
APPENDIX G

Health Risk Assessment and Ambient Air Quality Analysis

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HEALTH RISK ASSESSMENT AND AMBIENT AIR QUALITY ANALYSIS

Correia Family Dairy Farms Expansion

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August 2024
(Revised November 2024)

Project 240505.0147



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1. EXECUTIVE SUMMARY

This document contains the health risk assessment (HRA) and ambient air quality analysis (AAQA) performed on behalf of Environmental Planning Partners, Inc. for the Correia Family Dairy Farms Expansion Project in Merced County, California. As part of the development requirements for the project, an assessment is required of the potential risk to the population attributable to emissions of hazardous air pollutants from the proposed dairy expansion. Additionally, an ambient air quality analysis should be conducted, comparing the criteria pollutants against both the California and national ambient air quality standards.

Emissions of hazardous air pollutants attributable to proposed construction activities, animal movement, manure management, and on-site mobile sources were calculated using generally accepted emission factors and the California Emissions Estimator Model, version 2022.1.1 (CalEEMod). Ambient air concentrations were predicted using dispersion modeling to arrive at a conservative estimate of increased individual carcinogenic risk that might result from continuous exposure over a 70-year lifetime. Similarly, concentrations of compounds with non-cancer adverse health effects were used to calculate hazard indices (HIs), which represent the ratio of expected exposure to acceptable exposure levels.

The San Joaquin Valley Air Pollution Control District (SJVAPCD) has set the level of significance for carcinogenic risk to twenty in one million (20×10^{-6}), which is understood as the possibility of causing twenty additional cancer cases in a population of one million people. The level of significance for acute and chronic non-cancer risk is a hazard index of 1.0. The maximum predicted cancer risk after mitigation among the modeled receptors is 17.3 in a million (17.3×10^{-6}), which is below the significance level of twenty in one million. Additionally, the maximum predicted acute and chronic non-cancer hazard indices among the modeled receptors are 0.74 and 0.13, respectively, both of which are below the acute and chronic non-cancer significance level of 1.0.

In accordance with the SJVAPCD's Guidance for Assessing and Mitigating Air Quality Impacts (SJVAPCD 2015a) and related policies (SJVAPCD 2020; SJVAPCD 2015b), the mitigated potential health risk attributable to the proposed project is determined to be *less than significant*.

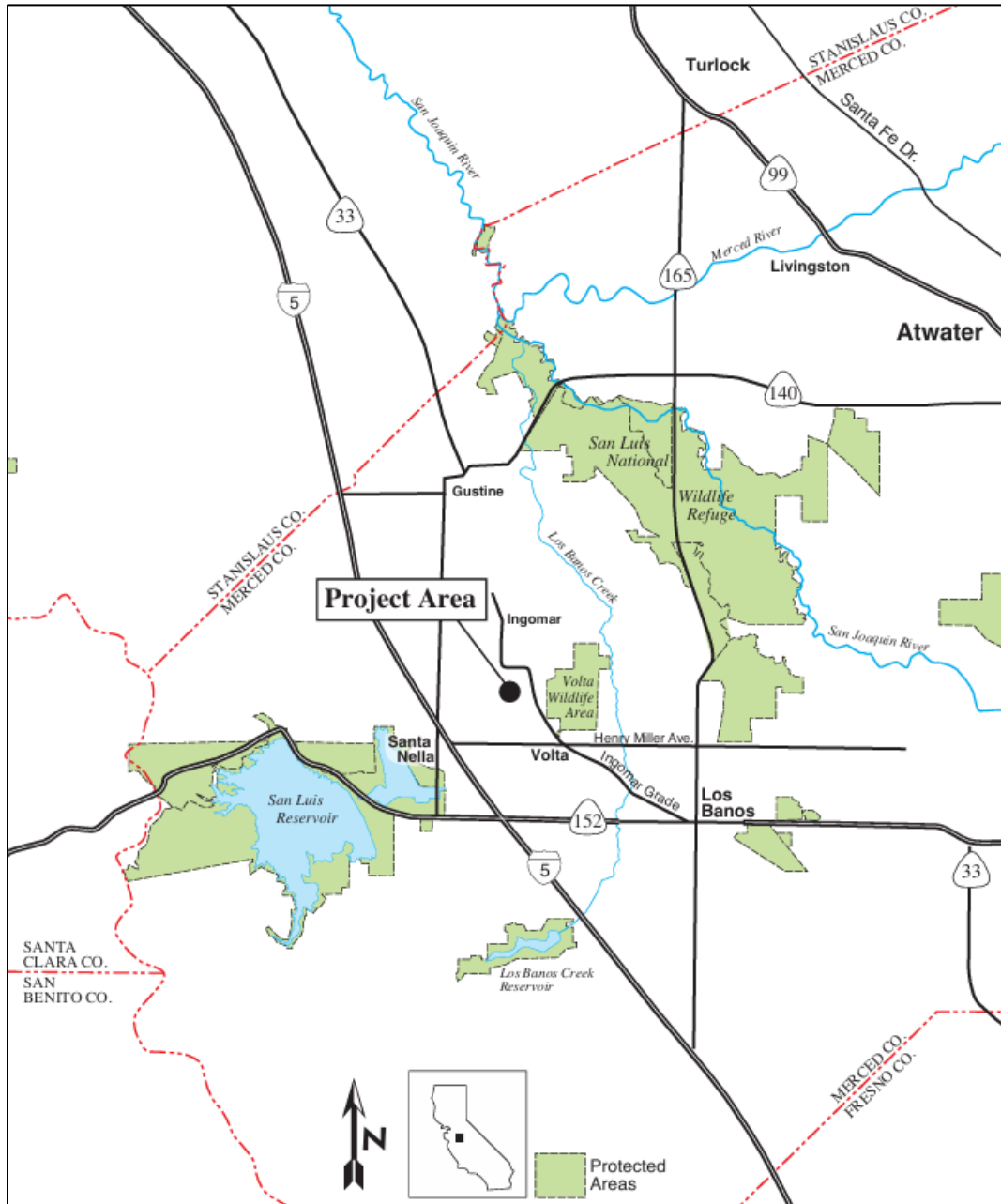
Emissions of criteria pollutants from proposed construction activities, animal movement, manure management, and on-site mobile sources were also calculated using generally accepted emission factors. The SJVAPCD has developed screening levels for requiring an AAQA. The SJVAPCD recommends that an AAQA be conducted for all criteria pollutants when emissions of any criteria pollutant or ammonia from project construction or operational activities exceed the 100 pounds per day screening level, after compliance with Rule 9510 requirements and implementation of all enforceable mitigation measures.

The proposed project's construction activities will not exceed 100 pounds per day of any criteria pollutant; therefore, an AAQA was not conducted for construction. However, operational activities will exceed 100 pounds per day of VOCs and ammonia. As a result, an AAQA is required. Based on the results of the air dispersion modeling and comparisons to Ambient Air Quality Standards (AAQSS) and applicable Significant Impact Levels (SILs), the impact on air quality is considered to be *less than significant after mitigation*.

2. INTRODUCTION

This Health Risk Assessment (HRA) is provided as a service of Trinity Consultants, performed on behalf of Environmental Planning Partners, Inc. for the Correia Family Dairy Farms Expansion Project in Merced County, California (Figure 2-1). As part of the development requirements for the property, an HRA and AAQA are required.

Figure 2-1. Project Location



Source: Environmental Planning Partners, 2024

2.1 Project Description

The existing dairy is located at 26380 W. Fahey Road in Gustine, California, which is in the County of Merced. The facility will not be located within 1,000 feet of a K-12 school. The construction activities associated with the project would include the construction of the following:

- ▶ Freestall barns (5)
- ▶ Loafing barns (2)
- ▶ Milking Parlor
- ▶ Domestic well
- ▶ Manure drying area
- ▶ Feed storage areas
- ▶ Weeping walls (2)

After modification, the dairy will house approximately 6,075 head of cattle. The existing and proposed herd configuration is provided in **Table 2-1**. The dairy will continue to operate 24 hours per day and 365 days per year.

Table 2-1. Herd Configuration – Existing and Proposed

Cow Type	Current	Proposed	Increment
Milk Cows	1,050	3,000	1,950
Dry Cows	120	390	270
Heifers (15-24 mos.)	375	830	455
Heifers (7-14 mos.)	475	1,160	685
Heifers (4-6 mos.)	110	415	305
Calves (0-3 mos.)	0	280	280
Totals	2,130	6,075	3,945

Source: Environmental Planning Partners, 2024

3. PROJECT RELATED EMISSIONS

This document was prepared pursuant to the SJVAPCD's Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI) (SJVAPCD, 2015).

3.1 Short-Term Construction Emissions

The Project applicant did not provide a list of specific construction equipment; the construction emissions were therefore based on the default CalEEMod equipment list accordingly for the proposed Project's land use type and development intensity. Applying model defaults as well as a conservative analysis approach, construction emissions were estimated starting in January of 2025 and construction ending by December of 2026. The dates entered into the CalEEMod program may not represent the actual dates the equipment will operate; however, the total construction time is accurate, and therefore, all estimated emission totals are conservative and reflect a reasonable and legally sufficient estimate of potential impacts. All construction equipment activity levels were assumed based on the specified CalEEMod default values for type and number of equipment and horsepower. As portions of the site construction primarily involve site preparation, grading, and paving (both asphalt and non-asphalt), the construction schedule was modified to prioritize completing all foundational work at the beginning of the project. A separate CalEEMod run was performed to specifically evaluate emissions associated with the vertical construction of the barns.

Table 3-1 presents the Project's short-term emissions based on the anticipated construction period.

Table 3-1. Short-Term Project Emissions

Emissions Source	Pollutant (Pounds per Day)					
	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Unmitigated						
2025	0.31	2.24	3.09	0.01	0.54	0.25
2026	1.35	1.60	2.80	0.00	0.30	0.11
Max	1.35	2.24	3.09	0.01	0.54	0.25
SJVAPCD AAQA Screening Threshold	100	100	100	100	100	100
Is Threshold Exceeded?	No	No	No	No	No	No

Note: 0.00 could represent >0.00 due to rounding.

As shown above, construction-related emissions, as calculated by CalEEMod (see **Appendix A**), would not exceed 100 pounds per day threshold. Therefore, a construction AAQA is not required for this Project.

3.1.1 Construction Mitigation Measures

Based on the health risk results discussed in **Section 5.4**, unmitigated health risk emissions exceed the SJVAPCD thresholds. Therefore, mitigation measures were evaluated to reduce diesel particulate matter from construction activities. The three mitigation options evaluated are detailed below.

3.1.1.1 Relocation of Onsite Receptors

The SJVAPCD allows for onsite residences to be excluded as receptors if they meet the following criteria:

- ▶ The residence houses the owner's family, or
- ▶ The entire household is employed by the dairy, and all household members are above 18 years of age.

However, if any household members living onsite are not employed by the dairy, they would still be considered receptors.¹ For this scenario, all onsite receptors not meeting the above criteria would be temporarily relocated during construction. This mitigation measure, in combination with operational mitigation measures, reduces the HRA risks to levels below the SJVAPCD thresholds.

3.1.1.2 Advanced Engine Tiers

One quantified measure available in CalEEMod is "C-5 Use Advanced Engine Tiers." This measure requires off-road diesel equipment utilize U.S. Environmental Protection Agency certified advanced engines. For this assessment all diesel equipment was modeled as Tier 4 Final. Tier 4 Final engines are the strictest emissions standard set by the EPA for off-road diesel engines at the time of this analysis. These engines reduce pollutants such as particulate matter (PM) and nitrogen oxides (NOx). For this model all construction equipment was mitigated with the use of Tier 4 Final engines.

Table 3-2 below shows the reduction in PM₁₀ Exhaust using this measure.

Table 3-2. Advanced Engine Tier Emission Reduction

Construction Year	Exhaust PM ₁₀ (Pounds per Year)		
	Unmitigated	Tier 4 Final	Reduction (%)
2025	166.73	25.17	84.9
2026	97.91	24.78	74.7
Total	264.63	49.95	81.1

The use of Tier 4 Final engines leads to an 81.1% reduction in exhaust PM₁₀ emissions. The results of this mitigation measure are detailed in **Section 5.4**.

3.1.1.3 Diesel Particulate Filters

An additional quantified measure available in CalEEMod is "C-6 Use Diesel Particulate Filters". This measure requires off-road diesel equipment to use a California Air Resources Board (CARB) certified diesel particulate filter (DPF). DPFs are exhaust after-treatment devices that reduce emissions from diesel-fueled vehicles and equipment by trapping particulate matter in a filter. This trapped PM is then converted to ash through a process called regeneration, which can occur passively at high exhaust temperatures or actively with additional fuel or heat. Verified by the EPA and CARB, DPFs are highly effective, reducing PM emissions by 85-90% (EPA, 2010). For this model all construction equipment was mitigated with Level 3 DPFs.

Table 3-3 below shows the reduction in PM₁₀ exhaust using this measure.

Table 3-3. Diesel Particulate Filter (DPF) Emission Reduction

Construction Year	Exhaust PM ₁₀ (Pounds per Year)		
	Unmitigated	DPFs	Reduction (%)
2025	166.73	29.04	82.6
2026	97.91	20.46	79.1
Total	264.63	49.50	81.3

¹ Personal communication with James Melching, August 1, 2024.

The use of Level 3 DPFs leads to an 81.3% reduction in exhaust PM₁₀ emissions. The results of this mitigation measure are detailed in **Section 5.4**.

3.2 Long-Term Operational Emissions

Long-term emissions are caused by operational mobile sources and general dairy operations. Long-term emissions would consist of the following components:

3.2.1 Mobile Sources

Project-related transportation activities would generate mobile source ROG, NO_x, SO_x, CO, PM₁₀, and PM_{2.5} exhaust emissions. Exhaust emissions would vary substantially from day to day but would average out over the course of an operational year. Operational mobile sources include a diesel-fueled feed loading tractor, a feed delivery tractor, bedding delivery tractor, manure loading tractor, milk tankers, solids manure removal trucks, and commodity delivery trucks. The variables factored into estimating total Project emissions include level of activity, site characteristics, weather conditions, number of residents and visitors.

Emissions for tractors were calculated using the EPA's Nonroad Compression-Ignition Engines - Exhaust Emission Standards for the appropriate engine horsepower (HP) and year and load factors for the appropriate engine horsepower from California Emissions Estimator Model (CalEEMod) Appendix D. Diesel truck running and idling emissions are based on EMFAC2021 emission factors specific to Merced County for vehicle category "T7 Single Other Class 8." It was assumed that diesel trucks would idle for 15 minutes per visit. Additionally, toxics were modeled for the gasoline dispensing operations based on SJVAPCD emission factors for GDF modeling guidance. Detailed mobile source emission calculations can be found in **Appendix B**.

3.2.2 Dairy Operations

The primary function of a dairy facility is milk production, which necessitates a herd of mature, lactating dairy cows. To maintain milk production, these cows must be bred and give birth, leading to a diverse population at the dairy that includes calves, heifers, lactating cows, dry cows, and mature bulls. Potential sources of emissions at the facility include milking parlors, cow housing, manure handling (both liquid and solid), land application, and feed handling and storage. Emissions were quantified using the SJVAPCD's 'Dairy Calculator', dated April 10, 2024, based on the applicant's proposed herd size, cow types, and housing configurations.² The output from the Dairy Calculator can be found in **Appendix B**. The proposed Project is expected to have long-term air quality impacts as shown in **Table 3-4**.

² Numbers of individual animals in each herd class used in the Dairy Calculator are based on housing configurations provided by the project applicant and may differ from those reported in Table 2-1. However, the total herd size, including the milking herd, remains consistent.

Table 3-4. Unmitigated Average Daily Operational Pollutant Emissions

Emissions Source	Pollutant (Pounds per Day)						
	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}	VOC	NH ₃
Milk Parlor	-	-	-	-	-	2.2	0.7
Cow Housing	-	-	-	14.6	14.6	70.8	234.9
Liquid Manure	-	-	-	-	-	18.8	51.2
Solid Manure	-	-	-	-	-	3.7	19.2
Feed Storage & Handling	-	-	-	-	-	85.3	-
Mobile Sources	0.24	0.14	0.00	0.01	0.01	0.04	-
Total	0.24	0.14	0.00	14.61	14.61	180.8	306.0

Note: Feed handling emissions reflect increased total mixed rations (TMR); no proposed change in silage piles size.

3.2.3 Operational Mitigation Measures

Based on the AAQA results presented in **Section 4.3** and the health risk results discussed in **Section 5.4**, unmitigated operational emissions exceed both the Ambient Air Quality Standards and the SJVAPCD thresholds for acute health risks. Therefore, the following additional mitigation measures, alongside existing facility measures, were evaluated.

3.2.3.1 Operational AAQA Mitigations

Unmitigated operational emissions exceed the Ambient Air Quality Standards for PM₁₀ and PM_{2.5}. The following mitigation measures were found to reduce the emissions below the significant impact levels (SILs).

- ▶ PM₁₀ Mitigation
 - No exercise pens, non-manure bedding applied to Freestall Barns 2, 5, 8 and Loafing Barns 1 and 2
 - No exercise pens, manure bedding applied to Freestall Barns 1 and 7
 - Bi-weekly scraping corrals/pens applied to Freestall Barns 3, 4, and 6
 - Feed young stock near dusk applied to Calf Hutches
 - Construct Loafing Barn 2 to be a freestall barn.

The AAQA results for these mitigations can be found in **Table 4-5**.

3.2.3.2 Operational Health Risk Assessment Mitigations

Based on the health risk results discussed in **Section 5.4**, unmitigated health risk emissions exceed the SJVAPCD thresholds for acute health risk, with the primary driver being ammonia emissions. Therefore, the following additional mitigation measures, alongside existing facility measures, were evaluated.

3.2.3.2.1 Relocation of Onsite Receptors

As stated above, the SJVAPCD allows for onsite residences to be excluded as receptors if the residence houses the owner's family, or the entire household is employed by the dairy, and all household members are above 18 years of age. However, if any household members living onsite are not employed by the dairy, they would still be considered receptors.

For this scenario, all onsite receptors not meeting the above criteria would be relocated. This mitigation measure reduces the Point of Maximum Impact (PMI) health risks to levels below the SJVAPCD thresholds.

3.2.3.2.2 Ammonia Mitigation

As the primary driver for the health risk was ammonia emissions, the following mitigation measure was evaluated:

- ▶ Clean manure from corrals at least four times per year with at least 60 days between cleaning, or clean corrals at least once between April and July and at least once between September and December. OR Use lime or a similar absorbent material in the corral according to the manufacturer's recommendation to minimize moisture in the corrals. OR Apply thymol to the corral soil in accordance with the manufacturer's recommendation.

This mitigation measure was found to reduce the PMI acute health risk to below the SJVAPCD threshold.

4. AMBIENT AIR QUALITY ANALYSIS

As outlined in the GAMAQI (2015, p. 96-97), the SJVAPCD has established screening levels for requiring an Ambient Air Quality Analysis (AAQA). The SJVAPCD recommends conducting an AAQA for all criteria pollutants when emissions from project construction or operational activities exceed 100 pounds per day, after compliance with Rule 9510 requirements and the implementation of all enforceable mitigation measures.

4.1 AAQA Emissions

The basis for evaluating the potential impact to ambient air quality is the identification of air pollution sources. Emissions based on the current configuration of the dairy are considered to be existing emissions. Based on this fact, the facility's existing emissions are not included in the emissions proposed by the subject project. Therefore, emissions from the dairy modifications will be restricted to the increase in emissions for the proposed increase in the number of cattle (**Table 2-1**) and the additional on-site mobile sources required for the expansion. The potential emission sources addressed in the AAQA are listed in Appendix Table D-1.

As shown in **Table 3-1**, the unmitigated average daily emissions for operational activities associated with this Project would exceed 100 pounds per day for VOCs and ammonia. After applying the mitigation measures for PM₁₀ and NH₃, this Project would still exceed 100 pounds per day for VOCs and ammonia, as shown in **Table 4-1**. Therefore, an AAQA is required for this Project.

Table 4-1. Mitigated Average Daily Operational Pollutant Emissions

Emissions Source	Pollutant (Pounds per Day)						
	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}	VOC	NH ₃
Milk Parlor	-	-	-	-	-	2.2	0.7
Cow Housing	-	-	-	-11.1	-11.1	70.8	86.1
Liquid Manure	-	-	-	-	-	18.8	51.2
Solid Manure	-	-	-	-	-	3.7	19.2
Feed Storage & Handling	-	-	-	-	-	85.3	-
Mobile Sources	0.24	0.14	0.00	0.01	0.01	0.04	-
Total	0.24	0.14	0.00	-11.09	-11.09	180.8	157.3
SJVAPCD AAQA Screening Threshold	100	100	100	100	100	100	100
Is Threshold Exceeded?	No	No	No	No	No	Yes	Yes

Note: 0.00 could represent >0.00 due to rounding.

For the purposes of establishing background concentrations of applicable criteria pollutants, this AAQA relied on EPA's AirData and CARB monitoring values, the raw data for which were collected during 2023³ at CARB/SJVAPCD monitoring stations. Background values were selected from various monitoring stations based on proximity to the project site. **Table 4-2** provides the background concentrations applicable to the project area.

³ The exception is the one-hour NO₂ background value, which EPA requires to be based on a 3-year average. The SJVAPCD's statistical analysis was based on the period 2011 to 2013.

Table 4-2. Background Concentrations for the Project Vicinity

Pollutant	Averaging Period	Background ($\mu\text{g}/\text{m}^3$)	Reference
NO ₂	1-hour	91.83	SJVAPCD, Modesto County (SJVAPCD 2017c) ¹
	Annual	20.37	Stanislaus County, 2023 (USEPA 2024)
CO	1-hour	3,262.00	Stanislaus County, 2023 (USEPA 2024)
	8-hour	1,631.00	Stanislaus County, 2023 (USEPA 2024)
SO ₂	1-hour	13.32	Stanislaus County, 2023 (USEPA 2024)
	3-hour	11.99	Scaled from SO ₂ 1-hour concentration ²
	24-hour	6.13	Stanislaus County, 2023 (USEPA 2024)
	Annual	1.15	Stanislaus County, 2023 (USEPA 2024)
PM ₁₀	24-hour	128.00	Stanislaus County, 2023 (USEPA 2024)
	Annual	37.0	Modesto-14th Street, 2023 (CARB 2024)
PM _{2.5}	24-hour	41.20	Stanislaus County, 2023 (USEPA 2024)
	Annual	10.10	Stanislaus County, 2023 (USEPA 2024)

1. The SJVAPCD processed the NO₂ monitoring data using the guidance provided in Appendix S of Part 50.
2. The SO₂ 3-hour concentration was scaled from the SO₂ 1-hour concentration using the recommended factor of 0.9 (OEHHHA 2015).

4.2 Dispersion Modeling

The most recent version of EPA's AMS/EPA Regulatory Model - AERMOD was used to predict the dispersion of emissions from the proposed dairy for the 1-hour, 3-hour, 8-hour, 24-hour, and annual averaging periods. All of the AERMOD regulatory default parameters were employed. Rural dispersion parameters were used because the facility and surrounding land are considered "rural" under the Auer land use classification method. The AERMOD files are provided in electronic format in **Appendix D**.

The animal housing areas emissions were modeled as area sources. Unit emission rates for the area sources of 1 g/sec divided by the area of the source were input into AERMOD. The travel route for the feed and bedding delivery tractors, milk trucks, solids removal trucks, and commodity trucks were modeled as a line sources, which represents a series of volume sources, with a unit emission rate of 1 g/sec. The feed loading tractor, manure loading tractor, manure scraping tractor, milk truck idling, solids removal truck idling and commodity truck idling were modeled as point sources, with a unit emission rate of 1 g/sec.

4.2.1 Meteorological and Elevation Data

The SJVAPCD provides AERMOD-ready meteorological data, which was used for this HRA. Meteorological datasets (LosBanos_04-08.SFC and LosBanos_04-08.PFL) covering the calendar years 2004 through 2008 were input into AERMOD and processed with all receptors and sources. These datasets were the most recent available at the time the modeling was conducted. Terrain data was obtained from the U.S. Geological Survey (USGS) and resized to an approximately 20 km by 20 km domain using National Elevation Dataset (NED) files at a 1/3 arc-second resolution.

4.2.2 Receptors

A fence-line coordinate grid of receptor points was constructed. The grid consisted of a 25-meter fence-line spacing and two receptor tiers. The first tier had a 25-meter tier spacing extending 100 meters with initial receptors starting 25 meters from the facility boundary. The second tier had 50-meter tier spacing extending 150 meters.

4.3 Post-Processing

Emissions were evaluated for each pollutant on a short-term (correlating to pollutant averaging period) and long-term (annual) basis, with the exception of CO that was evaluated only for short-term exposures since there are no long-term significance thresholds for CO.

For each pollutant and averaging period modeled, a “total” concentration was estimated by adding the maximum measured background air concentration to the maximum predicted Project impacts. The maximum measured background air concentrations used in this analysis were calculated from measured concentrations at the nearest monitoring stations.

