.0052	3	0.14	2033	0.0052	1	0.02
10	1		0.0004	3	0.01	2034	0.0004	1	0.00
11	1		0.0031	3	0.08	2035	0.0031	1	0.01
12	1		0.0003	3	0.01	2036	0.0003	1	0.00
13	1		0.0016	3	0.04	2037	0.0016	1	0.01
14	1		0.0002	3	0.00	2038	0.0002	1	0.00
15	1		0.0000	3	0.00		0.0000	1	0.00
16	1		0.0000	3	0.00		0.0000	1	0.00
17	1		0.0000	1.5	0.00		0.0000	1	0.00
18	1		0.0000	1	0.00		0.0000	1	0.00
.	.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.
.	.	.	.	.	.	.	.	.	.
65	1		0.0000	1	0.00		0.0000	1	0.00
66	1		0.0000	1	0.00		0.0000	1	0.00
67	1		0.0000	1	0.00		0.0000	1	0.00
68	1		0.0000	1	0.00		0.0000	1	0.00
69	1		0.0000	1	0.00		0.0000	1	0.00
70	1		0.0000	1	0.00		0.0000	1	0.00
Total Increased Cancer Risk					9.67				0.63

Tuscany Meadows, Pittsburg, CA - Construction Impacts - Unmitigated Emissions
Maximum DPM Cancer Risk Calculations From Construction
On-Site Residential Receptor Locations - 1.5 meters

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

Where: CPF = Cancer potency factor (mg/kg-day)⁻¹

Inhalation Dose = C_{air} x DBR x A x EF x ED x 10⁻⁶ / AT

Where: C_{air} = concentration in air (µg/m³)

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

A = Inhalation absorption factor

EF = Exposure frequency (days/year)

ED = Exposure duration (years)

AT = Averaging time period over which exposure is averaged.

10⁻⁶ = Conversion factor

Values

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

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Exposure Duration (years)	Child - Exposure Information			Child Cancer Risk (per million)	Adult - Exposure Information			Adult Cancer Risk (per million)	Unmitigated	
		DPM Conc (ug/m3)		Exposure Adjust Factor		Modeled		Exposure Adjust Factor			
						DPM Conc (ug/m3)					
						Year	Annual			Year	Annual
1	1	2023	0.0755	10	6.61	2023	0.07547	1	0.34	0.0639	0.139
2	1	2024	0.0064	10	0.56	2024	0.00643	1	0.03	0.0000	0.006
3	1	2025	0.0156	4.75	0.65	2025	0.0156	1	0.07	0.0392	0.055
4	1	2026	0.0013	3	0.03	2026	0.00133	1	0.01	0.0000	0.001
5	1	2027	0.0071	3	0.19	2027	0.00714	1	0.03	0.0062	0.013
6	1	2028	0.0006	3	0.02	2028	0.00061	1	0.00	0.0000	0.001
7	1	2029	0.0130	3	0.34	2029	0.01303	1	0.06	0.0091	0.022
8	1	2030	0.0011	3	0.03	2030	0.00111	1	0.01	0.0000	0.001
9	1	2031	0.0043	3	0.11	2031	0.00428	1	0.02	0.0033	0.008
10	1	2032	0.0004	3	0.01	2032	0.00037	1	0.00	0.0000	0.000
11	1	2033	0.0065	3	0.17	2033	0.00645	1	0.03	0.0046	0.011
12	1	2034	0.0006	3	0.01	2034	0.00055	1	0.00	0.0000	0.001
13	1	2035	0.0090	3	0.24	2035	0.00897	1	0.04	0.0109	0.020
14	1	2036	0.0008	3	0.02	2036	0.00077	1	0.00	0.0000	0.001
15	1	2037	0.0064	3	0.17	2037	0.0064	1	0.03	0.0053	0.012
16	1	2038	0.0006	3	0.02	2038	0.0006	1	0.00	0.0000	0.001
17	1		0.0000	1.5	0.00		0.0000	1	0.00		
18	1		0.0000	1	0.00		0.0000	1	0.00		
.	.	.	.	.	.	.	.	.	.		
.	.	.	.	.	.	.	.	.	.		
.	.	.	.	.	.	.	.	.	.		
65	1		0.0000	1	0.00		0.0000	1	0.00		
66	1		0.0000	1	0.00		0.0000	1	0.00		
67	1		0.0000	1	0.00		0.0000	1	0.00		
68	1		0.0000	1	0.00		0.0000	1	0.00		
69	1		0.0000	1	0.00		0.0000	1	0.00		
70	1		0.0000	1	0.00		0.0000	1	0.00		
Total Increased Cancer Risk					9.18				0.68		