The results of the air dispersion modeling, presented in **Table 4-3**, demonstrate that the unmitigated maximum impacts attributable to the Project, when considered in addition to the existing background concentrations, are below the applicable ambient air quality standard for NO_x, SO_x, and CO.

Table 4-3. Predicted Unmitigated Operational Ambient Air Quality Impacts

Pollutant	Averaging Period	Background (µg/m³)	Project (µg/m³)	Project + Background (µg/m³)	NAAQS (µg/m³)	CAAQS (µg/m³)
NO ₂	1-hour	91.83	1.30	93.13	188.68	338
	Annual	20.37	0.06	20.43	100	56
CO	1-hour	3,262.00	0.58	3,262.58	40,000	23,000
	8-hour	1,631.00	0.71	1,631.71	10,000	10,000
SO ₂	1-hour	13.32	0.02	13.34	196	655
	3-hour	11.99	0.01	12.00	1,300	---
	24-hour	6.13	0.01	6.14	365	105
	Annual	1.15	0.00	1.15	---	---
PM ₁₀	24-hour	128.00	160.93	288.93	150	50
	Annual	37.00	22.49	59.49	---	20
PM _{2.5}	24-hour	41.20	18.35	59.55	35	---
	Annual	10.10	2.56	12.66	9	12

Note: 0.00 could represent >0.00 due to rounding.

Pre-Project concentrations of PM₁₀ and PM_{2.5} exceed their respective ambient air quality standards. Therefore, these averaging periods for PM_{2.5} and PM₁₀ are evaluated in accordance with the Prevention of Significant Deterioration (PSD) procedure in Title 40, Code of Federal Regulations (CFR), Part 52.21. It is EPA’s policy to use significant impact levels (SIL) to determine whether a proposed new or modified source will cause or contribute significantly to an AAQS or PSD increment violation. If a source’s maximum impacts are below the SIL, the source is judged to not cause or contribute significantly to an AAQS or increment violation.

A comparison of the proposed unmitigated impact from the Project to the SJVAPCD SIL values (SJVAPCD, 2024) is provided in **Table 4-4**. Because the Project’s modeled PM₁₀ and PM_{2.5} are above the SJVAPCD’s significance levels for 24-hour and annual concentrations, *the impact to air quality is considered to be significant prior to mitigation*.

Table 4-4. Comparison of Unmitigated Maximum Modeled Project Impacts with SILs

Pollutant	Averaging Period	Predicted Concentration ($\mu\text{g}/\text{m}^3$)	SIL ($\mu\text{g}/\text{m}^3$)
PM ₁₀	24-hour	160.93	10.4
	Annual	22.49	2.08
PM _{2.5}	24-hour	18.35	2.5
	Annual	2.56	0.63

A comparison of the proposed mitigated impacts, as outlined in **Section 3.2.3.1**, from the Project to the SJVAPCD SIL values is provided in **Table 4-3**.

Table 4-5. Comparison of Mitigated Maximum Modeled Project Impacts with SILs

Pollutant	Averaging Period	Predicted Concentration ($\mu\text{g}/\text{m}^3$)	SIL ($\mu\text{g}/\text{m}^3$)
PM ₁₀	24-hour	9.13	10.4
	Annual	1.07	2.08
PM _{2.5}	24-hour	1.04	2.5
	Annual	0.12	0.63

The mitigated modeled PM₁₀ and PM_{2.5} impacts directly attributable to the project are below the applicable SJVAPCD significance levels for the 24-hour and annual averaging periods of PM₁₀ and the 24-hour averaging period of PM_{2.5} and therefore will not cause an increment violation of any SJVAPCD SIL. Based on the results of the air dispersion modeling, comparisons to AAQs and applicable SILs, *the impact to air quality is not considered to be significant after mitigation.*

5. RISK ASSESSMENT METHODOLOGY

This section describes the methodology used to predict the potential health risk to the population attributable to emissions of hazardous air pollutants from the proposed expansion of the dairy operation.

5.1 HAP Source Identification and Emissions

The basis for evaluating potential health risk is the identification of sources of hazardous air pollutants (HAPs). The proposed dairy will include sources with the potential to emit HAPs.

Operational mobile sources include a diesel-fueled feed loading tractor, a feed delivery tractor, bedding delivery tractor, manure loading tractor, milk tankers, solids manure removal trucks, and commodity delivery trucks. There will also be emissions from the housing barns, milk barns, lagoons, solid manure storage, and land application areas associated with increased herd size. HRA emission sources are listed in Appendix Table D-1. Appendix Table D-2 lists the toxic substances emitted from each of these activities and also presents the classification of these species as to their potential for producing carcinogenic and non-cancer acute or chronic health impacts, if any.

Peak one-hour emission rates and annual-averaged emission rates were calculated for all pollutants for each modeled source as explained in **Section 3.2**. Both mitigated and unmitigated emissions were evaluated to determine risk before and after mitigation. The calculation worksheets for the emissions are provided in **Appendix A** and **Appendix B**. Hourly and annual emissions for each source are also provided in the HARP output files, electronic copies of which are provided in **Appendix E**.

5.2 Dispersion Modeling

The most recent version of EPA's AMS/EPA Regulatory Model - AERMOD was used to predict the dispersion of emissions from the proposed dairy. All the AERMOD regulatory default parameters were employed. Rural dispersion parameters were used because the facility and surrounding land are considered "rural" under the Auer land use classification method. The AERMOD files are provided in **Appendix E**.

For construction health impacts, diesel combustion emissions from diesel on-site construction equipment were modeled as area sources for on-site construction activity on the property. Diesel particulate matter was calculated using CalEEMod for on-site construction equipment. A unit emission rate of 1 grams/second (g/sec) was input to AERMOD for each area source.

For operation health impacts, the animal housing areas, milk barn, lagoons, solid manure storage, and land application areas were modeled as area sources. Unit emission rates for the area sources of 1 g/sec divided by the area of the source were input into AERMOD. The travel route for the feed and bedding delivery tractors, solids removal trucks, milk tankers, and commodity trucks were modeled as line sources, which represents a series of volume sources, with a unit emission rate of 1 g/sec. The feed loading tractor, manure loading tractor, solids removal truck idling, milk tanker idling, and commodity truck idling were modeled as point sources, with a unit emission rate of 1 g/sec.

5.2.1 Meteorological and Elevation Data

The SJVAPCD provides AERMOD-ready meteorological data, which was used for this HRA. Meteorological datasets (LosBanos_04-08.SFC and LosBanos_04-08.PFL) covering the calendar years 2004 through 2008 were input into AERMOD and processed with all receptors and sources. These datasets were the most recent available at the time the modeling was conducted. Terrain data was obtained from the U.S. Geological Survey (USGS) and resized to an approximately 20 km by 20 km domain using National Elevation Dataset (NED) files at a 1/3 arc-second resolution.

5.2.2 Receptors

Existing land uses in the area where the proposed dairy project will be located are predominantly agriculture. There are scattered rural residences in the general area of the project; most of which are likely associated with local agricultural operations. A total of 35 receptors were assessed during the preparation of this HRA. There are currently five on-site residences, which are not occupied by the owner.

5.3 HARP2 Post-Processing

The files generated in AERMOD were uploaded to the Air Dispersion Modeling and Risk Assessment Tool (ADMRT) program in the Hotspots Analysis and Reporting Program Version 2 (HARP2) (CARB 2015). ADMRT post-processing was used to assess the potential for excess cancer risk and non-cancer effects using the most recent health effects data from the California EPA Office of Environmental Health Hazard Assessment (OEHHA). ADMRT site parameters were set for mandatory minimum exposure pathways for carcinogenic risk. The deposition rate was set to 0.02 m/s. Risk reports were generated for carcinogenic risk, non-carcinogenic chronic risk, and non-carcinogenic acute risk. Site parameters are included in the HARP output files.

5.4 Risk Characterization

For CEQA purposes, SJVAPCD has set the level of significance for carcinogenic risk at 20 in one million, which is understood as the possibility of causing twenty additional cancer cases in a population of one million people (SJVAPCD 2020). The level of significance for chronic and acute non-cancer risk is a hazard index of one (SJVAPCD 2015b).

HARP2 post-processing was used to assess the potential for the following: excess cancer risk, acute non-cancer effects, and chronic non-cancer effects. Total cancer risk was predicted for inhalation and non-inhalation pathways at each receptor. The hazard index is computed by endpoint as the sum of the hazard indices for all relevant pollutants, the highest of which is designated as the total hazard index.

The excess cancer risk, acute non-cancer HI, and chronic non-cancer HI for the maximum modeled receptors are provided in **Appendix C**. The HARP2 output files for cancer, acute, and chronic risks are provided in electronic format in **Appendix E**.

5.4.1 Unmitigated Risk

The maximum unmitigated predicted cancer risk is 2.70E-05. Cancer risks are primarily attributable to emissions of naphthalene through the inhalation pathway. Carcinogenic risks are tabulated by pollutant in Appendix Table D-3.

The maximum unmitigated predicted chronic non-cancer hazard index is 0.37. Chronic risks are primarily attributable to emissions of ammonia, which affects the respiratory system. Chronic risks are tabulated by pollutant in Appendix Table D-4,

The maximum unmitigated predicted acute non-cancer hazard index is 1.49. Acute risks are primarily attributable to emissions of ammonia, which affects the respiratory system. Acute risks are tabulated by pollutant in Appendix Table D-5.

5.4.2 Mitigation Scenario 1

For this scenario, all onsite receptors that do not meet the criteria outlined in **Section 3.1.1.1** would be relocated for the duration of both the construction and operational phases of the project. Additional operational mitigation measures would include the PM₁₀ mitigation outlined in **Section 3.2.3.1**.

The maximum predicted cancer risk for this scenario is 1.55E-05, primarily due to naphthalene emissions via the inhalation pathway. Detailed carcinogenic risks by pollutant are provided in Appendix Table D-6.

The maximum unmitigated predicted chronic non-cancer hazard index for this scenario is 0.17, with chronic risks mainly resulting from ammonia emissions affecting the respiratory system. These chronic risks are detailed by pollutant in Appendix Table D-7.

The maximum unmitigated predicted acute non-cancer hazard index for this scenario is 0.83, also primarily driven by ammonia emissions impacting the respiratory system. Acute risks are documented by pollutant in Appendix Table D-8.

5.4.3 Mitigation Scenario 2

For this scenario, construction mitigation measures would involve relocating all onsite receptors that do not meet the criteria outlined in **Section 3.1.1.1** for the duration of the construction phase. Operational mitigation measures would include implementing the ammonia and PM₁₀ mitigation strategies described in **Sections 3.2.3.2.2** and **3.2.3.1**.

The maximum predicted cancer risk for this scenario is 1.57E-05, primarily due to naphthalene emissions via the inhalation pathway. Detailed carcinogenic risks by pollutant are provided in Appendix Table D-9.

The maximum unmitigated predicted chronic non-cancer hazard index for this scenario is 0.13, with chronic risks mainly resulting from ammonia emissions affecting the respiratory system. These chronic risks are detailed by pollutant in Appendix Table D-10.

The maximum unmitigated predicted acute non-cancer hazard index for this scenario is 0.74, also primarily driven by ammonia emissions impacting the respiratory system. Acute risks are documented by pollutant in Appendix Table D-11.

5.4.4 Mitigation Scenario 3

For this scenario, construction mitigation measures would include the use of advanced engine tiers as outlined in **Section 3.1.1.2** for the duration of the construction phase. Operational mitigation measures would include implementing the ammonia and PM₁₀ mitigation strategies described in **Sections 3.2.3.2.2** and **3.2.3.1**.

The maximum predicted cancer risk for this scenario is 1.74E-05, primarily due to naphthalene emissions via the inhalation pathway. Detailed carcinogenic risks by pollutant are provided in Appendix Table D-12.

The maximum unmitigated predicted chronic non-cancer hazard index for this scenario is 0.13, with chronic risks mainly resulting from ammonia emissions affecting the respiratory system. These chronic risks are detailed by pollutant in Appendix Table D-13.

The maximum unmitigated predicted acute non-cancer hazard index for this scenario is 0.74, also primarily driven by ammonia emissions impacting the respiratory system. Acute risks are documented by pollutant in Appendix Table D-14.

5.4.5 Mitigation Scenario 4

For this scenario, construction mitigation measures would include the use of diesel particulate filters as outlined in **Section 3.1.1.3** for the duration of the construction phase. Operational mitigation measures would include implementing the ammonia and PM₁₀ mitigation strategies described in **Sections 3.2.3.2.2** and **3.2.3.1**.

The maximum predicted cancer risk for this scenario is 1.73E-05, primarily due to naphthalene emissions via the inhalation pathway. Detailed carcinogenic risks by pollutant are provided in Appendix Table D-15.

The maximum unmitigated predicted chronic non-cancer hazard index for this scenario is 0.13, with chronic risks mainly resulting from ammonia emissions affecting the respiratory system. These chronic risks are detailed by pollutant in Appendix Table D-16.

The maximum unmitigated predicted acute non-cancer hazard index for this scenario is 0.74, also primarily driven by ammonia emissions impacting the respiratory system. Acute risks are documented by pollutant in Appendix Table D-17.

5.4.6 Health Risk Results Comparison

The PMIs are identified by receptor ID and risk type and are compared to SJVAPCD's significance thresholds in **Table 5-1**, **Table 5-2**, and **Table 5-3** below.

Table 5-1. Comparison of Potential Maximum Cancer Impacts Predicted by HARP2

	Unmitigated	Mitigation Scenario 1	Mitigation Scenario 2	Mitigation Scenario 3	Mitigation Scenario 4
Receptor Type & ID	On-Site #4	Off-Site #6	On-Site #4	On-Site #4	On-Site #4
Excess Cancer Risk	2.70E-05	1.55E-05	1.57E-05	1.74E-05	1.73E-05
SJVAPCD Threshold	2.00E-05	2.00E-05	2.00E-05	2.00E-05	2.00E-05
Threshold Exceeded?	Yes	No	No	No	No

Table 5-2. Comparison of Potential Maximum Chronic Impacts Predicted by HARP2

	Unmitigated	Mitigation Scenario 1	Mitigation Scenario 2	Mitigation Scenario 3	Mitigation Scenario 4
Receptor Type & ID	On-Site #3	Off-Site #6	On-Site #3	On-Site #3	On-Site #3
Chronic Hazard Index	0.37	0.17	0.13	0.13	0.13
SJVAPCD Threshold	1	1	1	1	1
Threshold Exceeded?	No	No	No	No	No

Table 5-3. Comparison of Potential Maximum Acute Impacts Predicted by HARP2

	Unmitigated	Mitigation Scenario 1	Mitigation Scenario 2	Mitigation Scenario 3	Mitigation Scenario 4
Receptor Type & ID	On-Site #1	Off-Site #10	On-Site #1	On-Site #1	On-Site #1
Acute Hazard Index	1.49	0.83	0.74	0.74	0.74
SJVAPCD Threshold	1	1	1	1	1
Threshold Exceeded?	Yes	No	No	No	No

The maximum predicted cancer risk and acute non-cancer hazard index for the proposed unmitigated project exceed SJVAPCD's significance thresholds of 20 in a million (20×10^{-6}) and 1.0, respectively. Based on these results, the project's potential health risk impact to the surrounding community *would be considered significant prior to mitigation*.

However, mitigation scenarios 1 through 4 demonstrate that the carcinogenic risk and the health hazard index for chronic and acute non-cancer risk at the point of maximum impact do not exceed the significance thresholds of 20 in a million and 1.0, respectively, for the proposed project. Since the PMI remains below the significance thresholds for cancer, chronic, and acute risk after mitigation, the project's health risk impact to the surrounding community *would be considered less than significant after mitigation*.

6. CONCLUSIONS

In accordance with the Guidance for Assessing and Mitigating Air Quality Impacts (SJVAPCD 2015a) and San Joaquin Valley Air Pollution Control District policies (SJVAPCD 2020; SJVAPCD 2015b), the potential health risk attributable to the Correia Family Dairy Farms Expansion Project for carcinogenic, chronic non-carcinogenic, and acute non-carcinogenic risk is determined to be less than significant after the proposed mitigations on the following conclusion:

- ▶ Potential chronic carcinogenic risk from the proposed facility is below the significance level of twenty in one million at each of the modeled receptors.
- ▶ The hazard index for the potential chronic non-cancer risk from the proposed facility is below the significance level of 1.0 at each of the modeled receptors.
- ▶ The hazard index for the potential acute non-cancer risk from the proposed facility is below the significance level of 1.0 at each of the modeled receptors.

Additionally, the ambient air quality impact is determined to be less than significant based on the following conclusions:

- ▶ The unmitigated maximum impacts attributable to the Project, when considered in addition to the existing background concentrations, are below the applicable ambient air quality standard for NO_x, SO_x, and CO.
- ▶ The mitigated PM₁₀ and PM_{2.5} impacts directly attributable to the project are below the applicable SJVAPCD significance impact levels.

7. REFERENCES

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APPENDIX A. PROJECT CONSTRUCTION EMISSION CALCULATIONS

A.1 Advanced Engine Tier Mitigation

Sitework - DPF Custom Report

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8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Sitework - DPF
Construction Start Date	1/1/2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	25.0
Location	26380 Fahey Rd, Gustine, CA 95322, USA
County	Merced
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2311
EDFZ	5
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.26

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
General Heavy Industry	475	1000sqft	10.9	474,831	0.00	0.00	—	—

Other Non-Asphalt Surfaces	430	1000sqft	9.88	0.00	0.00	0.00	—	—
User Defined Industrial	1.00	User Defined Unit	0.72	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-6	Use Diesel Particulate Filters

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.92	3.31	29.8	29.6	0.06	1.23	9.36	10.6	1.14	3.69	4.83	—	6,769	6,769	0.28	0.06	0.68	6,795
Mit.	3.92	3.31	29.8	29.6	0.06	0.19	9.36	9.54	0.17	3.69	3.86	—	6,769	6,769	0.28	0.06	0.68	6,795
% Reduced	—	—	—	—	—	85%	—	10%	85%	—	20%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.03	3.40	31.7	31.0	0.06	1.37	19.8	21.2	1.26	10.1	11.4	—	6,751	6,751	0.28	0.06	0.02	6,776
Mit.	4.03	3.40	31.7	31.0	0.06	0.20	19.8	20.0	0.19	10.1	10.3	—	6,751	6,751	0.28	0.06	0.02	6,776
% Reduced	—	—	—	—	—	85%	—	5%	85%	—	9%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	0.82	0.70	5.85	5.88	0.01	0.25	1.58	1.83	0.23	0.69	0.92	—	1,179	1,179	0.05	0.01	0.07	1,183
Mit.	0.82	0.70	5.85	5.88	0.01	0.04	1.58	1.62	0.03	0.69	0.73	—	1,179	1,179	0.05	0.01	0.07	1,183
% Reduced	—	—	—	—	—	85%	—	11%	85%	—	21%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.15	0.13	1.07	1.07	< 0.005	0.04	0.29	0.33	0.04	0.13	0.17	—	195	195	0.01	< 0.005	0.01	196
Mit.	0.15	0.13	1.07	1.07	< 0.005	0.01	0.29	0.30	0.01	0.13	0.13	—	195	195	0.01	< 0.005	0.01	196
% Reduced	—	—	—	—	—	85%	—	11%	85%	—	21%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.92	3.31	29.8	29.6	0.06	1.23	9.36	10.6	1.14	3.69	4.83	—	6,769	6,769	0.28	0.06	0.68	6,795
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	4.03	3.40	31.7	31.0	0.06	1.37	19.8	21.2	1.26	10.1	11.4	—	6,751	6,751	0.28	0.06	0.02	6,776
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.82	0.70	5.85	5.88	0.01	0.25	1.58	1.83	0.23	0.69	0.92	—	1,179	1,179	0.05	0.01	0.07	1,183
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.15	0.13	1.07	1.07	< 0.005	0.04	0.29	0.33	0.04	0.13	0.17	—	195	195	0.01	< 0.005	0.01	196

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
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Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.92	3.31	29.8	29.6	0.06	0.19	9.36	9.54	0.17	3.69	3.86	—	6,769	6,769	0.28	0.06	0.68	6,795
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	4.03	3.40	31.7	31.0	0.06	0.20	19.8	20.0	0.19	10.1	10.3	—	6,751	6,751	0.28	0.06	0.02	6,776
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.82	0.70	5.85	5.88	0.01	0.04	1.58	1.62	0.03	0.69	0.73	—	1,179	1,179	0.05	0.01	0.07	1,183
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.15	0.13	1.07	1.07	< 0.005	0.01	0.29	0.30	0.01	0.13	0.13	—	195	195	0.01	< 0.005	0.01	196

3. Construction Emissions Details

3.1. Demolition (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.86	2.40	22.2	19.9	0.03	0.92	—	0.92	0.84	—	0.84	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipm ent	0.17	0.14	1.34	1.20	< 0.005	0.06	—	0.06	0.05	—	0.05	—	206	206	0.01	< 0.005	—	207
Demoliti on	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipm ent	0.03	0.03	0.24	0.22	< 0.005	0.01	—	0.01	0.01	—	0.01	—	34.2	34.2	< 0.005	< 0.005	—	34.3
Demoliti on	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.07	0.72	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	114	114	0.01	< 0.005	0.01	116
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.09	7.09	< 0.005	< 0.005	0.01	7.20
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.17	1.17	< 0.005	< 0.005	< 0.005	1.19
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Demolition (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.86	2.40	22.2	19.9	0.03	0.14	—	0.14	0.13	—	0.13	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.14	1.34	1.20	< 0.005	0.01	—	0.01	0.01	—	0.01	—	206	206	0.01	< 0.005	—	207
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.24	0.22	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	34.2	34.2	< 0.005	< 0.005	—	34.3
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.07	0.72	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	114	114	0.01	< 0.005	0.01	116
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.09	7.09	< 0.005	< 0.005	0.01	7.20
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.17	1.17	< 0.005	< 0.005	< 0.005	1.19
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
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Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.94	3.31	31.6	30.2	0.05	1.37	—	1.37	1.26	—	1.26	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.95	0.91	< 0.005	0.04	—	0.04	0.04	—	0.04	—	160	160	0.01	< 0.005	—	160
Dust From Material Movement	—	—	—	—	—	—	0.59	0.59	—	0.30	0.30	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.17	0.17	< 0.005	0.01	—	0.01	0.01	—	0.01	—	26.4	26.4	< 0.005	< 0.005	—	26.5
Dust From Material Movement	—	—	—	—	—	—	0.11	0.11	—	0.06	0.06	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.09	0.84	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	133	133	0.01	0.01	0.02	135
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.14	4.14	< 0.005	< 0.005	0.01	4.20
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.68	0.68	< 0.005	< 0.005	< 0.005	0.70
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Site Preparation (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	3.94	3.31	31.6	30.2	0.05	0.20	—	0.20	0.19	—	0.19	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.95	0.91	< 0.005	0.01	—	0.01	0.01	—	0.01	—	160	160	0.01	< 0.005	—	160
Dust From Material Movement	—	—	—	—	—	—	0.59	0.59	—	0.30	0.30	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.17	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	26.4	26.4	< 0.005	< 0.005	—	26.5
Dust From Material Movement	—	—	—	—	—	—	0.11	0.11	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.09	0.84	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	133	133	0.01	0.01	0.02	135
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.14	4.14	< 0.005	< 0.005	0.01	4.20
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.68	0.68	< 0.005	< 0.005	< 0.005	0.70
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.80	3.20	29.7	28.3	0.06	1.23	—	1.23	1.14	—	1.14	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipm ent	3.80	3.20	29.7	28.3	0.06	1.23	—	1.23	1.14	—	1.14	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipm ent	0.40	0.33	3.09	2.95	0.01	0.13	—	0.13	0.12	—	0.12	—	687	687	0.03	0.01	—	689
Dust From Material Movement	—	—	—	—	—	—	0.96	0.96	—	0.38	0.38	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipm ent	0.07	0.06	0.56	0.54	< 0.005	0.02	—	0.02	0.02	—	0.02	—	114	114	< 0.005	< 0.005	—	114
Dust From Material Movement	—	—	—	—	—	—	0.17	0.17	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.07	1.27	0.00	0.00	0.15	0.15	0.00	0.04	0.04	—	171	171	0.01	0.01	0.68	173
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.10	0.96	0.00	0.00	0.15	0.15	0.00	0.04	0.04	—	152	152	0.01	0.01	0.02	154
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.3	16.3	< 0.005	< 0.005	0.03	16.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.70	2.70	< 0.005	< 0.005	0.01	2.75
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Grading (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	3.80	3.20	29.7	28.3	0.06	0.19	—	0.19	0.17	—	0.17	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.80	3.20	29.7	28.3	0.06	0.19	—	0.19	0.17	—	0.17	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.40	0.33	3.09	2.95	0.01	0.02	—	0.02	0.02	—	0.02	—	687	687	0.03	0.01	—	689
Dust From Material Movement	—	—	—	—	—	—	0.96	0.96	—	0.38	0.38	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.56	0.54	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	114	114	< 0.005	< 0.005	—	114

Dust From Material Movement	—	—	—	—	—	—	0.17	0.17	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.07	1.27	0.00	0.00	0.15	0.15	0.00	0.04	0.04	—	171	171	0.01	0.01	0.68	173
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.10	0.96	0.00	0.00	0.15	0.15	0.00	0.04	0.04	—	152	152	0.01	0.01	0.02	154
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.3	16.3	< 0.005	< 0.005	0.03	16.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.70	2.70	< 0.005	< 0.005	0.01	2.75
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	0.80	7.45	9.98	0.01	0.35	—	0.35	0.32	—	0.32	—	1,511	1,511	0.06	0.01	—	1,517
Paving	0.85	0.85	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.45	0.60	< 0.005	0.02	—	0.02	0.02	—	0.02	—	91.1	91.1	< 0.005	< 0.005	—	91.4
Paving	0.05	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.1	15.1	< 0.005	< 0.005	—	15.1
Paving	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.06	0.95	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	128	128	0.01	< 0.005	0.51	130
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.09	7.09	< 0.005	< 0.005	0.01	7.20
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.17	1.17	< 0.005	< 0.005	< 0.005	1.19
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Paving (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	0.80	7.45	9.98	0.01	0.05	—	0.05	0.05	—	0.05	—	1,511	1,511	0.06	0.01	—	1,517
Paving	0.85	0.85	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.45	0.60	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	91.1	91.1	< 0.005	< 0.005	—	91.4
Paving	0.05	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.1	15.1	< 0.005	< 0.005	—	15.1
Paving	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.06	0.95	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	128	128	0.01	< 0.005	0.51	130
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.09	7.09	< 0.005	< 0.005	0.01	7.20

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.17	1.17	< 0.005	< 0.005	< 0.005	1.19
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
----------	-----	-----	-----	----	-----	-------	-------	-------	--------	--------	--------	------	-------	------	-----	-----	---	------

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
-------	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/1/2025	1/30/2025	5.00	22.0	—
Site Preparation	Site Preparation	1/31/2025	2/14/2025	5.00	11.0	—

Grading	Grading	2/17/2025	4/9/2025	5.00	38.0	—
Paving	Paving	4/10/2025	5/9/2025	5.00	22.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Back hoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Back hoes	Diesel	Average	2.00	8.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38

Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Back hoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Back hoes	Diesel	Average	2.00	8.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	10.9	LDA,LDT1,LDT2
Demolition	Vendor	—	8.27	HHDT,MHDT
Demolition	Hauling	0.00	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	10.9	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.27	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—

Grading	Worker	20.0	10.9	LDA,LDT1,LDT2
Grading	Vendor	—	8.27	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	10.9	LDA,LDT1,LDT2
Paving	Vendor	—	8.27	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	10.9	LDA,LDT1,LDT2
Demolition	Vendor	—	8.27	HHDT,MHDT
Demolition	Hauling	0.00	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	10.9	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.27	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	10.9	LDA,LDT1,LDT2
Grading	Vendor	—	8.27	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Paving	—	—	—	—

Paving	Worker	15.0	10.9	LDA,LDT1,LDT2
Paving	Vendor	—	8.27	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
------------	--	--	--	--	-----------------------------

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	—	—
Site Preparation	—	—	16.5	0.00	—
Grading	—	—	114	0.00	—
Paving	0.00	0.00	0.00	0.00	9.88

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
General Heavy Industry	0.00	0%

Other Non-Asphalt Surfaces	9.88	72%
User Defined Industrial	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	204	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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8. User Changes to Default Data

Screen	Justification
Land Use	Barns, manure systems, and domestic well.
Construction: Paving	Estimated asphalt
Construction: Construction Phases	Assumes any demolition, site prep, grading, and paving would occur across the entire project site.

Buildings - DPF Custom Report

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5.18.2. Sequestration

5.18.2.1. Unmitigated

5.18.2.2. Mitigated

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Buildings - DPF
Construction Start Date	1/1/2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	25.0
Location	26380 Fahey Rd, Gustine, CA 95322, USA
County	Merced
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2311
EDFZ	5
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.26

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
General Heavy Industry	475	1000sqft	10.9	474,831	0.00	0.00	—	—

User Defined Industrial	1.00	User Defined Unit	0.72	0.00	0.00	0.00	—	—
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1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-6	Use Diesel Particulate Filters

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.65	2.33	13.9	26.7	0.04	0.46	2.07	2.53	0.43	0.51	0.93	—	6,119	6,119	0.21	0.38	12.3	6,251
Mit.	2.65	2.33	13.9	26.7	0.04	0.09	2.07	2.16	0.09	0.51	0.60	—	6,119	6,119	0.21	0.38	12.3	6,251
% Reduced	—	—	—	—	—	80%	—	15%	79%	—	36%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	100	100	14.3	23.7	0.04	0.46	2.07	2.53	0.43	0.51	0.93	—	5,938	5,938	0.23	0.38	0.32	6,058
Mit.	100	100	14.3	23.7	0.04	0.09	2.07	2.16	0.09	0.51	0.60	—	5,938	5,938	0.23	0.38	0.32	6,058
% Reduced	—	—	—	—	—	80%	—	15%	79%	—	36%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	7.63	7.39	8.75	15.3	0.02	0.27	1.35	1.62	0.25	0.33	0.58	—	3,904	3,904	0.14	0.24	3.25	3,983
Mit.	7.63	7.39	8.75	15.3	0.02	0.06	1.35	1.41	0.05	0.33	0.38	—	3,904	3,904	0.14	0.24	3.25	3,983

% Reduced	—	—	—	—	—	79%	—	13%	79%	—	34%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.39	1.35	1.60	2.80	< 0.005	0.05	0.25	0.30	0.05	0.06	0.11	—	646	646	0.02	0.04	0.54	659
Mit.	1.39	1.35	1.60	2.80	< 0.005	0.01	0.25	0.26	0.01	0.06	0.07	—	646	646	0.02	0.04	0.54	659
% Reduced	—	—	—	—	—	79%	—	13%	79%	—	34%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.65	2.33	13.9	26.7	0.04	0.46	2.07	2.53	0.43	0.51	0.93	—	6,119	6,119	0.21	0.38	12.3	6,251
2026	2.51	2.19	13.1	25.5	0.04	0.41	2.07	2.48	0.38	0.51	0.88	—	6,046	6,046	0.21	0.37	11.4	6,172
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.53	2.20	14.3	23.7	0.04	0.46	2.07	2.53	0.43	0.51	0.93	—	5,938	5,938	0.23	0.38	0.32	6,058
2026	100	100	13.4	22.8	0.04	0.41	2.07	2.48	0.38	0.51	0.88	—	5,869	5,869	0.22	0.37	0.29	5,985
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.16	1.01	6.45	11.0	0.02	0.21	0.93	1.14	0.19	0.23	0.42	—	2,740	2,740	0.10	0.18	2.44	2,797
2026	7.63	7.39	8.75	15.3	0.02	0.27	1.35	1.62	0.25	0.33	0.58	—	3,904	3,904	0.14	0.24	3.25	3,983
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.21	0.19	1.18	2.01	< 0.005	0.04	0.17	0.21	0.04	0.04	0.08	—	454	454	0.02	0.03	0.40	463
2026	1.39	1.35	1.60	2.80	< 0.005	0.05	0.25	0.30	0.05	0.06	0.11	—	646	646	0.02	0.04	0.54	659

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.65	2.33	13.9	26.7	0.04	0.09	2.07	2.16	0.09	0.51	0.60	—	6,119	6,119	0.21	0.38	12.3	6,251
2026	2.51	2.19	13.1	25.5	0.04	0.09	2.07	2.15	0.08	0.51	0.59	—	6,046	6,046	0.21	0.37	11.4	6,172
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.53	2.20	14.3	23.7	0.04	0.09	2.07	2.16	0.09	0.51	0.60	—	5,938	5,938	0.23	0.38	0.32	6,058
2026	100	100	13.4	22.8	0.04	0.09	2.07	2.15	0.08	0.51	0.59	—	5,869	5,869	0.22	0.37	0.29	5,985
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.16	1.01	6.45	11.0	0.02	0.04	0.93	0.98	0.04	0.23	0.27	—	2,740	2,740	0.10	0.18	2.44	2,797
2026	7.63	7.39	8.75	15.3	0.02	0.06	1.35	1.41	0.05	0.33	0.38	—	3,904	3,904	0.14	0.24	3.25	3,983
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.21	0.19	1.18	2.01	< 0.005	0.01	0.17	0.18	0.01	0.04	0.05	—	454	454	0.02	0.03	0.40	463
2026	1.39	1.35	1.60	2.80	< 0.005	0.01	0.25	0.26	0.01	0.06	0.07	—	646	646	0.02	0.04	0.54	659

3. Construction Emissions Details

3.1. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	0.52	4.78	5.97	0.01	0.20	—	0.20	0.18	—	0.18	—	1,098	1,098	0.04	0.01	—	1,102
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.87	1.09	< 0.005	0.04	—	0.04	0.03	—	0.03	—	182	182	0.01	< 0.005	—	182
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.19	1.12	0.74	12.6	0.00	0.00	1.53	1.53	0.00	0.36	0.36	—	1,700	1,700	0.09	0.07	6.82	1,729
Vendor	0.12	0.09	2.66	1.02	0.01	0.03	0.54	0.57	0.03	0.15	0.18	—	2,021	2,021	0.02	0.30	5.48	2,116
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.07	1.00	0.97	9.61	0.00	0.00	1.53	1.53	0.00	0.36	0.36	—	1,517	1,517	0.10	0.07	0.18	1,539
Vendor	0.11	0.08	2.85	1.04	0.01	0.03	0.54	0.57	0.03	0.15	0.18	—	2,023	2,023	0.02	0.30	0.14	2,113
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.49	0.46	0.39	4.58	0.00	0.00	0.69	0.69	0.00	0.16	0.16	—	716	716	0.04	0.03	1.35	728
Vendor	0.05	0.04	1.27	0.47	0.01	0.01	0.24	0.26	0.01	0.07	0.08	—	926	926	0.01	0.14	1.09	968
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.07	0.84	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	119	119	0.01	< 0.005	0.22	120
Vendor	0.01	0.01	0.23	0.09	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	—	153	153	< 0.005	0.02	0.18	160
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Building Construction (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipm ent	1.35	1.13	10.4	13.0	0.02	0.06	—	0.06	0.06	—	0.06	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.06	—	0.06	0.06	—	0.06	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	0.52	4.78	5.97	0.01	0.03	—	0.03	0.03	—	0.03	—	1,098	1,098	0.04	0.01	—	1,102
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.87	1.09	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	182	182	0.01	< 0.005	—	182
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.19	1.12	0.74	12.6	0.00	0.00	1.53	1.53	0.00	0.36	0.36	—	1,700	1,700	0.09	0.07	6.82	1,729
Vendor	0.12	0.09	2.66	1.02	0.01	0.03	0.54	0.57	0.03	0.15	0.18	—	2,021	2,021	0.02	0.30	5.48	2,116
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.07	1.00	0.97	9.61	0.00	0.00	1.53	1.53	0.00	0.36	0.36	—	1,517	1,517	0.10	0.07	0.18	1,539
Vendor	0.11	0.08	2.85	1.04	0.01	0.03	0.54	0.57	0.03	0.15	0.18	—	2,023	2,023	0.02	0.30	0.14	2,113
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.49	0.46	0.39	4.58	0.00	0.00	0.69	0.69	0.00	0.16	0.16	—	716	716	0.04	0.03	1.35	728
Vendor	0.05	0.04	1.27	0.47	0.01	0.01	0.24	0.26	0.01	0.07	0.08	—	926	926	0.01	0.14	1.09	968
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.07	0.84	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	119	119	0.01	< 0.005	0.22	120
Vendor	0.01	0.01	0.23	0.09	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	—	153	153	< 0.005	0.02	0.18	160
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	0.84	0.70	6.46	8.50	0.02	0.25	—	0.25	0.23	—	0.23	—	1,572	1,572	0.06	0.01	—	1,577
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	1.18	1.55	< 0.005	0.05	—	0.05	0.04	—	0.04	—	260	260	0.01	< 0.005	—	261
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.11	1.05	0.69	11.6	0.00	0.00	1.53	1.53	0.00	0.36	0.36	—	1,664	1,664	0.09	0.07	6.28	1,692
Vendor	0.11	0.07	2.56	0.95	0.01	0.03	0.54	0.57	0.03	0.15	0.18	—	1,985	1,985	0.02	0.28	5.07	2,075
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.97	0.89	0.86	8.83	0.00	0.00	1.53	1.53	0.00	0.36	0.36	—	1,485	1,485	0.10	0.07	0.16	1,508
Vendor	0.11	0.07	2.72	0.98	0.01	0.03	0.54	0.57	0.03	0.15	0.18	—	1,987	1,987	0.02	0.28	0.13	2,072
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.67	0.59	0.49	6.01	0.00	0.00	0.99	0.99	0.00	0.23	0.23	—	1,004	1,004	0.06	0.04	1.78	1,020
Vendor	0.07	0.04	1.75	0.63	0.01	0.02	0.35	0.37	0.02	0.10	0.12	—	1,302	1,302	0.02	0.19	1.44	1,359
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.09	1.10	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	166	166	0.01	0.01	0.29	169
Vendor	0.01	0.01	0.32	0.11	< 0.005	< 0.005	0.06	0.07	< 0.005	0.02	0.02	—	215	215	< 0.005	0.03	0.24	225

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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3.4. Building Construction (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.06	—	0.06	0.05	—	0.05	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.06	—	0.06	0.05	—	0.05	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.84	0.70	6.46	8.50	0.02	0.04	—	0.04	0.03	—	0.03	—	1,572	1,572	0.06	0.01	—	1,577
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipm	0.15	0.13	1.18	1.55	< 0.005	0.01	—	0.01	0.01	—	0.01	—	260	260	0.01	< 0.005	—	261
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.11	1.05	0.69	11.6	0.00	0.00	1.53	1.53	0.00	0.36	0.36	—	1,664	1,664	0.09	0.07	6.28	1,692
Vendor	0.11	0.07	2.56	0.95	0.01	0.03	0.54	0.57	0.03	0.15	0.18	—	1,985	1,985	0.02	0.28	5.07	2,075
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.97	0.89	0.86	8.83	0.00	0.00	1.53	1.53	0.00	0.36	0.36	—	1,485	1,485	0.10	0.07	0.16	1,508
Vendor	0.11	0.07	2.72	0.98	0.01	0.03	0.54	0.57	0.03	0.15	0.18	—	1,987	1,987	0.02	0.28	0.13	2,072
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.67	0.59	0.49	6.01	0.00	0.00	0.99	0.99	0.00	0.23	0.23	—	1,004	1,004	0.06	0.04	1.78	1,020
Vendor	0.07	0.04	1.75	0.63	0.01	0.02	0.35	0.37	0.02	0.10	0.12	—	1,302	1,302	0.02	0.19	1.44	1,359
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.09	1.10	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	166	166	0.01	0.01	0.29	169
Vendor	0.01	0.01	0.32	0.11	< 0.005	< 0.005	0.06	0.07	< 0.005	0.02	0.02	—	215	215	< 0.005	0.03	0.24	225
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
----------	-----	-----	-----	----	-----	-------	-------	-------	--------	--------	--------	------	-------	------	-----	-----	---	------

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	100	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.05	8.05	< 0.005	< 0.005	—	8.07
Architectural Coatings	6.03	6.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.33	1.33	< 0.005	< 0.005	—	1.34
Architectural Coatings	1.10	1.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19	0.18	0.17	1.77	0.00	0.00	0.31	0.31	0.00	0.07	0.07	—	297	297	0.02	0.01	0.03	302
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.5	18.5	< 0.005	< 0.005	0.03	18.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.06	3.06	< 0.005	< 0.005	0.01	3.11
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Architectural Coating (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	100	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.05	8.05	< 0.005	< 0.005	—	8.07
Architectural Coatings	6.03	6.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.33	1.33	< 0.005	< 0.005	—	1.34
Architectural Coatings	1.10	1.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19	0.18	0.17	1.77	0.00	0.00	0.31	0.31	0.00	0.07	0.07	—	297	297	0.02	0.01	0.03	302
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.5	18.5	< 0.005	< 0.005	0.03	18.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.06	3.06	< 0.005	< 0.005	0.01	3.11
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetati on	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
-------------	-----	-----	-----	----	-----	-------	-------	-------	--------	--------	--------	------	-------	------	-----	-----	---	------

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Building Construction	Building Construction	5/12/2025	12/1/2026	5.00	407	—
Architectural Coating	Architectural Coating	12/2/2026	12/31/2026	5.00	22.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Back hoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Back hoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Building Construction	—	—	—	—
Building Construction	Worker	199	10.9	LDA,LDT1,LDT2
Building Construction	Vendor	77.8	8.27	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	39.9	10.9	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.27	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Building Construction	—	—	—	—
Building Construction	Worker	199	10.9	LDA,LDT1,LDT2
Building Construction	Vendor	77.8	8.27	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	39.9	10.9	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.27	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	712,247	237,416	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
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5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
General Heavy Industry	0.00	0%
User Defined Industrial	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	204	0.03	< 0.005
2026	0.00	204	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
--------------------------	----------------------	---------------	-------------

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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8. User Changes to Default Data

Screen	Justification
Land Use	Barns and domestic well.
Construction: Paving	Estimated asphalt
Construction: Construction Phases	Estimated 2 years of construction.

Unmitigated Construction Exhaust Emissions

Correia Family Dairy Expansion

Construction HHD Off-Road PM₁₀ Exhaust Emissions (tons)

Year	DPM
2025	0.045
2025 - Building Construction	0.038
2026 - Building Construction	0.049
Total	0.132

Construction HHD Off-Road PM₁₀ Exhaust Emissions (tons)

Year	Barn04	Barn05	Barn06	Barn07	Barn08	LFB01	LFB02	MLKPR	Well	SB	SMS	WW01	WW02
Square Feet	35,190	36,606	60,435	76,500	102,200	25,000	102,200	36,700	31,416	25,833	311,369	46,500	46,500
2025	0.002	0.002	0.003	0.004	0.005	0.001	0.005	0.002	0.002	0.001	0.015	0.002	0.002
2025 - Building Construction	0.003	0.003	0.005	0.006	0.008	0.002	0.008	0.003	0.002	--	--	--	--
2026 - Building Construction	0.003	0.004	0.006	0.007	0.010	0.002	0.010	0.004	0.003	--	--	--	--
Source Totals	0.008	0.008	0.013	0.017	0.023	0.006	0.023	0.008	0.007	0.001	0.015	0.002	0.002
Total	0.132												

HARP2 Inputs - Annual Maximum

	Barn04	Barn05	Barn06	Barn07	Barn08	LFB01	LFB02	MLKPR	Well	SB	SMS	WW01	WW02
Tons per year	0.004	0.005	0.007	0.009	0.013	0.003	0.013	0.005	0.004	0.001	0.015	0.002	0.002
Pounds per year	8.72	9.07	14.98	18.96	25.33	6.20	25.33	9.10	7.79	2.48	29.86	4.46	4.46

**Mitigated Construction Emissions
Tier 4 Final Engines**

Correia Family Dairy Expansion

Construction HHD Off-Road PM₁₀ Exhaust Emissions (tons)

Year	DPM
2025	0.004
2025 - Building Construction	0.009
2026 - Building Construction	0.012
Total	0.025

Construction HHD Off-Road PM₁₀ Exhaust Emissions (tons)

Year	Barn04	Barn05	Barn06	Barn07	Barn08	LFB01	LFB02	MLKPR	Well	SB	SMS	WW01	WW02
Square Feet	35,190	36,606	60,435	76,500	102,200	25,000	102,200	36,700	31,416	25,833	311,369	46,500	46,500
2025	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000
2025 - Building Construction	0.001	0.001	0.001	0.001	0.002	0.000	0.002	0.001	0.001	--	--	--	--
2026 - Building Construction	0.001	0.001	0.001	0.002	0.003	0.001	0.003	0.001	0.001	--	--	--	--
Source Totals	0.002	0.002	0.003	0.004	0.005	0.001	0.005	0.002	0.001	0.000	0.001	0.000	0.000
Total	0.025												

HARP2 Inputs - Annual Maximum

	Barn04	Barn05	Barn06	Barn07	Barn08	LFB01	LFB02	MLKPR	Well	SB	SMS	WW01	WW02
Tons per year	0.001	0.001	0.001	0.002	0.003	0.001	0.003	0.001	0.001	0.000	0.001	0.000	0.000
Pounds per year	1.72	1.79	2.96	3.74	5.00	1.22	5.00	1.80	1.54	0.22	2.60	0.39	0.39

A.2 Diesel Particulate Filter Mitigation

Sitework - DPF Custom Report

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5.18.1.1. Unmitigated

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5.18.2.1. Unmitigated

5.18.2.2. Mitigated

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Sitework - DPF
Construction Start Date	1/1/2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	25.0
Location	26380 Fahey Rd, Gustine, CA 95322, USA
County	Merced
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2311
EDFZ	5
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.26

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
General Heavy Industry	475	1000sqft	10.9	474,831	0.00	0.00	—	—

Other Non-Asphalt Surfaces	430	1000sqft	9.88	0.00	0.00	0.00	—	—
User Defined Industrial	1.00	User Defined Unit	0.72	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-6	Use Diesel Particulate Filters

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.92	3.31	29.8	29.6	0.06	1.23	9.36	10.6	1.14	3.69	4.83	—	6,769	6,769	0.28	0.06	0.68	6,795
Mit.	3.92	3.31	29.8	29.6	0.06	0.19	9.36	9.54	0.17	3.69	3.86	—	6,769	6,769	0.28	0.06	0.68	6,795
% Reduced	—	—	—	—	—	85%	—	10%	85%	—	20%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.03	3.40	31.7	31.0	0.06	1.37	19.8	21.2	1.26	10.1	11.4	—	6,751	6,751	0.28	0.06	0.02	6,776
Mit.	4.03	3.40	31.7	31.0	0.06	0.20	19.8	20.0	0.19	10.1	10.3	—	6,751	6,751	0.28	0.06	0.02	6,776
% Reduced	—	—	—	—	—	85%	—	5%	85%	—	9%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	0.82	0.70	5.85	5.88	0.01	0.25	1.58	1.83	0.23	0.69	0.92	—	1,179	1,179	0.05	0.01	0.07	1,183
Mit.	0.82	0.70	5.85	5.88	0.01	0.04	1.58	1.62	0.03	0.69	0.73	—	1,179	1,179	0.05	0.01	0.07	1,183
% Reduced	—	—	—	—	—	85%	—	11%	85%	—	21%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.15	0.13	1.07	1.07	< 0.005	0.04	0.29	0.33	0.04	0.13	0.17	—	195	195	0.01	< 0.005	0.01	196
Mit.	0.15	0.13	1.07	1.07	< 0.005	0.01	0.29	0.30	0.01	0.13	0.13	—	195	195	0.01	< 0.005	0.01	196
% Reduced	—	—	—	—	—	85%	—	11%	85%	—	21%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.92	3.31	29.8	29.6	0.06	1.23	9.36	10.6	1.14	3.69	4.83	—	6,769	6,769	0.28	0.06	0.68	6,795
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	4.03	3.40	31.7	31.0	0.06	1.37	19.8	21.2	1.26	10.1	11.4	—	6,751	6,751	0.28	0.06	0.02	6,776
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.82	0.70	5.85	5.88	0.01	0.25	1.58	1.83	0.23	0.69	0.92	—	1,179	1,179	0.05	0.01	0.07	1,183
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.15	0.13	1.07	1.07	< 0.005	0.04	0.29	0.33	0.04	0.13	0.17	—	195	195	0.01	< 0.005	0.01	196

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
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Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	3.92	3.31	29.8	29.6	0.06	0.19	9.36	9.54	0.17	3.69	3.86	—	6,769	6,769	0.28	0.06	0.68	6,795
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	4.03	3.40	31.7	31.0	0.06	0.20	19.8	20.0	0.19	10.1	10.3	—	6,751	6,751	0.28	0.06	0.02	6,776
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.82	0.70	5.85	5.88	0.01	0.04	1.58	1.62	0.03	0.69	0.73	—	1,179	1,179	0.05	0.01	0.07	1,183
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.15	0.13	1.07	1.07	< 0.005	0.01	0.29	0.30	0.01	0.13	0.13	—	195	195	0.01	< 0.005	0.01	196

3. Construction Emissions Details

3.1. Demolition (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.86	2.40	22.2	19.9	0.03	0.92	—	0.92	0.84	—	0.84	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipm ent	0.17	0.14	1.34	1.20	< 0.005	0.06	—	0.06	0.05	—	0.05	—	206	206	0.01	< 0.005	—	207	
Demoliti on	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipm ent	0.03	0.03	0.24	0.22	< 0.005	0.01	—	0.01	0.01	—	0.01	—	34.2	34.2	< 0.005	< 0.005	—	34.3	
Demoliti on	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.07	0.72	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	114	114	0.01	< 0.005	0.01	116	
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.09	7.09	< 0.005	< 0.005	0.01	7.20	
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.17	1.17	< 0.005	< 0.005	< 0.005	1.19
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Demolition (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.86	2.40	22.2	19.9	0.03	0.14	—	0.14	0.13	—	0.13	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.14	1.34	1.20	< 0.005	0.01	—	0.01	0.01	—	0.01	—	206	206	0.01	< 0.005	—	207
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.24	0.22	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	34.2	34.2	< 0.005	< 0.005	—	34.3
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.07	0.72	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	114	114	0.01	< 0.005	0.01	116
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.09	7.09	< 0.005	< 0.005	0.01	7.20
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.17	1.17	< 0.005	< 0.005	< 0.005	1.19
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Site Preparation (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
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Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.94	3.31	31.6	30.2	0.05	1.37	—	1.37	1.26	—	1.26	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.95	0.91	< 0.005	0.04	—	0.04	0.04	—	0.04	—	160	160	0.01	< 0.005	—	160
Dust From Material Movement	—	—	—	—	—	—	0.59	0.59	—	0.30	0.30	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.17	0.17	< 0.005	0.01	—	0.01	0.01	—	0.01	—	26.4	26.4	< 0.005	< 0.005	—	26.5
Dust From Material Movement	—	—	—	—	—	—	0.11	0.11	—	0.06	0.06	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.09	0.84	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	133	133	0.01	0.01	0.02	135
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.14	4.14	< 0.005	< 0.005	0.01	4.20
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.68	0.68	< 0.005	< 0.005	< 0.005	0.70
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Site Preparation (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	3.94	3.31	31.6	30.2	0.05	0.20	—	0.20	0.19	—	0.19	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	19.7	19.7	—	10.1	10.1	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.95	0.91	< 0.005	0.01	—	0.01	0.01	—	0.01	—	160	160	0.01	< 0.005	—	160
Dust From Material Movement	—	—	—	—	—	—	0.59	0.59	—	0.30	0.30	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.17	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	26.4	26.4	< 0.005	< 0.005	—	26.5
Dust From Material Movement	—	—	—	—	—	—	0.11	0.11	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.09	0.84	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	133	133	0.01	0.01	0.02	135
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.14	4.14	< 0.005	< 0.005	0.01	4.20
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.68	0.68	< 0.005	< 0.005	< 0.005	0.70
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.80	3.20	29.7	28.3	0.06	1.23	—	1.23	1.14	—	1.14	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipm ent	3.80	3.20	29.7	28.3	0.06	1.23	—	1.23	1.14	—	1.14	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipm ent	0.40	0.33	3.09	2.95	0.01	0.13	—	0.13	0.12	—	0.12	—	687	687	0.03	0.01	—	689
Dust From Material Movement	—	—	—	—	—	—	0.96	0.96	—	0.38	0.38	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipm ent	0.07	0.06	0.56	0.54	< 0.005	0.02	—	0.02	0.02	—	0.02	—	114	114	< 0.005	< 0.005	—	114
Dust From Material Movement	—	—	—	—	—	—	0.17	0.17	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.07	1.27	0.00	0.00	0.15	0.15	0.00	0.04	0.04	—	171	171	0.01	0.01	0.68	173
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.10	0.96	0.00	0.00	0.15	0.15	0.00	0.04	0.04	—	152	152	0.01	0.01	0.02	154
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.3	16.3	< 0.005	< 0.005	0.03	16.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.70	2.70	< 0.005	< 0.005	0.01	2.75
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Grading (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	3.80	3.20	29.7	28.3	0.06	0.19	—	0.19	0.17	—	0.17	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.80	3.20	29.7	28.3	0.06	0.19	—	0.19	0.17	—	0.17	—	6,599	6,599	0.27	0.05	—	6,622
Dust From Material Movement	—	—	—	—	—	—	9.20	9.20	—	3.65	3.65	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.40	0.33	3.09	2.95	0.01	0.02	—	0.02	0.02	—	0.02	—	687	687	0.03	0.01	—	689
Dust From Material Movement	—	—	—	—	—	—	0.96	0.96	—	0.38	0.38	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.56	0.54	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	114	114	< 0.005	< 0.005	—	114

Dust From Material Movement	—	—	—	—	—	—	0.17	0.17	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.07	1.27	0.00	0.00	0.15	0.15	0.00	0.04	0.04	—	171	171	0.01	0.01	0.68	173
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.10	0.96	0.00	0.00	0.15	0.15	0.00	0.04	0.04	—	152	152	0.01	0.01	0.02	154
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.3	16.3	< 0.005	< 0.005	0.03	16.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.70	2.70	< 0.005	< 0.005	0.01	2.75
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	0.80	7.45	9.98	0.01	0.35	—	0.35	0.32	—	0.32	—	1,511	1,511	0.06	0.01	—	1,517
Paving	0.85	0.85	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.45	0.60	< 0.005	0.02	—	0.02	0.02	—	0.02	—	91.1	91.1	< 0.005	< 0.005	—	91.4
Paving	0.05	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.1	15.1	< 0.005	< 0.005	—	15.1
Paving	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.06	0.95	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	128	128	0.01	< 0.005	0.51	130
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.09	7.09	< 0.005	< 0.005	0.01	7.20
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.17	1.17	< 0.005	< 0.005	< 0.005	1.19
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Paving (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	0.80	7.45	9.98	0.01	0.05	—	0.05	0.05	—	0.05	—	1,511	1,511	0.06	0.01	—	1,517
Paving	0.85	0.85	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.45	0.60	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	91.1	91.1	< 0.005	< 0.005	—	91.4
Paving	0.05	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.08	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.1	15.1	< 0.005	< 0.005	—	15.1
Paving	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.06	0.95	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	128	128	0.01	< 0.005	0.51	130
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.09	7.09	< 0.005	< 0.005	0.01	7.20

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.17	1.17	< 0.005	< 0.005	< 0.005	1.19
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
----------	-----	-----	-----	----	-----	-------	-------	-------	--------	--------	--------	------	-------	------	-----	-----	---	------

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/1/2025	1/30/2025	5.00	22.0	—
Site Preparation	Site Preparation	1/31/2025	2/14/2025	5.00	11.0	—

Grading	Grading	2/17/2025	4/9/2025	5.00	38.0	—
Paving	Paving	4/10/2025	5/9/2025	5.00	22.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Back hoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Back hoes	Diesel	Average	2.00	8.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38

Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Back hoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Back hoes	Diesel	Average	2.00	8.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	10.9	LDA,LDT1,LDT2
Demolition	Vendor	—	8.27	HHDT,MHDT
Demolition	Hauling	0.00	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	10.9	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.27	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—

Grading	Worker	20.0	10.9	LDA,LDT1,LDT2
Grading	Vendor	—	8.27	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	10.9	LDA,LDT1,LDT2
Paving	Vendor	—	8.27	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	10.9	LDA,LDT1,LDT2
Demolition	Vendor	—	8.27	HHDT,MHDT
Demolition	Hauling	0.00	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	10.9	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.27	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	10.9	LDA,LDT1,LDT2
Grading	Vendor	—	8.27	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Paving	—	—	—	—

Paving	Worker	15.0	10.9	LDA,LDT1,LDT2
Paving	Vendor	—	8.27	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
------------	--	--	--	--	-----------------------------

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	—	—
Site Preparation	—	—	16.5	0.00	—
Grading	—	—	114	0.00	—
Paving	0.00	0.00	0.00	0.00	9.88

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
General Heavy Industry	0.00	0%

Other Non-Asphalt Surfaces	9.88	72%
User Defined Industrial	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	204	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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8. User Changes to Default Data

Screen	Justification
Land Use	Barns, manure systems, and domestic well.
Construction: Paving	Estimated asphalt
Construction: Construction Phases	Assumes any demolition, site prep, grading, and paving would occur across the entire project site.

Buildings - DPF Custom Report

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5.18.2. Sequestration

5.18.2.1. Unmitigated

5.18.2.2. Mitigated

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Buildings - DPF
Construction Start Date	1/1/2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	25.0
Location	26380 Fahey Rd, Gustine, CA 95322, USA
County	Merced
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2311
EDFZ	5
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.26

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
General Heavy Industry	475	1000sqft	10.9	474,831	0.00	0.00	—	—

User Defined Industrial	1.00	User Defined Unit	0.72	0.00	0.00	0.00	—	—
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1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-6	Use Diesel Particulate Filters

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.65	2.33	13.9	26.7	0.04	0.46	2.07	2.53	0.43	0.51	0.93	—	6,119	6,119	0.21	0.38	12.3	6,251
Mit.	2.65	2.33	13.9	26.7	0.04	0.09	2.07	2.16	0.09	0.51	0.60	—	6,119	6,119	0.21	0.38	12.3	6,251
% Reduced	—	—	—	—	—	80%	—	15%	79%	—	36%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	100	100	14.3	23.7	0.04	0.46	2.07	2.53	0.43	0.51	0.93	—	5,938	5,938	0.23	0.38	0.32	6,058
Mit.	100	100	14.3	23.7	0.04	0.09	2.07	2.16	0.09	0.51	0.60	—	5,938	5,938	0.23	0.38	0.32	6,058
% Reduced	—	—	—	—	—	80%	—	15%	79%	—	36%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	7.63	7.39	8.75	15.3	0.02	0.27	1.35	1.62	0.25	0.33	0.58	—	3,904	3,904	0.14	0.24	3.25	3,983
Mit.	7.63	7.39	8.75	15.3	0.02	0.06	1.35	1.41	0.05	0.33	0.38	—	3,904	3,904	0.14	0.24	3.25	3,983

% Reduced	—	—	—	—	—	79%	—	13%	79%	—	34%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.39	1.35	1.60	2.80	< 0.005	0.05	0.25	0.30	0.05	0.06	0.11	—	646	646	0.02	0.04	0.54	659
Mit.	1.39	1.35	1.60	2.80	< 0.005	0.01	0.25	0.26	0.01	0.06	0.07	—	646	646	0.02	0.04	0.54	659
% Reduced	—	—	—	—	—	79%	—	13%	79%	—	34%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.65	2.33	13.9	26.7	0.04	0.46	2.07	2.53	0.43	0.51	0.93	—	6,119	6,119	0.21	0.38	12.3	6,251
2026	2.51	2.19	13.1	25.5	0.04	0.41	2.07	2.48	0.38	0.51	0.88	—	6,046	6,046	0.21	0.37	11.4	6,172
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.53	2.20	14.3	23.7	0.04	0.46	2.07	2.53	0.43	0.51	0.93	—	5,938	5,938	0.23	0.38	0.32	6,058
2026	100	100	13.4	22.8	0.04	0.41	2.07	2.48	0.38	0.51	0.88	—	5,869	5,869	0.22	0.37	0.29	5,985
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.16	1.01	6.45	11.0	0.02	0.21	0.93	1.14	0.19	0.23	0.42	—	2,740	2,740	0.10	0.18	2.44	2,797
2026	7.63	7.39	8.75	15.3	0.02	0.27	1.35	1.62	0.25	0.33	0.58	—	3,904	3,904	0.14	0.24	3.25	3,983
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.21	0.19	1.18	2.01	< 0.005	0.04	0.17	0.21	0.04	0.04	0.08	—	454	454	0.02	0.03	0.40	463
2026	1.39	1.35	1.60	2.80	< 0.005	0.05	0.25	0.30	0.05	0.06	0.11	—	646	646	0.02	0.04	0.54	659

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.65	2.33	13.9	26.7	0.04	0.09	2.07	2.16	0.09	0.51	0.60	—	6,119	6,119	0.21	0.38	12.3	6,251
2026	2.51	2.19	13.1	25.5	0.04	0.09	2.07	2.15	0.08	0.51	0.59	—	6,046	6,046	0.21	0.37	11.4	6,172
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	2.53	2.20	14.3	23.7	0.04	0.09	2.07	2.16	0.09	0.51	0.60	—	5,938	5,938	0.23	0.38	0.32	6,058
2026	100	100	13.4	22.8	0.04	0.09	2.07	2.15	0.08	0.51	0.59	—	5,869	5,869	0.22	0.37	0.29	5,985
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.16	1.01	6.45	11.0	0.02	0.04	0.93	0.98	0.04	0.23	0.27	—	2,740	2,740	0.10	0.18	2.44	2,797
2026	7.63	7.39	8.75	15.3	0.02	0.06	1.35	1.41	0.05	0.33	0.38	—	3,904	3,904	0.14	0.24	3.25	3,983
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.21	0.19	1.18	2.01	< 0.005	0.01	0.17	0.18	0.01	0.04	0.05	—	454	454	0.02	0.03	0.40	463
2026	1.39	1.35	1.60	2.80	< 0.005	0.01	0.25	0.26	0.01	0.06	0.07	—	646	646	0.02	0.04	0.54	659

3. Construction Emissions Details

3.1. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.43	—	0.43	0.40	—	0.40	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	0.52	4.78	5.97	0.01	0.20	—	0.20	0.18	—	0.18	—	1,098	1,098	0.04	0.01	—	1,102
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.87	1.09	< 0.005	0.04	—	0.04	0.03	—	0.03	—	182	182	0.01	< 0.005	—	182
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.19	1.12	0.74	12.6	0.00	0.00	1.53	1.53	0.00	0.36	0.36	—	1,700	1,700	0.09	0.07	6.82	1,729
Vendor	0.12	0.09	2.66	1.02	0.01	0.03	0.54	0.57	0.03	0.15	0.18	—	2,021	2,021	0.02	0.30	5.48	2,116
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.07	1.00	0.97	9.61	0.00	0.00	1.53	1.53	0.00	0.36	0.36	—	1,517	1,517	0.10	0.07	0.18	1,539
Vendor	0.11	0.08	2.85	1.04	0.01	0.03	0.54	0.57	0.03	0.15	0.18	—	2,023	2,023	0.02	0.30	0.14	2,113
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.49	0.46	0.39	4.58	0.00	0.00	0.69	0.69	0.00	0.16	0.16	—	716	716	0.04	0.03	1.35	728
Vendor	0.05	0.04	1.27	0.47	0.01	0.01	0.24	0.26	0.01	0.07	0.08	—	926	926	0.01	0.14	1.09	968
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.07	0.84	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	119	119	0.01	< 0.005	0.22	120
Vendor	0.01	0.01	0.23	0.09	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	—	153	153	< 0.005	0.02	0.18	160
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Building Construction (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipm ent	1.35	1.13	10.4	13.0	0.02	0.06	—	0.06	0.06	—	0.06	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.35	1.13	10.4	13.0	0.02	0.06	—	0.06	0.06	—	0.06	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	0.52	4.78	5.97	0.01	0.03	—	0.03	0.03	—	0.03	—	1,098	1,098	0.04	0.01	—	1,102
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.87	1.09	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	182	182	0.01	< 0.005	—	182
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.19	1.12	0.74	12.6	0.00	0.00	1.53	1.53	0.00	0.36	0.36	—	1,700	1,700	0.09	0.07	6.82	1,729
Vendor	0.12	0.09	2.66	1.02	0.01	0.03	0.54	0.57	0.03	0.15	0.18	—	2,021	2,021	0.02	0.30	5.48	2,116
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.07	1.00	0.97	9.61	0.00	0.00	1.53	1.53	0.00	0.36	0.36	—	1,517	1,517	0.10	0.07	0.18	1,539
Vendor	0.11	0.08	2.85	1.04	0.01	0.03	0.54	0.57	0.03	0.15	0.18	—	2,023	2,023	0.02	0.30	0.14	2,113
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.49	0.46	0.39	4.58	0.00	0.00	0.69	0.69	0.00	0.16	0.16	—	716	716	0.04	0.03	1.35	728
Vendor	0.05	0.04	1.27	0.47	0.01	0.01	0.24	0.26	0.01	0.07	0.08	—	926	926	0.01	0.14	1.09	968
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.07	0.84	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	119	119	0.01	< 0.005	0.22	120
Vendor	0.01	0.01	0.23	0.09	< 0.005	< 0.005	0.04	0.05	< 0.005	0.01	0.01	—	153	153	< 0.005	0.02	0.18	160
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	0.84	0.70	6.46	8.50	0.02	0.25	—	0.25	0.23	—	0.23	—	1,572	1,572	0.06	0.01	—	1,577
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	1.18	1.55	< 0.005	0.05	—	0.05	0.04	—	0.04	—	260	260	0.01	< 0.005	—	261
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.11	1.05	0.69	11.6	0.00	0.00	1.53	1.53	0.00	0.36	0.36	—	1,664	1,664	0.09	0.07	6.28	1,692
Vendor	0.11	0.07	2.56	0.95	0.01	0.03	0.54	0.57	0.03	0.15	0.18	—	1,985	1,985	0.02	0.28	5.07	2,075
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.97	0.89	0.86	8.83	0.00	0.00	1.53	1.53	0.00	0.36	0.36	—	1,485	1,485	0.10	0.07	0.16	1,508
Vendor	0.11	0.07	2.72	0.98	0.01	0.03	0.54	0.57	0.03	0.15	0.18	—	1,987	1,987	0.02	0.28	0.13	2,072
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.67	0.59	0.49	6.01	0.00	0.00	0.99	0.99	0.00	0.23	0.23	—	1,004	1,004	0.06	0.04	1.78	1,020
Vendor	0.07	0.04	1.75	0.63	0.01	0.02	0.35	0.37	0.02	0.10	0.12	—	1,302	1,302	0.02	0.19	1.44	1,359
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.09	1.10	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	166	166	0.01	0.01	0.29	169
Vendor	0.01	0.01	0.32	0.11	< 0.005	< 0.005	0.06	0.07	< 0.005	0.02	0.02	—	215	215	< 0.005	0.03	0.24	225

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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3.4. Building Construction (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.06	—	0.06	0.05	—	0.05	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.28	1.07	9.85	13.0	0.02	0.06	—	0.06	0.05	—	0.05	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.84	0.70	6.46	8.50	0.02	0.04	—	0.04	0.03	—	0.03	—	1,572	1,572	0.06	0.01	—	1,577
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipm	0.15	0.13	1.18	1.55	< 0.005	0.01	—	0.01	0.01	—	0.01	—	260	260	0.01	< 0.005	—	261
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.11	1.05	0.69	11.6	0.00	0.00	1.53	1.53	0.00	0.36	0.36	—	1,664	1,664	0.09	0.07	6.28	1,692
Vendor	0.11	0.07	2.56	0.95	0.01	0.03	0.54	0.57	0.03	0.15	0.18	—	1,985	1,985	0.02	0.28	5.07	2,075
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.97	0.89	0.86	8.83	0.00	0.00	1.53	1.53	0.00	0.36	0.36	—	1,485	1,485	0.10	0.07	0.16	1,508
Vendor	0.11	0.07	2.72	0.98	0.01	0.03	0.54	0.57	0.03	0.15	0.18	—	1,987	1,987	0.02	0.28	0.13	2,072
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.67	0.59	0.49	6.01	0.00	0.00	0.99	0.99	0.00	0.23	0.23	—	1,004	1,004	0.06	0.04	1.78	1,020
Vendor	0.07	0.04	1.75	0.63	0.01	0.02	0.35	0.37	0.02	0.10	0.12	—	1,302	1,302	0.02	0.19	1.44	1,359
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.09	1.10	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	166	166	0.01	0.01	0.29	169
Vendor	0.01	0.01	0.32	0.11	< 0.005	< 0.005	0.06	0.07	< 0.005	0.02	0.02	—	215	215	< 0.005	0.03	0.24	225
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
----------	-----	-----	-----	----	-----	-------	-------	-------	--------	--------	--------	------	-------	------	-----	-----	---	------

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	100	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.05	8.05	< 0.005	< 0.005	—	8.07
Architectural Coatings	6.03	6.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.33	1.33	< 0.005	< 0.005	—	1.34
Architectural Coatings	1.10	1.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19	0.18	0.17	1.77	0.00	0.00	0.31	0.31	0.00	0.07	0.07	—	297	297	0.02	0.01	0.03	302
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.5	18.5	< 0.005	< 0.005	0.03	18.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.06	3.06	< 0.005	< 0.005	0.01	3.11
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Architectural Coating (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.15	0.12	0.86	1.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	100	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.05	8.05	< 0.005	< 0.005	—	8.07
Architectural Coatings	6.03	6.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.33	1.33	< 0.005	< 0.005	—	1.34
Architectural Coatings	1.10	1.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19	0.18	0.17	1.77	0.00	0.00	0.31	0.31	0.00	0.07	0.07	—	297	297	0.02	0.01	0.03	302
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.5	18.5	< 0.005	< 0.005	0.03	18.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.06	3.06	< 0.005	< 0.005	0.01	3.11
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetati on	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
-------------	-----	-----	-----	----	-----	-------	-------	-------	--------	--------	--------	------	-------	------	-----	-----	---	------

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Building Construction	Building Construction	5/12/2025	12/1/2026	5.00	407	—
Architectural Coating	Architectural Coating	12/2/2026	12/31/2026	5.00	22.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Back hoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Back hoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Building Construction	—	—	—	—
Building Construction	Worker	199	10.9	LDA,LDT1,LDT2
Building Construction	Vendor	77.8	8.27	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	39.9	10.9	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.27	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Building Construction	—	—	—	—
Building Construction	Worker	199	10.9	LDA,LDT1,LDT2
Building Construction	Vendor	77.8	8.27	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	39.9	10.9	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.27	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	712,247	237,416	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
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5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
General Heavy Industry	0.00	0%
User Defined Industrial	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	204	0.03	< 0.005
2026	0.00	204	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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8. User Changes to Default Data

Screen	Justification
Land Use	Barns and domestic well.
Construction: Paving	Estimated asphalt
Construction: Construction Phases	Estimated 2 years of construction.

Unmitigated Construction Exhaust Emissions

Correia Family Dairy Expansion

Construction HHD Off-Road PM₁₀ Exhaust Emissions (tons)

Year	DPM
2025	0.045
2025 - Building Construction	0.038
2026 - Building Construction	0.049
Total	0.132

Construction HHD Off-Road PM₁₀ Exhaust Emissions (tons)

Year	Barn04	Barn05	Barn06	Barn07	Barn08	LFB01	LFB02	MLKPR	Well	SB	SMS	WW01	WW02
Square Feet	35,190	36,606	60,435	76,500	102,200	25,000	102,200	36,700	31,416	25,833	311,369	46,500	46,500
2025	0.002	0.002	0.003	0.004	0.005	0.001	0.005	0.002	0.002	0.001	0.015	0.002	0.002
2025 - Building Construction	0.003	0.003	0.005	0.006	0.008	0.002	0.008	0.003	0.002	--	--	--	--
2026 - Building Construction	0.003	0.004	0.006	0.007	0.010	0.002	0.010	0.004	0.003	--	--	--	--
Source Totals	0.008	0.008	0.013	0.017	0.023	0.006	0.023	0.008	0.007	0.001	0.015	0.002	0.002
Total	0.132												

HARP2 Inputs - Annual Maximum

	Barn04	Barn05	Barn06	Barn07	Barn08	LFB01	LFB02	MLKPR	Well	SB	SMS	WW01	WW02
Tons per year	0.004	0.005	0.007	0.009	0.013	0.003	0.013	0.005	0.004	0.001	0.015	0.002	0.002
Pounds per year	8.72	9.07	14.98	18.96	25.33	6.20	25.33	9.10	7.79	2.48	29.86	4.46	4.46

**Mitigated Construction Exhaust Emissions
Diesel Particulate Filters**

Correia Family Dairy Expansion

Construction HHD Off-Road PM₁₀ Exhaust Emissions (tons)

Year	DPM
2025	0.007
2025 - Building Construction	0.008
2026 - Building Construction	0.010
Total	0.025

Construction HHD Off-Road PM₁₀ Exhaust Emissions (tons)

Year	Barn04	Barn05	Barn06	Barn07	Barn08	LFB01	LFB02	MLKPR	Well	SB	SMS	WW01	WW02
Square Feet	35,190	36,606	60,435	76,500	102,200	25,000	102,200	36,700	31,416	25,833	311,369	46,500	46,500
2025	0.000	0.000	0.000	0.001	0.001	0.000	0.001	0.000	0.000	0.000	0.002	0.000	0.000
2025 - Building Construction	0.001	0.001	0.001	0.001	0.002	0.000	0.002	0.001	0.000	--	--	--	--
2026 - Building Construction	0.001	0.001	0.001	0.002	0.002	0.001	0.002	0.001	0.001	--	--	--	--
Source Totals	0.002	0.002	0.003	0.003	0.004	0.001	0.004	0.002	0.001	0.000	0.002	0.000	0.000
Total	0.025												

HARP2 Inputs - Annual Maximum

	Barn04	Barn05	Barn06	Barn07	Barn08	LFB01	LFB02	MLKPR	Well	SB	SMS	WW01	WW02
Tons per year	0.001	0.001	0.001	0.002	0.002	0.001	0.002	0.001	0.001	0.000	0.002	0.000	0.000
Pounds per year	1.59	1.65	2.73	3.45	4.61	1.13	4.61	1.66	1.42	0.37	4.48	0.67	0.67

APPENDIX B. PROJECT OPERATIONAL EMISSION CALCULATIONS

**Criteria Air Pollutants Calculations
Mobile Sources**

Correia Family Dairy Expansion

Table 1. Mobile Source Emissions

Source		Project Increase				Emission Factors ¹						Emissions (lb/day) ²						Emissions (lb/hour)						
						NO _x	VOC	SO _x	CO	PM ₁₀	PM _{2.5}	Unit	NO _x	VOC	SO _x	CO	PM ₁₀	PM _{2.5}	NO _x	VOC	SO _x	CO	PM ₁₀	PM _{2.5}
Truck Travel	Road Segment 1	0.27	Miles	2,328	Trucks/Year	6.69	0.12	0.03	1.01	0.01	0.01	g/mile	3.71E-02	6.92E-04	1.61E-04	5.58E-03	7.72E-05	7.39E-05	1.55E-03	2.89E-05	6.70E-06	2.33E-04	3.22E-06	3.08E-06
	Road Segment 2	0.12	Miles	1,130	Trucks/Year	6.69	0.12	0.03	1.01	0.01	0.01	g/mile	7.85E-03	1.46E-04	3.40E-05	1.18E-03	1.63E-05	1.56E-05	3.27E-04	6.10E-06	1.42E-06	4.92E-05	6.81E-07	6.51E-07
	Road Segment 3	0.34	Miles	565	Trucks/Year	6.69	0.12	0.03	1.01	0.01	0.01	g/mile	1.14E-02	2.12E-04	4.92E-05	1.71E-03	2.36E-05	2.26E-05	4.73E-04	8.83E-06	2.05E-06	7.12E-05	9.85E-07	9.42E-07
	Road Segment 4	0.12	Miles	1,130	Trucks/Year	6.69	0.12	0.03	1.01	0.01	0.01	g/mile	7.68E-03	1.43E-04	3.33E-05	1.16E-03	1.60E-05	1.53E-05	3.20E-04	5.97E-06	1.39E-06	4.81E-05	6.66E-07	6.37E-07
	Road Segment 5	0.27	Miles	2,328	Trucks/Year	6.69	0.12	0.03	1.01	0.01	0.01	g/mile	3.72E-02	6.93E-04	1.61E-04	5.59E-03	7.73E-05	7.40E-05	1.55E-03	2.89E-05	6.71E-06	2.33E-04	3.22E-06	3.08E-06
	Road Segment 6	0.12	Miles	565	Trucks/Year	6.69	0.12	0.03	1.01	0.01	0.01	g/mile	4.01E-03	7.49E-05	1.74E-05	6.04E-04	8.35E-06	7.99E-06	1.67E-04	3.12E-06	7.25E-07	2.51E-05	3.48E-07	3.33E-07
	Road Segment 7	0.11	Miles	1,198	Trucks/Year	6.69	0.12	0.03	1.01	0.01	0.01	g/mile	7.73E-03	1.44E-04	3.35E-05	1.16E-03	1.61E-05	1.54E-05	3.22E-04	6.01E-06	1.40E-06	4.85E-05	6.71E-07	6.42E-07
Quarter Mile Off Site		0.25	Miles	1,141	Trucks/Year	6.69	0.12	0.03	1.01	0.01	0.01	g/mile	1.66E-02	3.10E-04	7.21E-05	2.50E-03	3.46E-05	3.31E-05	6.93E-04	1.29E-05	3.00E-06	1.04E-04	1.44E-06	1.38E-06
Truck Idling	Milk Tankers	730	Trucks/Year	0.25	Hours/Truck	0.94	0.08	0.00	1.09	0.00	0.00	g/vehicle/hr	1.50E-03	1.31E-04	2.97E-06	1.73E-03	3.01E-06	2.88E-06	2.07E-03	1.82E-04	4.11E-06	2.40E-03	4.18E-06	4.00E-06
	Commodity Delivery	468	Trucks/Year	0.25	Hours/Truck	0.94	0.08	0.00	1.09	0.00	0.00	g/vehicle/hr	9.58E-04	8.42E-05	1.90E-06	1.11E-03	1.93E-06	1.85E-06	2.07E-03	1.82E-04	4.11E-06	2.40E-03	4.18E-06	4.00E-06
	Manure Transport	1130	Trucks/Year	0.25	Hours/Truck	0.94	0.08	0.00	1.09	0.00	0.00	g/vehicle/hr	2.31E-03	2.03E-04	4.59E-06	2.68E-03	4.67E-06	4.46E-06	2.07E-03	1.82E-04	4.11E-06	2.40E-03	4.18E-06	4.00E-06
Tractors	Bedding Delivery (2007, 94.5 HP)	8.33	Days/Year	6.02	Hours/Day	4.25	1.50	0.06	3.73	0.30	0.30	g/bhp-hr	6.50E-02	2.29E-02	9.18E-04	5.70E-02	4.56E-03	4.56E-03	8.86E-01	3.12E-01	1.25E-02	7.77E-01	6.21E-02	6.21E-02
	Manure Scraping (2007, 94.5 HP)	2	Days/Year	5.00	Hours/Day	4.25	1.50	0.06	3.73	0.30	0.30	g/bhp-hr	1.30E-02	4.57E-03	1.83E-04	1.14E-02	9.09E-04	9.09E-04	8.86E-01	3.12E-01	1.25E-02	7.77E-01	6.21E-02	6.21E-02
	Manure Loading (2007, 130 HP)	7	Days/Year	4.29	Hours/Day	2.27	0.97	0.06	3.73	0.22	0.22	g/bhp-hr	2.85E-02	1.22E-02	7.17E-04	4.69E-02	2.81E-03	2.81E-03	6.50E-01	2.79E-01	1.63E-02	1.07E+00	6.41E-02	6.41E-02
Totals:													2.41E-01	4.26E-02	2.39E-03	1.40E-01	8.56E-03	8.55E-03	2.43E+00	9.04E-01	4.14E-02	2.63E+00	1.88E-01	1.88E-01

Road Segments:

1. All Onsite Trucks
2. Manure Transport Trucks
3. Manure Transport Trucks (50%)
4. Manure Transport Trucks
5. All Onsite Trucks
6. Manure Transport Trucks (50%)
7. Milk and Commodity Trucks

Footnotes:

- 1a. Truck travel emission factors sourced from EMFAC2021 (v1.0.2) Emission Rates for T7 Single Other Class 8, calendar year 2024, aggregate model year, speed 10 mph, and Merced County.
- 1b. Truck idling emission factors sourced from EMFAC2021 (v1.0.2) Emission Rates for T7 Single Other Class 8, calendar year 2024, aggregate speed, aggregate model year, and Merced County.
- 1c. Tractor emission factors for NO_x, CO, and PM₁₀ sourced from EPA's Nonroad Compression-Ignition Engines - Exhaust Emission Standards.
- 1d. Tractor emission factors for SO_x and VOC sourced from CalEEMod Appendix D.
- 1E. Where PM_{2.5} emission factors are not provided PM_{2.5} is assumed to be equal to PM₁₀.
2. Assumes 253 working days per year.

Conversions:

g/lb: 453.59237
tons/lb: 2000
KW/Hp: 0.746

Operational TAC Emissions

Correia Family Dairy Expansion

Table 2. DPM Increased Emissions Apportioned by Source

Source		Barn Square Footage	Ratio	PM ₁₀ (lb/yr)	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)
Truck Travel	Road Segment 1	--	--	1.95E-02	1.95E-02	3.22E-06
	Road Segment 2	--	--	4.13E-03	4.13E-03	6.81E-07
	Road Segment 3	--	--	5.98E-03	5.98E-03	9.85E-07
	Road Segment 4	--	--	4.04E-03	4.04E-03	6.66E-07
	Road Segment 5	--	--	1.96E-02	1.96E-02	3.22E-06
	Road Segment 6	--	--	2.11E-03	2.11E-03	3.48E-07
	Road Segment 7	--	--	4.07E-03	4.07E-03	6.71E-07
Truck Idling	Quarter Mile Off Site	--	--	8.76E-03	8.76E-03	1.44E-06
	Milk Tankers	--	--	7.63E-04	7.63E-04	4.18E-06
	Commodity Delivery	--	--	4.89E-04	4.89E-04	4.18E-06
Tractors	Manure Transport	--	--	1.18E-03	1.18E-03	4.18E-06
	Bedding Delivery 01	357,027	0.64	1.15E+00	7.34E-01	3.95E-02
	Bedding Delivery 02	204,400	0.36		4.20E-01	2.26E-02
	Manure Scraping 01	357,027	0.64	2.30E-01	1.46E-01	3.95E-02
	Manure Scraping 02	204,400	0.36		8.37E-02	2.26E-02
	Manure Loading	--	--	7.12E-01	7.12E-01	6.41E-02

Table 3. Gasoline Dispensing

Gasoline Throughput 1000-gal/yr	Emission Sources	VOC Emissions ¹ (lb/1000-gal)	Pollutant Name (LS)	CAS#	Emission Factor ^{2,3} (lb/lb-VOC)	Annual Emissions (lb-LS/yr)	Hourly Emissions (lb-LS/hr)
8.5	Loading (Tank)	0.084	Benzene	71432	4.57E-03	3.26E-03	1.36E-04
			Ethyl benzene	100414	1.07E-03	7.64E-04	3.18E-05
			Hexane	110543	1.82E-03	1.30E-03	5.41E-05
			Naphthalene	91203	4.45E-06	3.18E-06	1.32E-07
			Propylene	115071	3.55E-05	2.53E-05	1.06E-06
			Toluene	108883	1.11E-02	7.93E-03	3.30E-04
			Xylenes (mixed)	1330207	4.09E-03	2.92E-03	1.22E-04
	Breathing (Tank)	0.025	Benzene	71432	4.57E-03	9.71E-04	4.05E-05
			Ethyl benzene	100414	1.07E-03	2.27E-04	9.47E-06
			Hexane	110543	1.82E-03	3.87E-04	1.61E-05
			Naphthalene	91203	4.45E-06	9.46E-07	3.94E-08
			Propylene	115071	3.55E-05	7.54E-06	3.14E-07
			Toluene	108883	1.11E-02	2.36E-03	9.83E-05
			Xylenes (mixed)	1330207	4.09E-03	8.69E-04	3.62E-05
	Refueling	0.74	Benzene	71432	4.57E-03	2.87E-02	1.20E-03
			Ethyl benzene	100414	1.07E-03	6.73E-03	2.80E-04
			Hexane	110543	1.82E-03	1.14E-02	4.77E-04
			Naphthalene	91203	4.45E-06	2.80E-05	1.17E-06
			Propylene	115071	3.55E-05	2.23E-04	9.30E-06
			Toluene	108883	1.11E-02	6.98E-02	2.91E-03
			Xylenes (mixed)	1330207	4.09E-03	2.57E-02	1.07E-03
	Spillage	0.42	Benzene	71432	7.07E-03	2.52E-02	1.05E-03
			Ethyl benzene	100414	1.29E-02	4.61E-02	1.92E-03
			Hexane	110543	1.86E-02	6.64E-02	2.77E-03
			Naphthalene	91203	1.74E-03	6.21E-03	2.59E-04
			Propylene	115071	1.22E-06	4.36E-06	1.81E-07
			Toluene	108883	5.63E-02	2.01E-01	8.37E-03
			Xylenes (mixed)	1330207	6.59E-02	2.35E-01	9.80E-03

1. VOC emission rates provided in SJVAPCD's *Guidance for Air Dispersion Modeling (Draft) 08/06 Rev 1.2*.

2. Loading, Breathing, and Refueling emission factors based on SJVAPCD Toxic Profile 423; Z1 SU Gasoline Dispensing Op VOC Vapor Speciation

3. Spillage emission factors based on SJVAPCD Toxic Profile 424; Z1 SU Gasoline Dispensing Op VOC Liquid Speciation

B.1 Unmitigated SJVAPCD Dairy Calculator

Pre-Project Facility Information

- Does this facility house Holstein or Jersey cows?
Most facilities house Holstein cows unless explicitly stated on the PTO or application.
- Does the facility have an anaerobic treatment lagoon?
- Does the facility land apply liquid manure?
Answering "yes" assumes worst case.
- Does the facility land apply solid manure?
Answering "yes" assumes worst case.
- Is any scraped manure sent to a lagoon/storage pond?
Answering "yes" assumes worst case.

Pre-Project Herd Size							
Herd	Flushed Freestalls	Scraped Freestalls	Flushed Corrals	Scraped Corrals	Total # of Animals		
Milk Cows	1,050				1,050		
Dry Cows	116				116		
Support Stock (Heifers, Calves, and Bulls)					0		
Large Heifers	130		130		260		
Medium Heifers			365		365		
Small Heifers			130		130		
Bulls	4				4		
	Calf Hutches				Calf Corrals		Total # of Calves
	Aboveground Flushed	Aboveground Scraped	On-Ground Flushed	On-Ground Scraped	Flushed	Scraped	
Calves			205				205

Total Herd Summary	
Total Milk Cows	1,050
Total Mature Cows	1,166
Support Stock (Heifers, Calves, and Bulls)	759
Total Calves	205
Total Dairy Head	2,130

Pre-Project Silage Information			
Feed Type	Max # Open Piles	Max Height (ft)	Max Width (ft)
Corn			
Alfalfa			
Wheat			

Post-Project Facility Information

- Does this facility house Holstein or Jersey cows?
Most facilities house Holstein cows unless explicitly stated on the PTO or application.
- Does the facility have an anaerobic treatment lagoon?
- Does the facility land apply liquid manure?
Answering "yes" assumes worst case.
- Does the facility land apply solid manure?
Answering "yes" assumes worst case.
- Is any scraped manure sent to a lagoon/storage pond?
Answering "yes" assumes worst case.
- Does this project result in an increase or relocation of uncovered surface area for any lagoon/storage pond?

Post-Project Herd Size							
Herd	Flushed Freestalls	Scraped Freestalls	Flushed Corrals	Scraped Corrals	Total # of Animals		
Milk Cows	3,000				3,000		
Dry Cows					0		
Support Stock (Heifers, Calves, and Bulls)	1,620			1,175	2,795		
Large Heifers					0		
Medium Heifers					0		
Small Heifers					0		
Bulls					0		
	Calf Hutches				Calf Corrals		Total # of Calves
	Aboveground Flushed	Aboveground Scraped	On-Ground Flushed	On-Ground Scraped	Flushed	Scraped	
Calves				280			280

Total Herd Summary	
Total Milk Cows	3,000
Total Mature Cows	3,000
Support Stock (Heifers, Calves, and Bulls)	2,795
Total Calves	280
Total Dairy Head	6,075

Post-Project Silage Information			
Feed Type	Max # Open Piles	Max Height (ft)	Max Width (ft)
Corn			
Alfalfa			
Wheat			

VOC Mitigation Measures and Control Efficiencies

Milking Parlor				
Measure Proposed?		Mitigation Measure(s) per Emissions Point	VOC Control Efficiency (%)	
Pre-Project	Post-Project		Pre-Project	Post-Project
		Enteric Emissions Mitigations		
☒	☒	(D) Feed according to NRC guidelines	10%	10%
Total Control Efficiency			10%	10%
		Milking Parlor Floor Mitigations		
☒	☒	(D) Feed according to NRC guidelines	10%	10%
☒	☒	(D) Flush or hose milk parlor immediately prior to, immediately after, or during each milking. <i>Note: If selected for dairies > 999 milk cows, control efficiency is already included in EF.</i>	0%	0%
Total Control Efficiency			10%	10%

Cow Housing				
Measure Proposed?		Mitigation Measure(s) per Emissions Point	VOC Control Efficiency (%)	
Pre-Project	Post-Project		Pre-Project	Post-Project
		Enteric Emissions Mitigations		
☒	☒	Feed according to NRC guidelines	10%	10%
Total Control Efficiency			10%	10%
		Corrals/Pens Mitigations		
☒	☒	Feed according to NRC guidelines	10%	10%
☒	☒	Inspect water pipes and troughs and repair leaks at least once every seven days. <i>Note: If selected for dairies > 999 milk cows, CE is already included in EF.</i>	0%	0%
☒	☒	Dairies: Clean manure from corrals at least four times per year with at least 60 days between cleaning, or clean corrals at least once between April and July and at least once between September and December. <i>Note: If selected for dairies > 999 milk cows, CE is already included in EF. Note: No additional control given for increased cleaning frequency (e.g. BACT requirement).</i> Heifer/Calf Ranches: Scrape corrals twice a year with at least 90 days between cleanings, excluding in-corral mounds. <i>Note: No additional control given for increased cleaning frequency (e.g. BACT requirement).</i>	0%	0%
☒	☒	Scrape, vacuum, or flush concrete lanes in corrals at least once every day for mature cows and every seven days for support stock, or clean concrete lanes such that the depth of manure does not exceed 12 inches at any point or time. <i>Note: No additional control given for increased cleaning frequency (e.g. BACT requirement).</i>	10%	10%
☒	☒	Implement one of the following: 1) slope the surface of the corrals at least 3% where the available space for each animal is 400 sq ft or less and slope the surface of the corrals at least 1.5% where the available space for each animal is more than 400 sq ft; 2) maintain corrals to ensure proper drainage preventing water from standing more than 48 hrs; 3) harrow, rake, or scrape pens sufficiently to maintain a dry surface. <i>Note: If selected for dairies > 999 milk cows, CE already included in EF.</i>	0%	0%
☐	☐	Install shade structures such that they are constructed with a light permeable roofing material. <i>Note: If selected for dairies > 999 milk cows, the control efficiency will be 5% since the EF used includes a partial control for this measure.</i>	5%	5%
☐	☐	Install all shade structures uphill of any slope in the corral. <i>Note: If selected for dairies > 999 milk cows, the control efficiency will be 5% since the EF used includes a partial control for this measure.</i>		
☒	☒	Clean manure from under corral shades at least once every 14 days, when weather permits access into corral. <i>Note: If selected for dairies > 999 milk cows, the control efficiency will be 5% since the EF used includes a partial control for this measure.</i>		
☐	☐	Install shade structure so that the structure has a North/South orientation. <i>Note: If selected for dairies > 999 milk cows, the control efficiency will be 5% since the EF used includes a partial control for this measure.</i>	0%	0%
☒	☒	Manage corrals such that the manure depth in the corral does not exceed 12 inches at any time or point, except for in-corral mounding. Manure depth may exceed 12 inches when corrals become inaccessible due to rain events. The manure facility must resume management of the manure depth of 12 inches or lower immediately upon the corral becoming accessible. <i>Note: If selected for dairies > 999 milk cows, control efficiency is already included in EF.</i>		
☒	☒	Knockdown fence line manure build-up prior to it exceeding a height of 12 inches at any time or point. Manure depth may exceed 12 inches when corrals become inaccessible due to rain events. The facility must resume management of the manure depth of 12 inches or lower immediately upon the corral becoming accessible.	10%	10%
☐	☐	Use lime or a similar absorbent material in the corral according to the manufacturer's recommendation to minimize moisture in the corrals.	0%	0%
☐	☐	Apply thymol to the corral soil in accordance with the manufacturer's recommendation.	0%	0%
Total Control Efficiency			30.75%	30.75%
		Bedding Mitigations		
☒	☒	Feed according to NRC guidelines	10%	10%
☐	☐	Use non-manure-based bedding and non-separated solids based bedding for at least 90% of the bedding material, by weight, for freestalls (e.g. rubber mats, almond shells, sand, or waterbeds).	0%	0%

☒	☒	For a large dairy (1,000 milk cows or larger) or a heifer/calf ranch - Remove manure that is not dry from individual cow freestall beds or rake, harrow, scrape, or grade freestall bedding at least once every 7 days.	10%	10%
☐	☐	(D) For a medium dairy only (500 to 999 milk cows) - Remove manure that is not dry from individual cow freestall beds or rake, harrow, scrape, or grade freestall bedding at least once every 14 days.	0%	0%
Total Control Efficiency			19.00%	19.00%
Lanes Mitigations				
☒	☒	Feed according to NRC guidelines	10%	10%
☒	☒	Pave feedlanes, where present, for a width of at least 8 feet along the corral side of the feedlane fence for milk and dry cows and at least 6 feet along the corral side of the feedlane for heifers. Note: No control efficiency at this time.	0%	0%
☒	☒	Dairies: Flush, scrape, or vacuum freestall flush lanes immediately prior to or after, or during each milking; or flush or scrape freestall flush lanes at least 3 times per day. Heifer/Calf Ranches: Vacuum, scrape, or flush freestalls at least once every seven days.	10%	10%
☐	☐	(D) Have no animals in exercise pens or corrals at any time.	0%	0%
Total Control Efficiency			19.00%	19.00%

Liquid Manure Handling				
Measure Proposed?		Mitigation Measure(s) per Emissions Point	VOC Control Efficiency (%)	
Pre-Project	Post-Project		Pre-Project	Post-Project
		Lagoons/Storage Ponds Mitigations		
☒	☒	Feed according to NRC guidelines	10%	10%
☐	☐	Use phototropic lagoon	0%	0%
☐	☐	Use an anaerobic treatment lagoon designed according to NRCS Guideline No. 359, or aerobic treatment lagoon, or mechanically aerated lagoon, or covered lagoon digester vented to a control device with minimum 95% control	0%	0%
☒	☒	Remove solids from the waste system with a solid separator system, prior to the waste entering the lagoon. Note: If selected for dairies > 999 milk cows, control efficiency is already included in EF.	0%	0%
☐	☐	Maintain lagoon pH between 6.5 and 7.5	0%	0%
Total Control Efficiency			10.00%	10.00%
		Liquid Manure Land Application Mitigations		
☒	☒	Feed according to NRC guidelines	10%	10%
☐	☐	Only apply liquid manure that has been treated with an anaerobic or aerobic treatment lagoon, aerobic lagoon, or digester system	0%	0%
☒	☒	Allow liquid manure to stand in the fields for no more than 24 hours after irrigation. Note: If selected for dairies > 999 milk cows, control efficiency is already included in EF.	0%	0%
☐	☐	Apply liquid/slurry manure via injection with drag hose or similar apparatus	0%	0%
Total Control Efficiency			10.00%	10.00%

Solid Manure Handling				
Measure Proposed?		Mitigation Measure(s) per Emissions Point	VOC Control Efficiency (%)	
Pre-Project	Post-Project		Pre-Project	Post-Project
Solid Manure Storage Mitigations				
☒	☒	Feed according to NRC guidelines	10%	10%
☒	☒	LARGE CAFO ONLY: Within 72 hours of removal from housing, either a) remove dry manure from the facility, or b) cover dry manure outside the housing with a weatherproof covering from October through May, except for times when wind events remove the covering, not to exceed 24 hours per event.	10%	10%
Total Control Efficiency			19.00%	19.00%
Separated Solids Piles Mitigations				
☒	☒	Feed according to NRC guidelines	10%	10%
☒	☒	LARGE CAFO ONLY: Within 72 hours of removal from the drying process, either a) remove separated solids from the facility, or b) cover separated solids outside the housing with a weatherproof covering from October through May, except for times when wind events remove the covering, not to exceed 24 hours per event.	10%	10%
Total Control Efficiency			19.00%	19.00%
Solid Manure Land Application Mitigations				
☒	☒	Feed according to NRC guidelines	10%	10%
☒	☒	Incorporate all solid manure within 72 hours of land application. Note: If selected for dairies > 999 milk cows, control efficiency is already included in EF. Note: No additional control given for rapid manure incorporation (e.g. BACT requirement).	0%	0%
☐	☐	Only apply solid manure that has been treated with an anaerobic treatment lagoon, aerobic lagoon or digester system.	0%	0%
☐	☐	Apply no solid manure with a moisture content of more than 50%	0%	0%
Total Control Efficiency			10.00%	10.00%

Silage and TMR				
Measure Proposed?		Mitigation Measure(s) per Emissions Point	VOC Control Efficiency (%)	
Pre-Project	Post-Project		Pre-Project	Post-Project
		Corn/Alfalfa/Wheat Silage Mitigations		
		1. Utilize a sealed feed storage system (e.g. Ag-Bag) for bagged silage, or		

☒	☒	2. Cover the surface of silage piles, except for the area where feed is being removed from the pile, with a plastic tarp that is at least 5 mils thick (0.005 inches), multiple plastic tarps with a cumulative thickness of at least 5 mils (0.005 inches), or an oxygen barrier film covered with a UV resistant material within 72 hours of last delivery of material to the pile, and implement one of the following: a) build silage piles such that the average bulk density is at least 44 lb/cu-ft for corn silage and 40 lb/cu-ft for other silage types, as measured in accordance with Section 7.10 of Rule 4570, b) when creating a silage pile, adjust filling parameters to assure a calculated average bulk density of at least 44 lb/cu-ft for corn silage and at least 40 lb/cu-ft for other silage types, using a spreadsheet approved by the District, c) harvest silage crop at > or = 65% moisture for corn; and >= 60% moisture for alfalfa/grass and other silage crops; manage silage material delivery such that no more than 6 inches of materials are uncompacted on top of the pile; and incorporate the applicable Theoretical Length of Chop (TLC) and roller opening for the crop being harvested. <u>For dairies</u> - implement <u>two</u> of the following: <u>For heifer/calf ranches</u> - implement <u>one</u> of the following: <u>Manage Exposed Silage.</u> a) manage silage piles such that only one silage pile has an uncovered face and the uncovered face has a total exposed surface area of less than 2,150 sq. ft., or b) manage multiple uncovered silage piles such that the total exposed surface area of all silage piles is less than 4,300 sq ft. <u>Maintain Silage Working Face.</u> a) use a shaver/facer to remove silage from the silage pile, or b) maintain a smooth vertical surface on the working face of the silage pile <u>Silage Additive:</u> a) inoculate silage with homolactic acid bacteria in accordance with manufacturer recommendations to achieve a concentration of at least 100,000 colony forming units per gram of wet forage or apply propionic acid, benzoic acid, sorbic acid, sodium benzoate, or potassium sorbate at a rate specified by the manufacturer to reduce yeast counts when forming silage pile; or b) apply other additives at specified rates that have been demonstrated to reduce alcohol concentrations in silage and/or VOC emissions from silage and have been approved by the District and EPA.	39.0%	39.0%
Total Control Efficiency*			39.00%	39.00%

*Assumes 25% control for density mitigation measures and 10% each for the two optional measures, resulting in an overall control of 39%. The same conservative control efficiency will be applied to the sealed feed storage system (Ag-Bag).

		TMR Mitigations		
☒	☒	(D) Push feed so that it is within 3 feet of feedlane fence within 2 hrs of putting out the feed or use a feed trough or other feeding structure designed to maintain feed within reach of the cows.	10%	10%
☒	☒	(D) Begin feeding total mixed rations within 2 hrs of grinding and mixing rations. <i>Note: If selected for dairies > 999 milk cows, control efficiency already included in EF.</i>	0%	0%
☐	☐	Feed steam-flaked, dry rolled, cracked or ground corn or other ground cereal grains.	0%	0%
☒	☒	Remove uneaten wet feed from feed bunks within 24 hrs after then end of a rain event.	10%	10%
☐	☐	(D) For total mixed rations that contain at least 30% by weight of silage, feed animals total mixed rations that contain at least 45% moisture.	0%	0%
☒	☒	Feed according to NRC guidelines. <i>Note: If selected for dairies, control efficiency already included in EF.</i>	0%	0%
Total Control Efficiency			19.00%	19.00%

Ammonia Mitigation Measures and Control Efficiencies

Milking Parlor				
Measure Proposed?		Mitigation Measure(s) per Emissions Point	NH3 Control Efficiency (%)	
Pre-Project	Post-Project		Pre-Project	Post-Project
		Milking Parlor Floor Mitigations		
☒	☒	Feed according to NRC guidelines	28%	28%
Total Control Efficiency			28%	28%

Cow Housing				
Measure Proposed?		Mitigation Measure(s) per Emissions Point	NH3 Control Efficiency (%)	
Pre-Project	Post-Project		Pre-Project	Post-Project
		Corrals/Pens Mitigations		
☒	☒	Feed according to NRC guidelines	28%	28%
☐	☐	Clean manure from corrals at least four times per year with at least 60 days between cleaning, or clean corrals at least once between April and July and at least once between September and December. OR Use lime or a similar absorbent material in the corral according to the manufacturer's recommendation to minimize moisture in the corrals. OR Apply thymol to the corral soil in accordance with the manufacturer's recommendation.	0%	0%
Total Control Efficiency			28%	28%
		Bedding Mitigations		
☒	☒	Feed according to NRC guidelines	28%	28%
☒	☒	Use non-manure-based bedding and non-separated solids based bedding for at least 90% of the bedding material, by weight, for freestalls (e.g. rubber mats, almond shells, sand, or waterbeds). OR For a large dairy only (1,000 milk cows or larger) - Remove manure that is not dry from individual cow freestall beds or rake, harrow, scrape, or grade freestall bedding at least once every 7 days. OR For a medium dairy only (500 to 999 milk cows) - Remove manure that is not dry from individual cow freestall beds or rake, harrow, scrape, or grade freestall bedding at least once every 14 days.	47.7%	47.7%
Total Control Efficiency			62.34%	62.34%
		Lanes Mitigations		
☒	☒	Feed according to NRC guidelines	28%	28%
Total Control Efficiency			28%	28%

Liquid Manure Handling				
Measure Proposed?		Mitigation Measure(s) per Emissions Point	NH3 Control Efficiency (%)	
Pre-Project	Post-Project		Pre-Project	Post-Project
		Lagoons/Storage Ponds Mitigations		
☒	☒	Feed according to NRC guidelines	28%	28%
☒	☒	Use phototropic lagoon OR Remove solids from the waste system with a solid separator system, prior to the waste entering the lagoon.	80%	80%
Total Control Efficiency			85.6%	85.6%
		Liquid Manure Land Application Mitigations		
☒	☒	Feed according to NRC guidelines	28%	28%
☐	☐	Only apply liquid manure that has been treated with an anaerobic treatment lagoon	0%	0%
Total Control Efficiency			28.00%	28.00%

Solid Manure Handling				
Measure Proposed?		Mitigation Measure(s) per Emissions Point	NH3 Control Efficiency (%)	
Pre-Project	Post-Project		Pre-Project	Post-Project
		Solid Manure Land Application Mitigations		
☒	☒	Feed according to NRC guidelines	28%	28%
☐	☐	Incorporate all solid manure within 72 hours of land application. AND Only apply solid manure that has been treated with an anaerobic treatment lagoon, aerobic lagoon or digester system. AND Apply no solid manure with a moisture content of more than 50%	0%	0%
Total Control Efficiency			28.00%	28.00%

Control Measure	PM10 Control Efficiency
Shaded corrals (milk and dry cows)	16.7%
Shaded corrals (heifers and bulls)	8.3%
Downwind shelterbelts	12.5%
Upwind shelterbelts	10%
Freestall with no exercise pens and non-manure based bedding	90%
Freestall with no exercise pens and manure based bedding	80%
Fibrous layer in dusty areas (i.e. hay, etc.)	10%
Bi-weekly corral/exercise pen scraping and/or manure removal using a pull type manure harvesting equipment in morning hours when moisture in air except during periods of rainy weather	15%
Sprinkling of open corrals/exercise pens	12.5%
Feeding young stock (heifers and calves) near dusk	10%

Pre-Project PM10 Mitigation Measures

[illegible]

Pre-Project PM10 Control Efficiencies and Emission Factors																	
	Housing Name(s) or #(s)	Type of Housing	Type of cow	Total # of cows in Each Housing Structure(s)	Maximum Design Capacity of Each Structure	Uncontrolled EF (lb/hd-yr)	Shaded Corrals	Downwind Shelterbelts	Upwind Shelterbelts	No exercise pens, non-manure bedding	No exercise pens, manure bedding	Fibrous layer	Bi-weekly scraping Corrals/Pens	Sprinkling Corrals/Pens	Feed Young Stock Near Dusk	Controlled EF (lb/hd-yr)	
1	Free Stall 1	freestall	support stock	250	250	1.370	0.0%	0.0%	0%	0%	0%	0%	0%	0.0%	0%	1.37	
2	Free Stall 2	freestall	milk cows	250	250	1.370	0.0%	0.0%	0%	0%	0%	0%	0%	0.0%	0%	1.37	
3	Free Stall 3	freestall	milk cows	800	800	1.370	0.0%	0.0%	0%	0%	0%	0%	0%	0.0%	0%	1.37	
4	Corral 1	open corral	large heifers	130	130	8.010	8.3%	0.0%	0%	0%	0%	0%	0%	0.0%	0%	7.35	
5	Corral 2-3	open corral	calves	65	65	1.370	8.3%	0.0%	0%	0%	0%	0%	0%	0.0%	0%	1.26	
6	Corral 4-5	open corral	medium heifers	90	90	10.550	8.3%	0.0%	0%	0%	0%	0%	0%	0.0%	0%	9.67	
7	Corral 6	open corral	medium heifers	90	90	10.550	8.3%	0.0%	0%	0%	0%	0%	0%	0.0%	0%	9.67	
8	Corral 7	open corral	medium heifers	95	95	10.550	8.3%	0.0%	0%	0%	0%	0%	0%	0.0%	0%	9.67	
9	Calf Hutches	on ground hutches	calves	205	205	0.343	0.0%	0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.34	
10	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
11	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
12	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
13	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
14	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
15	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
16	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
17	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
18	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
19	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
20	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
21	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
22	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
23	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
24	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
25	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
26	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
27	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
28	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
29	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
30	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
31	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
32	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
33	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
34	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
35	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
36	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
37	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
38	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
39	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
40	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
	Pre-Project Total # of Cows			2,130			Pre-Project Total # of Cows			2,130			Pre-Project Total # of Cows			2,130	

Post-Project PM10 Mitigation Measures

Post-Project PM10 Mitigation Measures															
	Housing Name(s) or #(s)	Type of Housing	Type of cow	Total # of cows in Each Housing Structure(s)	Maximum Design Capacity of Each Structure	# of Combined Housing Structures in row	Shaded Corrals	Downwind Shelterbelts	Upwind Shelterbelts	No exercise pens, non-manure bedding	No exercise pens, manure bedding	Fibrous layer	Bi-weekly scraping Corrals/Pens	Sprinkling Corrals/Pens	Feed Young Stock Near Dusk
1	Free Stall 1	freestall	milk cows	400	400	1	☐	☐	☐	☐	☐	☐	☒	☐	☐
2	Free Stall 2	freestall	milk cows	800	800	1	☐	☐	☐	☐	☐	☐	☒	☐	☐
3	Free Stall 3	freestall	milk cows	400	400	1	☐	☐	☐	☐	☐	☐	☒	☐	☐
4	Free Stall 4	freestall	milk cows	400	400	1	☐	☐	☐	☐	☐	☐	☒	☐	☐
5	Free Stall 5	freestall	milk cows	400	400	1	☐	☐	☐	☐	☐	☐	☒	☐	☐
6	Free Stall 6	freestall	milk cows	400	400	1	☐	☐	☐	☐	☐	☐	☒	☐	☐
7	Free Stall 7	freestall	support stock	800	800	1	☐	☐	☐	☐	☐	☐	☒	☐	☐
8	Free Stall 8	freestall	support stock	1,020	1,020	1	☐	☐	☐	☐	☐	☐	☒	☐	☐
9	Calf Hutches	on ground hutches	calves	280	280	1	☐	☐	☐	☐	☐	☐	☐	☐	☐
10							☐	☐	☐	☐	☐	☐	☐	☐	☐
11							☐	☐	☐	☐	☐	☐	☐	☐	☐
12							☐	☐	☐	☐	☐	☐	☐	☐	☐
13							☐	☐	☐	☐	☐	☐	☐	☐	☐
14							☐	☐	☐	☐	☐	☐	☐	☐	☐
15							☐	☐	☐	☐	☐	☐	☐	☐	☐
16							☐	☐	☐	☐	☐	☐	☐	☐	☐
17							☐	☐	☐	☐	☐	☐	☐	☐	☐
18							☐	☐	☐	☐	☐	☐	☐	☐	☐
19							☐	☐	☐	☐	☐	☐	☐	☐	☐
20							☐	☐	☐	☐	☐	☐	☐	☐	☐
21							☐	☐	☐	☐	☐	☐	☐	☐	☐
22							☐	☐	☐	☐	☐	☐	☐	☐	☐
23							☐	☐	☐	☐	☐	☐	☐	☐	☐
24							☐	☐	☐	☐	☐	☐	☐	☐	☐
25							☐	☐	☐	☐	☐	☐	☐	☐	☐
26							☐	☐	☐	☐	☐	☐	☐	☐	☐
27							☐	☐	☐	☐	☐	☐	☐	☐	☐
28							☐	☐	☐	☐	☐	☐	☐	☐	☐
29							☐	☐	☐	☐	☐	☐	☐	☐	☐
30							☐	☐	☐	☐	☐	☐	☐	☐	☐
31							☐	☐	☐	☐	☐	☐	☐	☐	☐
32							☐	☐	☐	☐	☐	☐	☐	☐	☐
33							☐	☐	☐	☐	☐	☐	☐	☐	☐
34							☐	☐	☐	☐	☐	☐	☐	☐	☐
35							☐	☐	☐	☐	☐	☐	☐	☐	☐
36							☐	☐	☐	☐	☐	☐	☐	☐	☐
37							☐	☐	☐	☐	☐	☐	☐	☐	☐
38							☐	☐	☐	☐	☐	☐	☐	☐	☐
39							☐	☐	☐	☐	☐	☐	☐	☐	☐
40							☐	☐	☐	☐	☐	☐	☐	☐	☐

Post-Project PM10 Mitigation Measures for New Housing Units at an Expanding Dairy															
	Housing Name(s) or #(s)	Type of Housing	Type of cow	Total # of cows in Each Housing Structure(s)	Maximum Design Capacity of Each Structure	# of Combined Housing Structures in row	Shaded Corrals	Downwind Shelterbelts	Upwind Shelterbelts	No exercise pens, non-manure bedding	No exercise pens, manure bedding	Fibrous layer	Bi-weekly scraping Corrals/Pens	Sprinkling Corrals/Pens	Feed Young Stock Near Dusk
1	Loafing Barn 1	loafing barn	support stock	250	250	1	☐	☐	☐	☐	☐	☐	☐	☐	☐
2	Loafing Barn 2	loafing barn	support stock	925	925	1	☐	☐	☐	☐	☐	☐	☐	☐	☐
3							☐	☐	☐	☐	☐	☐	☐	☐	☐
4							☐	☐	☐	☐	☐	☐	☐	☐	☐
5							☐	☐	☐	☐	☐	☐	☐	☐	☐
6							☐	☐	☐	☐	☐	☐	☐	☐	☐
7							☐	☐	☐	☐	☐	☐	☐	☐	☐
8							☐	☐	☐	☐	☐	☐	☐	☐	☐
9							☐	☐	☐	☐	☐	☐	☐	☐	☐
10							☐	☐	☐	☐	☐	☐	☐	☐	☐
11							☐	☐	☐	☐	☐	☐	☐	☐	☐
12							☐	☐	☐	☐	☐	☐	☐	☐	☐
13							☐	☐	☐	☐	☐	☐	☐	☐	☐
14							☐	☐	☐	☐	☐	☐	☐	☐	☐
Post-Project Total # of Cows				6,075	(The post-project total includes dairy cows already on-site and new cows from the expansion.)										

Post-Project PM10 Control Efficiencies and Emission Factors

	Housing Name(s) or #(s)	Type of Housing	Type of cow	Total # of cows in Each Housing Structure(s)	Maximum Design Capacity of Each Structure	Uncontrolled EF (lb/hd-yr)	Shaded Corrals	Downwind Shelterbelts	Upwind Shelterbelts	No exercise pens, non-manure bedding	No exercise pens, manure bedding	Fibrous layer	Bi-weekly scraping Corrals/Pens	Sprinkling Corrals/Pens	Feed Young Stock Near Dusk	Controlled EF (lb/hd-yr)
1	Free Stall 1	freestall	milk cows	400	400	1.370	0.0%	0.0%	0%	0%	0%	0%	15%	0.0%	0%	1.17
2	Free Stall 2	freestall	milk cows	800	800	1.370	0.0%	0.0%	0%	0%	0%	0%	15%	0.0%	0%	1.17
3	Free Stall 3	freestall	milk cows	400	400	1.370	0.0%	0.0%	0%	0%	0%	0%	15%	0.0%	0%	1.17
4	Free Stall 4	freestall	milk cows	400	400	1.370	0.0%	0.0%	0%	0%	0%	0%	15%	0.0%	0%	1.17
5	Free Stall 5	freestall	milk cows	400	400	1.370	0.0%	0.0%	0%	0%	0%	0%	15%	0.0%	0%	1.17
6	Free Stall 6	freestall	milk cows	400	400	1.370	0.0%	0.0%	0%	0%	0%	0%	15%	0.0%	0%	1.17
7	Free Stall 7	freestall	support stock	800	800	1.370	0.0%	0.0%	0%	0%	0%	0%	15%	0.0%	0%	1.17
8	Free Stall 8	freestall	support stock	1,020	1,020	1.370	0.0%	0.0%	0%	0%	0%	0%	15%	0.0%	0%	1.17
9	Calf Hutches	on ground hutches	calves	280	280	0.343	0.0%	0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.34
10	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
11	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
12	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
13	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
14	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
15	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
16	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
17	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
18	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
19	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
20	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
21	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
22	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
23	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
24	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
25	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
26	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
27	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
28	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
29	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
30	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
31	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
32	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
33	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
34	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
35	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
36	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
37	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
38	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
39	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
40	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00

Post-Project PM10 Control Efficiencies and Emission Factors for New Housing Emissions Units

	Housing Name(s) or #(s)	Type of Housing	Type of cow	Total # of cows in Each Housing Structure(s)	Maximum Design Capacity of Each Structure	Uncontrolled EF (lb/hd-yr)	Shaded Corrals	Downwind Shelterbelts	Upwind Shelterbelts	No exercise pens, non-manure bedding	No exercise pens, manure bedding	Fibrous layer	Bi-weekly scraping Corrals/Pens	Sprinkling Corrals/Pens	Feed Young Stock Near Dusk	Controlled EF (lb/hd-yr)
1	Loafing Barn 1	loafing barn	support stock	250	250	5.280	0.0%	0.0%	0%	0%	0%	0%	0%	0.0%	0%	5.28
2	Loafing Barn 2	loafing barn	support stock	925	925	5.280	0.0%	0.0%	0%	0%	0%	0%	0%	0.0%	0%	5.28
3	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
4	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
5	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
6	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
7	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
8	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
9	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
10	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
11	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
12	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
13	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
14	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00

Increase in Emissions

SSIFE (lb/yr)							
	NOx	SOx	PM10	CO	VOC	NH3	H2S
Milking Parlor	0	0	0	0	772	267	0
Cow Housing	0	0	5,181	0	25,929	85,616	0
Liquid Manure	0	0	0	0	6,867	18,696	293
Solid Manure	0	0	0	0	1,320	7,012	0
Feed Handling	0	0	0	0	31,140	0	0
Total	0	0	5,181	0	66,027	111,591	293

Total Daily Change in Emissions (lb/day)							
	NOx	SOx	PM10	CO	VOC	NH3	H2S
Milking Parlor	0.0	0.0	0.0	0.0	2.2	0.7	0.0
Cow Housing	0.0	0.0	14.6	0.0	70.8	234.9	0.0
Liquid Manure	0.0	0.0	0.0	0.0	18.8	51.2	0.8
Solid Manure	0.0	0.0	0.0	0.0	3.7	19.2	0.0
Feed Handling	0.0	0.0	0.0	0.0	85.3	0.0	0.0
Total	0.0	0.0	14.6	0.0	180.8	306.1	0.8

Total Annual Change in Non-Fugitive Emissions (Major Source Emissions) (lb/yr)							
	NOx	SOx	PM10	CO	VOC	NH3	H2S
Milking Parlor	0	0	0	0	0	0	0
Cow Housing	0	0	0	0	0	0	0
Liquid Manure	0	0	0	0	3,306	0	0
Solid Manure	0	0	0	0	0	0	0
Feed Handling	0	0	0	0	0	0	0
Total	0	0	0	0	3,306	0	0

Unmitigated

Name		Cow Housing Summary		*Notes:				
Applicability		Use this spreadsheet to enter data from the Engineer's Dairy Calculator. Entries here will be linked to other worksheets. After completion, proceed to RMR worksheet for further entries.						
<i>Author or updater</i>	Matthew Cegielski	<i>Last Update</i>	September 24, 2018					
Facility:	Correia Family Dairy Expansion		0					
ID#:	N-6126		Not Set					
Project #:	N/A							
Potential to Emit - Cow Housing								
Housing Name(s) or #(s)	Type of Cow	# of Cows	VOC (lb/hr)	VOC (lb/yr)	NH ₃ (lb/hr)	NH ₃ (lb/yr)	PM ₁₀ (lb/hr)	PM ₁₀ (lb/yr)
Free Stall 1	milk cows	400	0.31	2,725	1.38	12,111	0.02	123
Free Stall 2	milk cows	800	0.59	5,143	2.28	19,917	0.07	589
Free Stall 3	milk cows	400	-0.43	-3,740	-1.65	-14,485	-0.07	-630
Free Stall 4	milk cows	400	0.37	3,212	1.51	13,251	-0.05	-489
Free Stall 5	milk cows	400	0.41	3,644	1.63	14,283	0.04	303
Free Stall 6	milk cows	400	0.37	3,242	1.51	13,250	-0.15	-1,275
Free Stall 7	support stock	800	0.34	2,999	0.80	6,980	0.01	61
Free Stall 8	support stock	1,020	0.44	3,878	1.03	9,034	0.03	269
Loafing Barn 1	support stock	300	0.12	1,015	0.29	2,374	0.15	1,320
Loafing Barn 2	support stock	750	0.43	3,755	1.00	8,784	0.56	4,884
Calf Hutches	calves	245	0.03	207	0.05	435	0.01	96

PM ₁₀ based Agricultural Emissions from Operations generating Dust from Livestock																							
Use this spreadsheet when the emissions are from a Feedlot, Stock sources or Cow Housing and the PM ₁₀ rates are known (e.g. Dairy operations). Ammonia and PM ₁₀ Emission rates linked to Cow Housing worksheet. No entries required on this worksheet. Zero and null entries will be highlighted in red after entry.																							
Author or updater:		Joanna Cayetano																					
Last Update:		September 24, 2018																					
Facility:		Correia Family Dairy Expansion																					
ID#:		N-6126																					
Project #:		N/A																					
Formula																							
Emission are calculated by the multiplication of the PM ₁₀ Rates and the Emission Factors.																							
		Free Stall 1		Free Stall 2		Free Stall 3		Free Stall 4		Free Stall 5		Free Stall 6		Free Stall 7		Free Stall 8		Loafing Barn 1		Loafing Barn 2		Calf Hutches	
		lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr
PM ₁₀ Emissions Rates		1.67E-02	1.23E+02	7.08E-02	5.89E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.75E-02	3.03E+02	0.00E+00	0.00E+00	8.33E-03	61.00	0.03	269.00	1.50E-01	1.32E+03	5.58E-01	4.88E+03	1.25E-02	9.60E+01
Substances	CAS#	LB/HR	LB/YR	LB/HR	LB/YR	LB/HR	LB/YR	LB/HR	LB/YR	LB/HR	LB/YR	LB/HR	LB/YR	LB/HR	LB/YR	LB/HR	LB/YR	LB/HR	LB/YR	LB/HR	LB/YR	LB/HR	LB/YR
Aluminum	7429905	7.77E-04	5.73E+00	3.30E-03	2.75E+01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.75E-03	1.41E+01	0.00E+00	0.00E+00	3.88E-04	2.84E+00	1.55E-03	1.25E+01	6.99E-03	6.15E+01	2.60E-02	2.28E+02	5.83E-04	4.47E+00
Antimony	7440386	1.90E-05	3.17E-07	2.34E-03	1.35E-06	1.12E-02	0.00E+00	0.00E+00	0.00E+00	7.13E-07	5.76E-03	0.00E+00	0.00E+00	1.58E-07	1.16E-03	6.33E-07	5.11E-03	2.85E-06	2.51E-02	1.06E-05	9.28E-02	2.38E-07	1.82E-03
Arsenic	7440382	1.89E-05	2.67E-07	1.97E-03	1.13E-06	9.42E-03	0.00E+00	0.00E+00	0.00E+00	6.00E-07	4.85E-03	0.00E+00	0.00E+00	1.33E-07	9.76E-04	5.33E-07	4.30E-03	2.40E-06	2.11E-02	8.93E-06	7.81E-02	2.00E-07	1.54E-03
Barium	7440393	4.69E-04	7.82E-06	5.77E-02	3.32E-05	2.76E-01	0.00E+00	0.00E+00	0.00E+00	1.76E-05	1.42E-01	0.00E+00	0.00E+00	3.91E-06	2.86E-02	1.56E-05	1.26E-01	7.04E-05	6.19E-01	2.62E-04	2.29E+00	5.86E-06	4.50E-02
Bromine	7728956	4.40E-05	7.33E-07	5.41E-03	3.12E-06	2.59E-02	0.00E+00	0.00E+00	0.00E+00	1.65E-06	1.33E-02	0.00E+00	0.00E+00	3.67E-07	2.68E-03	1.47E-06	1.18E-02	6.60E-06	5.81E-02	2.46E-05	2.15E-01	5.50E-07	4.22E-03
Calcium	7440428	1.40E-05	2.33E-07	1.72E-03	9.92E-07	8.25E-03	0.00E+00	0.00E+00	0.00E+00	5.25E-07	4.24E-03	0.00E+00	0.00E+00	1.17E-07	8.54E-04	4.87E-07	3.77E-03	2.10E-06	1.85E-02	7.82E-06	6.84E-02	1.75E-07	1.34E-03
Copper	7440508	1.33E-04	2.20E-06	1.62E-02	9.35E-06	7.77E-02	0.00E+00	0.00E+00	0.00E+00	4.95E-06	4.00E-02	0.00E+00	0.00E+00	1.10E-06	8.05E-03	4.40E-06	3.55E-02	1.98E-05	1.74E-01	7.37E-05	6.45E-01	1.65E-06	1.27E-02
Hexavalent Chromium**	18540299	7.70E-07	1.17E-08	8.61E-05	4.96E-08	4.12E-04	0.00E+00	0.00E+00	0.00E+00	2.63E-08	2.16E-04	0.00E+00	0.00E+00	5.92E-09	4.27E-05	2.33E-08	1.88E-04	1.05E-07	9.24E-04	3.91E-07	3.42E-03	8.75E-09	6.72E-05
Lead	7439921	3.50E-05	5.83E-07	4.31E-03	2.48E-06	2.06E-02	0.00E+00	0.00E+00	0.00E+00	1.31E-06	1.06E-02	0.00E+00	0.00E+00	2.92E-07	2.17E-03	1.17E-06	9.42E-03	5.25E-08	4.62E-02	1.95E-05	1.71E-01	4.38E-07	3.36E-03
Magnesium	7439965	1.27E-05	9.34E-02	5.38E-05	4.47E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.89E-05	2.30E-01	0.00E+00	0.00E+00	6.33E-06	4.83E-02	2.53E-05	2.04E-01	1.14E-04	1.00E+00	4.24E-04	3.71E-06	9.49E-06	7.29E-02
Mercury	7439976	4.00E-06	6.67E-08	4.92E-04	2.83E-07	2.36E-03	0.00E+00	0.00E+00	0.00E+00	1.50E-07	1.21E-03	0.00E+00	0.00E+00	3.33E-08	2.44E-04	1.33E-07	1.08E-03	6.00E-07	5.28E-03	2.23E-06	1.95E-02	5.00E-08	3.84E-04
Nickel	7440020	7.00E-06	1.17E-07	8.61E-04	4.96E-07	4.12E-03	0.00E+00	0.00E+00	0.00E+00	2.63E-07	2.16E-03	0.00E+00	0.00E+00	5.83E-08	4.27E-04	2.33E-07	1.88E-03	1.05E-06	9.24E-03	3.91E-06	3.42E-02	8.75E-08	6.72E-04
Phosphorus	7729140	4.01E-02	6.69E-04	4.94E+00	2.84E-03	2.36E+01	0.00E+00	0.00E+00	0.00E+00	1.51E-03	1.22E+01	0.00E+00	0.00E+00	3.35E-04	2.45E+00	1.34E-03	1.08E+01	6.02E-03	5.30E+01	2.24E-02	1.96E+02	5.02E-04	3.86E+00
Selenium	7782492	1.87E-08	1.23E-04	7.08E-08	5.89E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.75E-08	3.03E-04	0.00E+00	0.00E+00	8.33E-09	6.10E-05	3.33E-08	2.69E-04	1.50E-07	1.32E-03	5.58E-07	4.88E-03	1.25E-08	9.60E-03
Sulfates	9960	7.28E-03	5.16E-04	4.29E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.73E-04	2.21E+00	0.00E+00	0.00E+00	6.07E-05	4.44E-01	2.43E-04	1.96E+00	1.09E-03	9.61E+01	4.07E-03	3.56E+01	9.10E-05	6.99E-01
Vanadium	7440622	3.00E-05	5.00E-07	3.69E-03	2.13E-06	1.77E-02	0.00E+00	0.00E+00	0.00E+00	1.13E-06	9.09E-03	0.00E+00	0.00E+00	2.50E-07	1.83E-03	1.00E-06	8.07E-03	4.50E-08	3.96E-02	1.67E-05	1.47E-01	3.50E-07	2.88E-03
Zinc	7440139	5.70E-06	4.21E-02	2.42E-05	2.01E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.29E-05	1.04E-01	0.00E+00	0.00E+00	2.85E-06	2.09E-02	1.14E-05	9.20E-02	5.13E-05	4.51E-01	9.15E-04	1.67E+00	4.28E-06	3.28E-02
Ammonia	7664417	1.38E+00	1.21E+04	2.28E+00	1.99E+04	0.00E+00	0.00E+00	1.51E+00	1.33E+04	1.63E+00	1.43E+04	1.51E+00	1.33E+04	7.95E-01	6.89E-03	1.63E+00	9.63E-03	2.92E-01	2.37E+03	1.00E+00	8.72E+01	5.70E-02	4.35E+02
References:																							
* Emission factors are derived from a worst case composite of 1997 San Joaquin Valley soil profiles listed in EPA's specification program.																							
**Hexavalent chromium is assumed to be 5% of chromium.																							
Pollutants required for toxic reporting. Current as of update date.																							
Compounds Tested for but not detected		CAS#																					
Cadmium		7440439																					
Cobalt		7440484																					

Agricultural Miscellaneous Emissions from Dairy Operations (Cow Housing)																									
Use this spreadsheet to characterize the miscellaneous emissions from Dairy sources when VOC rates are known. VOC emission rates linked to Cow Housing worksheet. No entries required on this worksheet. Zero and null entries will be highlighted in red after entry.																									
Author or updater		Matthew Cogswell																							
Last Update		September 24, 2018																							
Facility:		Correia Family Dairy Expansion																							
ID#:		N-6126																							
Project #:		N/A																							
Formula		Free Stall 1		Free Stall 2		Free Stall 3		Free Stall 4		Free Stall 5		Free Stall 6		Free Stall 7		Free Stall 8		Loafing Barn 1		Loafing Barn 2		Calf Hutches			
		lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr		
VOC Emission Rates		3.08E-01	2.725.0	5.88E-01	5.143.0	0.00E+00	0.0	3.67E-01	3.212.0	4.13E-01	3.644.0	3.67E-01	3.242.0	0.34	2999.00	0.44	3878.00	1.17E-01	1.015.0	4.29E-01	3765	2.50E-02	207.0		
Substances		CAS#	Volatiles (lb/lb VOC)	LBHR	LB/YR	LBHR	LB/YR	LBHR	LB/YR	LBHR	LB/YR	LBHR	LB/YR	LBHR	LB/YR	LBHR	LB/YR	LBHR	LB/YR	LBHR	LB/YR	LBHR	LB/YR		
1,1,2,2-Tetrachloroethane		79345	8.73E-06	2.69E-06	5.13E-06	4.49E-02	0.00E+00	0.00E+00	3.20E-06	2.80E-02	3.60E-06	3.18E-02	3.20E-06	2.83E-02	2.98E-06	2.62E-02	3.86E-06	3.39E-02	1.02E-06	8.86E-03	3.75E-06	3.28E-02	2.18E-07	1.81E-03	
1,1,2-Trichloroethane		79005	2.26E-04	6.97E-05	6.16E-01	1.33E-04	1.16E+00	0.00E+00	0.00E+00	8.29E-05	7.26E-01	9.32E-05	8.24E-01	8.29E-05	7.33E-01	7.72E-05	6.78E-01	9.98E-05	8.76E-01	2.64E-05	2.29E-01	9.70E-05	8.49E-01	5.65E-06	4.68E-02
1,2,3-Trichloropropane		96184	2.76E-04	8.51E-05	7.52E-01	1.62E-04	1.42E+00	0.00E+00	0.00E+00	1.01E-04	8.87E-01	1.14E-04	1.01E+00	1.01E-04	8.95E-01	9.43E-05	8.28E-01	1.22E-04	1.07E+00	3.22E-05	2.80E-01	1.18E-04	1.04E+00	6.90E-06	5.71E-02
1,2,4-Trichlorobenzene		128821	7.79E-04	2.40E-04	2.12E+00	4.58E-04	4.01E+00	0.00E+00	0.00E+00	2.88E-04	2.50E+00	3.21E-04	2.84E+00	2.88E-04	2.53E+00	2.66E-04	2.34E+00	3.44E-04	3.02E+00	9.09E-05	7.91E-01	3.34E-04	2.93E+00	1.95E-05	1.81E-01
1,2-Dibromo-3-chloropropane		96128	4.94E-05	1.52E-05	1.35E-01	2.90E-05	2.54E-01	0.00E+00	0.00E+00	1.81E-05	1.59E-01	2.04E-05	1.80E-01	1.81E-05	1.60E-01	1.69E-05	1.48E-01	2.18E-05	1.92E-01	5.76E-06	5.01E-02	2.12E-05	1.85E-01	1.24E-06	1.02E-02
1,2-Dichlorobenzene		95501	5.48E-04	1.69E-04	1.49E+00	3.22E-04	2.82E+00	0.00E+00	0.00E+00	2.01E-04	1.78E+00	2.26E-04	2.00E+00	2.01E-04	1.78E+00	1.87E-04	1.64E+00	2.42E-04	2.13E+00	6.39E-05	5.56E-01	2.35E-04	2.06E+00	1.37E-05	1.13E-01
1,4-Dichlorobenzene		94731	4.90E-04	1.51E-04	1.34E+00	2.80E-04	2.52E+00	0.00E+00	0.00E+00	1.80E-04	1.57E+00	2.02E-04	1.79E+00	1.80E-04	1.59E+00	1.87E-04	1.47E+00	2.16E-04	1.90E+00	5.72E-05	4.97E-01	2.10E-04	1.84E+00	1.23E-05	1.01E-01
1,4 Dioxane		123911	1.41E-03	4.35E-04	3.84E+00	8.29E-04	7.25E+00	0.00E+00	0.00E+00	5.17E-04	4.53E+00	5.82E-04	5.14E+00	5.17E-04	4.57E+00	4.82E-04	4.23E+00	6.23E-04	5.47E+00	1.65E-04	1.43E+00	6.05E-04	5.29E+00	3.53E-05	2.92E-01
1,4-Dichlorobenzene		106467	5.19E-04	1.60E-04	1.41E+00	3.05E-04	2.67E+00	0.00E+00	0.00E+00	1.90E-04	1.67E+00	2.14E-04	1.89E+00	1.90E-04	1.68E+00	1.77E-04	1.56E+00	2.29E-04	2.01E+00	6.06E-05	5.27E-01	2.23E-04	1.95E+00	1.30E-05	1.07E-01
Acetaldehyde		75070	2.41E-03	7.43E-04	6.57E+00	1.42E-03	1.24E+01	0.00E+00	0.00E+00	8.84E-04	7.74E+00	9.94E-04	8.78E+00	8.84E-04	7.81E+00	8.23E-04	7.23E+00	1.06E-03	9.35E+00	2.81E-04	2.45E+00	1.03E-03	9.05E+00	6.03E-05	4.99E-01
Acrylonitrile		107131	2.43E-04	7.49E-05	6.62E-01	1.43E-04	1.25E+00	0.00E+00	0.00E+00	9.91E-05	7.81E-01	1.00E-04	8.85E-01	9.91E-05	7.88E-01	8.30E-05	7.29E-01	1.07E-04	9.42E-01	2.84E-05	2.47E-01	1.04E-04	9.12E-01	6.09E-06	5.03E-02
Benzene		71432	3.19E-04	9.84E-05	8.60E-01	1.87E-04	1.64E+00	0.00E+00	0.00E+00	1.17E-04	1.02E+00	1.32E-04	1.16E+00	1.17E-04	1.03E+00	1.09E-04	9.57E-01	1.41E-04	1.24E+00	3.72E-05	3.24E-01	1.37E-04	1.20E+00	7.98E-06	6.60E-02
Benzyl chloride		100447	2.89E-04	8.91E-05	7.88E-01	1.70E-04	1.49E+00	0.00E+00	0.00E+00	1.06E-04	9.28E-01	1.19E-04	1.05E+00	1.06E-04	9.37E-01	9.87E-05	8.67E-01	1.28E-04	1.12E+00	3.37E-05	2.93E-01	1.24E-04	1.09E+00	7.23E-06	5.98E-02
Butyraldehyde		123728	1.14E-04	3.52E-05	3.11E-01	6.70E-05	5.86E-01	0.00E+00	0.00E+00	4.18E-05	3.66E-01	4.70E-05	4.15E-01	4.18E-05	3.70E-01	3.90E-05	3.42E-01	5.04E-05	4.42E-01	1.33E-05	1.16E-01	4.89E-05	4.28E-01	2.85E-06	2.36E-02
Carbon Disulfide		75150	2.49E-03	7.68E-04	6.79E+00	1.46E-03	1.28E+01	0.00E+00	0.00E+00	9.13E-04	8.00E+00	1.03E-03	9.07E+00	9.13E-04	8.07E+00	8.51E-04	7.47E+00	1.10E-03	9.66E+00	2.91E-04	2.53E+00	1.07E-03	9.35E+00	6.23E-05	5.15E-01
Carbon tetrachloride		56235	5.87E-05	1.81E-05	1.60E-01	3.45E-05	3.02E-01	0.00E+00	0.00E+00	2.15E-05	1.89E-01	2.42E-05	2.14E-01	2.15E-05	1.90E-01	2.01E-05	1.76E-01	2.59E-05	2.28E-01	6.85E-06	5.98E-02	2.52E-05	2.20E-01	1.47E-06	1.22E-02
Chlorobenzene		108907	2.72E-04	8.39E-05	7.41E-01	1.60E-04	1.40E+00	0.00E+00	0.00E+00	9.97E-05	8.74E-01	1.12E-04	1.00E+00	9.97E-05	8.82E-01	9.29E-05	8.16E-01	1.20E-04	1.05E+00	3.17E-05	2.76E-01	1.17E-04	1.02E+00	6.80E-06	5.63E-02
Chloroform		67663	1.31E-04	4.04E-05	3.57E-01	7.70E-05	6.74E-01	0.00E+00	0.00E+00	4.80E-05	4.21E-01	5.40E-05	4.77E-01	4.80E-05	4.25E-01	4.48E-05	3.93E-01	5.79E-05	5.08E-01	1.53E-05	1.33E-01	5.62E-05	4.92E-01	3.28E-06	2.71E-02
Chloromethane		74873	7.93E-04	2.45E-04	2.16E+00	4.66E-04	4.06E+00	0.00E+00	0.00E+00	2.91E-04	2.55E+00	3.27E-04	2.89E+00	2.91E-04	2.57E+00	2.71E-04	2.38E+00	3.50E-04	3.08E+00	9.25E-05	8.05E-01	3.40E-04	2.98E+00	1.94E-01	1.54E-01
Crotanaldehyde		4170303	1.41E-04	4.35E-05	3.84E-01	8.28E-05	7.25E-01	0.00E+00	0.00E+00	5.17E-05	4.53E-01	5.82E-05	5.14E-01	5.17E-05	4.57E-01	4.82E-05	4.23E-01	6.23E-05	5.47E-01	1.65E-05	1.43E-01	6.05E-05	5.29E-01	3.53E-06	2.92E-02
Cyclohexane		110827	6.83E-03	2.11E-03	1.86E+01	4.01E-03	3.51E+01	0.00E+00	0.00E+00	2.50E-03	2.19E+01	2.82E-03	2.49E+01	2.50E-03	2.21E+01	2.33E-03	2.05E+01	3.02E-03	2.65E+01	7.97E-04	6.93E+00	2.93E-03	2.56E+01	1.71E-04	1.41E+00
Ethyl Chloride		75003	2.39E-04	7.37E-05	6.51E-01	1.40E-04	1.23E+00	0.00E+00	0.00E+00	8.76E-05	7.68E-01	9.86E-05	8.71E-01	8.76E-05	7.75E-01	8.17E-05	7.17E-01	1.06E-04	9.27E-01	2.79E-05	2.43E-01	1.03E-04	8.97E-01	5.98E-06	4.95E-02
Ethylbenzene		100514	3.47E-04	1.07E-04	9.46E-01	2.04E-04	1.78E+00	0.00E+00	0.00E+00	1.27E-04	1.11E+00	1.43E-04	1.27E+00	1.12E-04	1.12E+00	1.19E-04	1.04E+00	1.53E-04	1.35E+00	4.05E-05	3.52E-01	1.49E-04	1.30E+00	6.88E-06	7.18E-02
Ethylene Dibromide (EDB)		106934	3.06E-04	9.44E-05	8.34E-01	1.90E-04	1.57E+00	0.00E+00	0.00E+00	1.12E-04	9.83E-01	1.26E-04	1.12E+00	1.12E-04	9.92E-01	1.05E-04	9.18E-01	1.32E-04	1.19E+00	3.57E-05	3.11E-01	1.15E-04	1.05E+00	7.65E-06	6.33E-02
Ethylene Dichloride (EDC)		107062	5.89E-05	1.82E-05	1.61E-01	3.46E-05	3.03E-01	0.00E+00	0.00E+00	2.16E-05	1.89E-01	2.43E-05	2.15E-01	2.16E-05	1.91E-01	2.01E-05	1.77E-01	2.60E-05	2.28E-01	6.87E-06	5.98E-02	2.53E-05	2.21E-01	1.47E-06	1.22E-02
Formaldehyde		50000	3.98E-04	1.23E-04	1.08E+00	2.34E-04	2.05E+00	0.00E+00	0.00E+00	1.46E-04	1.28E+00	1.64E-04	1.45E+00	1.46E-04	1.29E+00	1.36E-04	1.19E+00	1.76E-04	1.54E+00	4.64E-05	4.04E-01	1.71E-04	1.49E+00	9.95E-06	8.24E-02
Hexane		110543	8.12E-04	2.50E-04	2.21E+00	4.77E-04	4.18E+00	0.00E+00	0.00E+00	2.98E-04	2.61E+00	3.35E-04	2.96E+00	2.98E-04	2.63E+00	2.77E-04	2.44E+00	3.59E-04	3.15E+00	9.47E-05	8.24E-01	3.48E-04	3.05E+00	2.03E-05	1.68E-01
Isopropyl Alcohol		67530	1.62E-03	5.00E-04	4.41E+00	9.52E-04	8.33E+00	0.00E+00	0.00E+00	5.94E-04	5.20E+00	6.68E-04	5.90E+00	5.94E-04	5.25E+00	5.54E-04	4.86E+00	7.16E-04	6.28E+00	1.89E-04	1.64E+00	6.95E-04	6.08E+00	4.05E-05	3.35E-01
Isopropylbenzene (Cumene)		96525	5.61E-05	1.73E-05	1.53E-01	3.30E-05	2.89E-01	0.00E+00	0.00E+00	2.06E-05	1.80E-01	2.31E-05	2.04E-01	2.06E-05	1.82E-01	1.82E-05	1.68E-01	2.48E-05	2.18E-01	6.55E-06	5.69E-02	2.41E-05	2.11E-01	1.40E-06	1.16E-02
Methyl Ethyl Ketone (2-butanone)		78933	1.46E-02	4.50E-03	3.98E-01	8.58E-03	7.51E-01	0.00E+00	0.00E+00	5.35E-03	4.69E-01	6.02E-03	5.32E-01	5.35E-03	4.73E-01	4.99E-03	4.38E-01	6.45E-03	5.68E-01	1.70E-03	1.48E-01	6.27E-03	5.48E-01	3.65E-04	3.02E+00
Methyl Isobutyl Ketone		106181	7.09E-04	2.19E-04	1.93E-01	4.17E-04	3.65E+00	0.00E+00	0.00E+00	2.60E-04	2.28E+00	2.92E-04	2.58E+00	2.60E-04	2.30E+00	2.42E-04	2.13E+00	3.13E-04	2.75E+00	8.27E-05	7.20E-01	3.04E-04	2.68E+00	1.77E-05	1.47E-01
Methyl tert-butyl Ketone		91083	1.97E-03	5.85E-04	5.18E-01	1.13E-03	9.97E-01	0.00E+00	0.00E+00	4.29E-04	3.78E+00	4.78E-04	4.29E-04	3.78E+00	3.96E-04	3.48E-04	3.09E-04	2.75E-04	2.45E-04	7.18E-05	6.30E-01	2.59E-04	2.26E+00	1.50E-05	1.24E-01
Pentachloroethylene		107164	6.51E-04	2.01E-04	1.77E+00	3.82E-04	3.35E+00	0.00E+00	0.00E+00	2.39E-04	2.09E+00	2.69E-04	2.37E+00	2.39E-04	2.11E+00	2.22E-04	1.95E+00	2.88E-04	2.52E+00	7.60E-05	6.61E-01	2.79E-04	2.44E+00	1.63E-05	1.35E-01
Styrene		100425	5.95E-04	1.11E-04	9.78E-01	2.11E-04	1.85E+00	0.00E+00	0.00E+00	1.32E-04	1.15E+00	1.48E-04	1.31E+00	1.32E-04	1.16E+00	1.22E-04	1.08E+00	1.59E-04	1.39E+00	4.19E-05	3.64E-01	1.54E-04	1.35E+00	8.88E-06	7.43E-02
1,4-Dichloro-2-butene		754410	8.92E-04	2.75E-04	2.43E+00	5.24E-04	4.59E+00	0.00E+00	0.00E+00	3.97E-04	2.87E+00	3.68E-04	3.25E+00	3.97E-04	2.89E+00	3.05E-04	2.68E+00	3.74E-							

Unmitigated

Copy and paste values from the corresponding table in the Engineer Dairy Calculator's RMR Summary worksheet. Paste values only with matched destination formatting. Ensure the same names are lined up by row number. Zero and null entries will be highlighted in red after entry.

SSIPE RMR Summary

	PM10 lb/hr	PM10 lb/yr	VOC lb/hr	VOC lb/yr	NH3 lb/hr	NH3 lb/yr	H2S lb/yr
Milking Parlor	-	-	0.09	772	0.03	267	-
Cow Housing	0.6	5,181	2.96	25,929	9.77	85,616	-
Liquid Manure	-	-	0.78	6,867	2.13	18,696	-
Solid Manure	-	-	0.15	1,320	0.80	7,012	-
Feed Handling	-	-	3.55	31,140	-	-	-
Lagoon/Storage Pond	-	-	0.38	3,322	0.33	2,920	294
Land Application (Liquid)	-	-	0.40	3,541	1.81	15,841	-
Land Application (Solid)	-	-	0.09	767	0.43	3,723	-
Solid Manure Storage	-	-	0.05	475	0.38	3,285	-

SSIPE Total Herd Summary

Change in Milk Cows	1,950
Change in Dairy Head	3,945
Change in Dairy Head (Flushed)	3,945

Unmitigated

Name		Agricultural Miscellaneous Emissions from Dairy Operations (Milk Parlors)									
Applicability		Use this spreadsheet to characterize the miscellaneous emissions from Dairy sources when VOC rates are known. VOC emission rates linked to RMR worksheet. Enter VOC and NH ₃ rates if there is more than one Milk Parlor.									
Author or updater		Matthew Cegielski		Last Update		August 26, 2016					
Facility:		Correia Family Dairy Expansion									
ID#:		N-6126									
Project #:		N/A									
More than one Milk Parlor?		N				Formula					
Inputs		VOC lb/yr		NH ₃ lb/yr		Select N or Y from the dropdown. If there is more than one Milk Parlor, enter VOC and NH ₃ rates. Toxic emissions are calculated by the multiplication of the VOC Rates and Emission Factors.					
Milk Parlor 1		772		267							
Milk Parlor 2						lb/hr		lb/yr		lb/yr	
VOC Emission Rates				8.82E-02		7.72E+02		0.00E+00		0.00E+00	
Substances		CAS#	Toxic EF's (lb/lb VOC)*	LB/HR	LB/YR	LB/HR	LB/YR				
1,1,2,2-Tetrachloroethane		79345	8.73E-06	7.70E-07	6.74E-03	0.00E+00	0.00E+00				
1,1,2-Trichloroethane		79005	2.26E-04	1.99E-05	1.75E-01	0.00E+00	0.00E+00				
1,2,3-Trichloropropane		96184	2.76E-04	2.43E-05	2.13E-01	0.00E+00	0.00E+00				
1,2,4-Trichlorobenzene		120821	7.79E-04	6.87E-05	6.02E-01	0.00E+00	0.00E+00				
1,2-Dibromo-3-chloropropane		96128	4.94E-05	4.35E-06	3.81E-02	0.00E+00	0.00E+00				
1,2-Dichlorobenzene		95501	5.48E-04	4.83E-05	4.23E-01	0.00E+00	0.00E+00				
1,3-Dichlorobenzene		541731	4.90E-04	4.32E-05	3.78E-01	0.00E+00	0.00E+00				
1,4 Dioxane		123911	1.41E-03	1.24E-04	1.09E+00	0.00E+00	0.00E+00				
1,4-Dichlorobenzene		106467	5.19E-04	4.58E-05	4.01E-01	0.00E+00	0.00E+00				
Acetaldehyde		75070	2.41E-03	2.12E-04	1.86E+00	0.00E+00	0.00E+00				
Acrylonitrile		107131	2.43E-04	2.14E-05	1.88E-01	0.00E+00	0.00E+00				
Benzene		71432	3.19E-04	2.81E-05	2.46E-01	0.00E+00	0.00E+00				
Benzyl chloride		100447	2.89E-04	2.55E-05	2.23E-01	0.00E+00	0.00E+00				
Butyraldehyde		123728	1.14E-04	1.00E-05	8.80E-02	0.00E+00	0.00E+00				
Carbon Disulfide		75150	2.49E-03	2.19E-04	1.92E+00	0.00E+00	0.00E+00				
Carbon tetrachloride		56235	5.87E-05	5.17E-06	4.53E-02	0.00E+00	0.00E+00				
Chlorobenzene		108907	2.72E-04	2.40E-05	2.10E-01	0.00E+00	0.00E+00				
Chloroform		67663	1.31E-04	1.15E-05	1.01E-01	0.00E+00	0.00E+00				
Chloromethane		74873	7.93E-04	6.99E-05	6.12E-01	0.00E+00	0.00E+00				
Crotonaldehyde		4170303	1.41E-04	1.24E-05	1.09E-01	0.00E+00	0.00E+00				
Cyclohexane		110827	6.83E-03	6.02E-04	5.27E+00	0.00E+00	0.00E+00				
Ethyl Chloride		75003	2.39E-04	2.11E-05	1.85E-01	0.00E+00	0.00E+00				
Ethylbenzene		100414	3.47E-04	3.06E-05	2.68E-01	0.00E+00	0.00E+00				
Ethylene Dibromide (EDB)		106934	3.06E-04	2.70E-05	2.36E-01	0.00E+00	0.00E+00				
Ethylene Dichloride (EDC)		107062	5.89E-05	5.19E-06	4.55E-02	0.00E+00	0.00E+00				
Formaldehyde		50000	3.98E-04	3.51E-05	3.07E-01	0.00E+00	0.00E+00				
Hexane		110543	8.12E-04	7.16E-05	6.27E-01	0.00E+00	0.00E+00				
Isopropyl Alcohol		67630	1.62E-03	1.43E-04	1.25E+00	0.00E+00	0.00E+00				
Isopropylbenzene (Cumene)		98828	5.61E-05	4.95E-06	4.33E-02	0.00E+00	0.00E+00				
Methyl Ethyl Ketone (2-butanone)		78933	1.46E-02	1.29E-03	1.13E+01	0.00E+00	0.00E+00				
Methyl Isobutyl Ketone		108101	7.09E-04	6.25E-05	5.47E-01	0.00E+00	0.00E+00				
Napthalene		91203	1.16E-03	1.02E-04	8.96E-01	0.00E+00	0.00E+00				
Perchloroethylene		127184	6.51E-04	5.74E-05	5.03E-01	0.00E+00	0.00E+00				
Styrene		100425	3.59E-04	3.16E-05	2.77E-01	0.00E+00	0.00E+00				
t-1,4-Dichloro-2-butene		764410	8.92E-04	7.86E-05	6.89E-01	0.00E+00	0.00E+00				
Toluene		108883	1.07E-03	9.43E-05	8.26E-01	0.00E+00	0.00E+00				
Trichlorofluoromethane*		75694	1.08E-07	9.52E-09	8.34E-05	0.00E+00	0.00E+00				
Vinyl acetate		108054	1.97E-03	1.74E-04	1.52E+00	0.00E+00	0.00E+00				
Xylenes		1330207	1.80E-03	1.59E-04	1.39E+00	0.00E+00	0.00E+00				
Ammonia		7664417		3.05E-02	2.67E+02	0.00E+00	0.0				
References:											
*Emission factors are derived from the District's evaluation of dairy research studies conducted by California colleges and universities.											
Pollutants required for toxic reporting. Current as of update date.											
(Does not include emissions from Lagoons or enteric emissions from cows)											

Unmitigated

Name	Agricultural Lagoon Emissions from Dairy Operations														Lagoon Area m ²	Lagoon Fraction			
Applicability	Use this spreadsheet when the emissions are from a Dairy Lagoon sources and the VOC rates are known. The VOC rates are linked to the RMR worksheet cells VOC rates in 'Lagoon/Storage Pond row'. Enter values into the Lagoon area calculator on the right to determine area fraction(s). Total ammonia value is linked to the RMR worksheet cells, 'Lagoon/Storage Pond'. Individual Lagoon values are calculated by multiplying the total lagoon ammonia by their area fraction. Entries required in yellow areas, output in gray areas.														3,312.00	0.05			
Author or updater	Matthew Cegielski		Last Update	September 12, 2018											3,312.00	0.05			
Facility:	Correia Family Dairy Expansion													3,312.00	0.05				
ID#:	N-6126													53,019.80	0.81				
Project #:	N/A													2,400.00	0.04				
Inputs	lb/hr	lb/yr	Formula											Totals	65,355.80	1.00			
VOC Rate	0.38	3.322	Emissions are calculated by the multiplication of the VOC rates, area fraction, and emission factors.												lb/hr	lb/yr			
			Lagoon Area Fraction		0.05		0.05		0.05		0.05		0.81		0.04		Lagoon NH3	3.33E-01	2.92E+03
Substances	CAS#	Emissions Factors lb/VOC*	LB/HR	LB/YR	Weeping Wall 01 LB/HR	Weeping Wall 01 LB/YR	Weeping Wall 02 LB/HR	Weeping Wall 02 LB/YR	Weeping Wall 03 LB/HR	Weeping Wall 03 LB/YR	Lagoon 01 LB/HR	Lagoon 01 LB/YR	Settling Basin LB/HR	Settling Basin LB/YR					
1,1,2,2-Tetrachloroethane	79345	3.44E-02	1.30E-02	1.14E+02	6.61E-04	5.79E+00	6.61E-04	5.79E+00	6.61E-04	5.79E+00	1.06E-02	9.28E+01	4.79E-04	4.19E+00					
1,1,2-Trichloroethane	79005	7.94E-03	3.01E-03	2.64E+01	1.53E-04	1.34E+00	1.53E-04	1.34E+00	1.53E-04	1.34E+00	2.44E-03	2.14E+01	1.11E-04	9.68E-01					
1,2,4-Trimethylbenzene	95036	2.94E-02	1.11E-02	9.78E+01	5.84E-04	4.94E+00	5.84E-04	4.94E+00	5.84E-04	4.94E+00	9.04E-03	7.92E+01	4.09E-04	3.58E+00					
1,2-Dichlorobenzene	95501	6.25E-02	2.37E-02	2.08E+02	1.20E-03	1.05E+01	1.20E-03	1.05E+01	1.20E-03	1.05E+01	1.92E-02	1.68E+02	8.70E-04	7.62E+00					
1,3-Dichlorobenzene	541731	4.94E-02	1.87E-02	1.64E+02	9.49E-04	8.31E+00	9.49E-04	8.31E+00	9.49E-04	8.31E+00	1.52E-02	1.33E+02	6.87E-04	6.02E+00					
1,3-Dichloropropene	542756	7.44E-03	2.82E-03	2.47E+01	1.43E-04	1.25E+00	1.43E-04	1.25E+00	1.43E-04	1.25E+00	2.29E-03	2.00E+01	1.04E-04	9.07E-01					
1,4 Dioxane	123911	2.50E-02	9.48E-03	8.30E+01	4.80E-04	4.21E+00	4.80E-04	4.21E+00	4.80E-04	4.21E+00	7.69E-03	6.74E+01	3.48E-04	3.05E+00					
1,4-Dichloro-2-butene	764410	6.88E-02	2.61E-02	2.28E+02	1.32E-03	1.16E+01	1.32E-03	1.16E+01	1.32E-03	1.16E+01	2.11E-02	1.85E+02	9.57E-04	8.39E+00					
1,4-Dichlorobenzene	106467	5.19E-02	1.97E-02	1.72E+02	9.97E-04	8.73E+00	9.97E-04	8.73E+00	9.97E-04	8.73E+00	1.60E-02	1.40E+02	7.22E-04	6.33E+00					
Acetaldehyde	75070	1.56E-02	5.92E-03	5.19E+01	3.00E-04	2.63E+00	3.00E-04	2.63E+00	3.00E-04	2.63E+00	4.81E-03	4.21E+01	2.18E-04	1.91E+00					
Acrylonitrile	107131	7.31E-03	2.77E-03	2.43E+01	1.41E-04	1.23E+00	1.41E-04	1.23E+00	1.41E-04	1.23E+00	2.25E-03	1.97E+01	1.02E-04	8.92E-01					
Benzene	71432	2.88E-03	1.09E-03	9.55E+00	5.52E-05	4.84E-01	5.52E-05	4.84E-01	5.52E-05	4.84E-01	8.84E-04	7.75E+00	4.00E-05	3.51E-01					
Benzyl chloride	100447	3.13E-02	1.18E-02	1.04E+02	6.00E-04	5.26E+00	6.00E-04	5.26E+00	6.00E-04	5.26E+00	9.61E-03	8.42E+01	4.35E-04	3.81E+00					
Carbon disulfide	75150	3.94E-02	1.49E-02	1.31E+02	7.57E-04	6.63E+00	7.57E-04	6.63E+00	7.57E-04	6.63E+00	1.21E-02	1.06E+02	5.48E-04	4.80E+00					
Chlorobenzene	108907	1.31E-02	4.98E-03	4.36E+01	2.52E-04	2.21E+00	2.52E-04	2.21E+00	2.52E-04	2.21E+00	4.04E-03	3.54E+01	1.83E-04	1.60E+00					
Cumene	98928	1.94E-02	7.35E-03	6.44E+01	3.72E-04	3.26E+00	3.72E-04	3.26E+00	3.72E-04	3.26E+00	5.96E-03	5.22E+01	2.70E-04	2.36E+00					
Cyclohexane	110827	8.19E-03	3.10E-03	2.72E+01	1.57E-04	1.38E+00	1.57E-04	1.38E+00	1.57E-04	1.38E+00	2.52E-03	2.21E+01	1.14E-04	9.99E-01					
Ethyl Chloride	75003	4.63E-03	1.75E-03	1.54E+01	8.89E-05	7.78E-01	8.89E-05	7.78E-01	8.89E-05	7.78E-01	1.42E-03	1.25E+01	6.44E-05	5.84E-01					
Ethylbenzene	100414	1.00E-02	3.79E-03	3.32E+01	1.92E-04	1.68E+00	1.92E-04	1.68E+00	1.92E-04	1.68E+00	3.08E-03	2.69E+01	1.39E-04	1.22E+00					
Ethylene Dibromide (EDB)	106934	1.44E-02	5.45E-03	4.77E+01	2.76E-04	2.42E+00	2.76E-04	2.42E+00	2.76E-04	2.42E+00	4.42E-03	3.87E+01	2.00E-04	1.75E+00					
Ethylene Dichloride (EDC)	107062	4.06E-03	1.54E-03	1.35E+01	7.81E-05	6.84E-01	7.81E-05	6.84E-01	7.81E-05	6.84E-01	1.25E-03	1.09E+01	5.66E-05	4.96E-01					
Formaldehyde	50000	8.13E-03	3.08E-03	2.70E+01	1.56E-04	1.37E+00	1.56E-04	1.37E+00	1.56E-04	1.37E+00	2.50E-03	2.19E+01	1.13E-04	9.91E-01					
Hexane	110543	4.31E-03	1.64E-03	1.43E+01	8.29E-05	7.26E-01	8.29E-05	7.26E-01	8.29E-05	7.26E-01	1.33E-03	1.16E+01	6.00E-05	5.26E-01					
Isopropyl Alcohol	67630	7.50E-03	2.84E-03	2.49E+01	1.44E-04	1.26E+00	1.44E-04	1.26E+00	1.44E-04	1.26E+00	2.31E-03	2.02E+01	1.04E-04	9.15E-01					
Methyl Ethyl Ketone	78933	1.38E-02	5.21E-03	4.57E+01	2.84E-04	2.31E+00	2.84E-04	2.31E+00	2.84E-04	2.31E+00	4.23E-03	3.71E+01	1.91E-04	1.68E+00					
Methyl Isobutyl Ketone	109101	1.13E-02	4.29E-03	3.76E+01	2.17E-04	1.90E+00	2.17E-04	1.90E+00	2.17E-04	1.90E+00	3.49E-03	3.05E+01	1.58E-04	1.38E+00					
Napthalene	91203	1.88E-01	7.11E-02	6.23E+02	3.60E-03	3.16E+01	3.60E-03	3.16E+01	3.60E-03	3.16E+01	5.77E-02	5.05E+02	2.61E-03	2.29E+01					
Perchloroethylene	127184	1.75E-01	6.64E-02	5.81E+02	3.36E-03	2.95E+01	3.36E-03	2.95E+01	3.36E-03	2.95E+01	5.38E-02	4.72E+02	2.44E-03	2.13E+01					
Styrene	100425	1.63E-02	6.16E-03	5.40E+01	3.12E-04	2.74E+00	3.12E-04	2.74E+00	3.12E-04	2.74E+00	5.00E-03	4.38E+01	2.26E-04	1.98E+00					
Toluene	108883	1.25E-02	4.74E-03	4.15E+01	2.40E-04	2.10E+00	2.40E-04	2.10E+00	2.40E-04	2.10E+00	3.84E-03	3.37E+01	1.74E-04	1.52E+00					
Trichloroethylene	79016	1.12E-02	4.24E-03	3.72E+01	2.15E-04	1.88E+00	2.15E-04	1.88E+00	2.15E-04	1.88E+00	3.44E-03	3.01E+01	1.56E-04	1.36E+00					
Xylenes	1330207	1.88E-02	7.11E-03	6.23E+01	3.60E-04	3.16E+00	3.60E-04	3.16E+00	3.60E-04	3.16E+00	5.77E-03	5.05E+01	2.61E-04	2.29E+00					
Ammonia	7664417				1.689E-02	1.480E+02	1.689E-02	1.480E+02	1.689E-02	1.480E+02	2.704E-01	2.369E+03	1.224E-02	1.072E+02					
References:																			
*Emission factors are derived from data used to establish the District's volatile organic compound (VOC) emission factor for dairies																			
Pollutants required for toxic reporting. Current as of update date.																			
(Does not include emissions from Miscellaneous Processes or enteric emissions from cows)																			

B.2 Mitigated SJVAPCD Dairy Calculator

Pre-Project Facility Information

- Does this facility house Holstein or Jersey cows?
Most facilities house Holstein cows unless explicitly stated on the PTO or application.
- Does the facility have an anaerobic treatment lagoon?
- Does the facility land apply liquid manure?
Answering "yes" assumes worst case.
- Does the facility land apply solid manure?
Answering "yes" assumes worst case.
- Is any scraped manure sent to a lagoon/storage pond?
Answering "yes" assumes worst case.

Pre-Project Herd Size							
Herd	Flushed Freestalls	Scraped Freestalls	Flushed Corrals	Scraped Corrals	Total # of Animals		
Milk Cows	1,050				1,050		
Dry Cows	116				116		
Support Stock (Heifers, Calves, and Bulls)					0		
Large Heifers	130		130		260		
Medium Heifers			365		365		
Small Heifers			130		130		
Bulls	4				4		
	Calf Hutches				Calf Corrals		Total # of Calves
	Aboveground Flushed	Aboveground Scraped	On-Ground Flushed	On-Ground Scraped	Flushed	Scraped	
Calves			205				205

Total Herd Summary	
Total Milk Cows	1,050
Total Mature Cows	1,166
Support Stock (Heifers, Calves, and Bulls)	759
Total Calves	205
Total Dairy Head	2,130

Pre-Project Silage Information			
Feed Type	Max # Open Piles	Max Height (ft)	Max Width (ft)
Corn			
Alfalfa			
Wheat			

Post-Project Facility Information

- Does this facility house Holstein or Jersey cows?
Most facilities house Holstein cows unless explicitly stated on the PTO or application.
- Does the facility have an anaerobic treatment lagoon?
- Does the facility land apply liquid manure?
Answering "yes" assumes worst case.
- Does the facility land apply solid manure?
Answering "yes" assumes worst case.
- Is any scraped manure sent to a lagoon/storage pond?
Answering "yes" assumes worst case.
- Does this project result in an increase or relocation of uncovered surface area for any lagoon/storage pond?

NOTE: An increase in total lagoon/storage pond surface area may result in an increase in H2S emissions. The District's Technical Services Division may need to conduct H2S modeling.

Post-Project Herd Size							
Herd	Flushed Freestalls	Scraped Freestalls	Flushed Corrals	Scraped Corrals	Total # of Animals		
Milk Cows	3,000				3,000		
Dry Cows					0		
Support Stock (Heifers, Calves, and Bulls)	2,545			250	2,795		
Large Heifers					0		
Medium Heifers					0		
Small Heifers					0		
Bulls					0		
	Calf Hutches				Calf Corrals		Total # of Calves
	Aboveground Flushed	Aboveground Scraped	On-Ground Flushed	On-Ground Scraped	Flushed	Scraped	
Calves				280			280

Total Herd Summary	
Total Milk Cows	3,000
Total Mature Cows	3,000
Support Stock (Heifers, Calves, and Bulls)	2,795
Total Calves	280
Total Dairy Head	6,075

Post-Project Silage Information			
Feed Type	Max # Open Piles	Max Height (ft)	Max Width (ft)
Corn			
Alfalfa			
Wheat			

VOC Mitigation Measures and Control Efficiencies

Milking Parlor			
Measure Proposed?		Mitigation Measure(s) per Emissions Point	
Pre-Project	Post-Project	VOC Control Efficiency (%)	
		Pre-Project	Post-Project
☒	☒	Enteric Emissions Mitigations	
		(D) Feed according to NRC guidelines	
		10%	10%
		Total Control Efficiency	
		10%	10%
Milking Parlor Floor Mitigations			
	☒	(D) Feed according to NRC guidelines	
		10%	10%
☒	☒	(D) Flush or hose milk parlor immediately prior to, immediately after, or during each milking. Note: If selected for dairies > 999 milk cows, control efficiency is already included in EF.	
		0%	0%
		Total Control Efficiency	
		10%	10%

Cow Housing			
Measure Proposed?		Mitigation Measure(s) per Emissions Point	
Pre-Project	Post-Project	VOC Control Efficiency (%)	
		Pre-Project	Post-Project
☒	☒	Enteric Emissions Mitigations	
		Feed according to NRC guidelines	
		10%	10%
		Total Control Efficiency	
		10%	10%
Corrals/Pens Mitigations			
☒	☒	Feed according to NRC guidelines	
		10%	10%
☒	☒	Inspected water pipes and troughs and repair leaks at least once every seven days. Note: If selected for dairies > 999 milk cows, CE is already included in EF.	
		0%	0%
☒	☒	Dairies: Clean manure from corrals at least four times per year with at least 60 days between cleaning, or clean corrals at least once between April and July and at least once between September and December. Note: If selected for dairies > 999 milk cows, CE is already included in EF. Note: No additional control given for increased cleaning frequency (e.g. BACT requirement). Heifer/Calf Ranches: Scrape corrals twice a year with at least 90 days between cleanings, excluding in-coral mounds. Note: No additional control given for increased cleaning frequency (e.g. BACT requirement).	
		0%	0%
☒	☒	Scrape, vacuum, or flush concrete lanes in corrals at least once every day for mature cows and every seven days for support stock, or clean concrete lanes such that the depth of manure does not exceed 12 inches at any point or time. Note: No additional control given for increased cleaning frequency (e.g. BACT requirement).	
		10%	10%
☒	☒	Implement one of the following: 1) slope the surface of the corrals at least 3% where the available space for each animal is 400 sq ft or less and slope the surface of the corrals at least 1.5% where the available space for each animal is more than 400 sq ft; 2) maintain corrals to ensure proper drainage preventing water from standing more than 46 hrs; 3) narrow, rake, or scrape pens sufficiently to maintain a dry surface. Note: If selected for dairies > 999 milk cows, CE already included in EF.	
		0%	0%
☒	☒	Install shade structures such that they are constructed with a light permeable roofing material. Note: If selected for dairies > 999 milk cows, the control efficiency will be 5% since the EF used includes a partial control for this measure.	
☒	☒	Install all shade structures uphill of any slope in the corral. Note: If selected for dairies > 999 milk cows, the control efficiency will be 5% since the EF used includes a partial control for this measure.	
		5%	5%
☒	☒	Clean manure from under corral shades at least once every 14 days, when weather permits access into corral. Note: If selected for dairies > 999 milk cows, the control efficiency will be 5% since the EF used includes a partial control for this measure.	
☒	☒	Install shade structure so that the structure has a North/South orientation. Note: If selected for dairies > 999 milk cows, the control efficiency will be 5% since the EF used includes a partial control for this measure.	
☒	☒	Manage corrals such that the manure depth in the corral does not exceed 12 inches at any time or point, except for in-coral mounding. Manure depth may exceed 12 inches when corrals become inaccessible due to rain events. The manure facility must resume management of the manure depth of 12 inches or lower immediately upon the corral becoming accessible. Note: If selected for dairies > 999 milk cows, control efficiency is already included in EF.	
		0%	0%
☒	☒	Knockdown fence line manure build-up prior to it exceeding a height of 12 inches at any time or point. Manure depth may exceed 12 inches when corrals become inaccessible due to rain events. The facility must resume management of the manure depth of 12 inches or lower immediately upon the corral becoming accessible.	
		10%	10%
☒	☒	Use lime or a similar absorbent material in the corral according to the manufacturer's recommendation to minimize moisture in the corrals.	
		0%	0%
☒	☒	Apply thymol to the corral soil in accordance with the manufacturer's recommendation.	
		0%	0%
		Total Control Efficiency	
		30.75%	30.75%

		Bedding Mitigations		
☒	☒	Feed according to NRC guidelines	10%	10%
☐	☐	Use non-manure-based bedding and non-separated solids based bedding for at least 90% of the bedding material, by weight, for freestalls (e.g. rubber mats, almond shells, sand, or waterbeds).	0%	0%
☒	☒	For a large dairy (1,000 milk cows or larger) or a heifer/calf ranch - Remove manure that is not dry from individual cow freestall beds or rake, harrow, scrape, or grade freestall bedding at least once every 7 days.	10%	10%
☐	☐	(D) For a medium dairy only (500 to 999 milk cows) - Remove manure that is not dry from individual cow freestall beds or rake, harrow, scrape, or grade freestall bedding at least once every 14 days.	0%	0%
Total Control Efficiency			19.00%	19.00%
		Lanes Mitigations		
☒	☒	Feed according to NRC guidelines	10%	10%
☒	☒	Pave feedlanes, where present, for a width of at least 8 feet along the corral side of the feedlane fence for milk and dry cows and at least 6 feet along the corral side of the feedlane for heifers. Note: No control efficiency at this time.	0%	0%
☒	☒	Dairies: Flush, scrape, or vacuum freestall flush lanes immediately prior to or after, or during each milking; or flush or scrape freestall flush lanes at least 3 times per day. Heifer/Calf Ranches: Vacuum, scrape, or flush freestalls at least once every seven days.	10%	10%
☐	☐	(D) Have no animals in exercise pens or corrals at any time.	0%	0%
Total Control Efficiency			19.00%	19.00%

Liquid Manure Handling				
Measure Proposed?		Mitigation Measure(s) per Emissions Point	VOC Control Efficiency (%)	
Pre-Project	Post-Project		Pre-Project	Post-Project
		Lagoons/Storage Ponds Mitigations		
☒	☒	Feed according to NRC guidelines	10%	10%
☐	☐	Use phototropic lagoon	0%	0%
☐	☐	Use an anaerobic treatment lagoon designed according to NRCS Guideline No. 359, or aerobic treatment lagoon, or mechanically aerated lagoon, or covered lagoon digester vented to a control device with minimum 95% control	0%	0%
☒	☒	Remove solids from the waste system with a solid separator system, prior to the waste entering the lagoon. Note: If selected for dairies > 999 milk cows, control efficiency is already included in EF.	0%	0%
☐	☐	Maintain lagoon pH between 6.5 and 7.5	0%	0%
Total Control Efficiency			10.00%	10.00%
		Liquid Manure Land Application Mitigations		
☒	☒	Feed according to NRC guidelines	10%	10%
☐	☐	Only apply liquid manure that has been treated with an anaerobic or aerobic treatment lagoon, aerobic lagoon, or digester system	0%	0%
☒	☒	Allow liquid manure to stand in the fields for no more than 24 hours after irrigation. Note: If selected for dairies > 999 milk cows, control efficiency is already included in EF.	0%	0%
☐	☐	Apply liquid/slurry manure via injection with drag hose or similar apparatus	0%	0%
Total Control Efficiency			10.00%	10.00%

Solid Manure Handling				
Measure Proposed?		Mitigation Measure(s) per Emissions Point	VOC Control Efficiency (%)	
Pre-Project	Post-Project		Pre-Project	Post-Project
		Solid Manure Storage Mitigations		
☒	☒	Feed according to NRC guidelines	10%	10%
☒	☒	LARGE CAFO ONLY: Within 72 hours of removal from housing, either a) remove dry manure from the facility, or b) cover dry manure outside the housing with a weatherproof covering from October through May, except for times when wind events remove the covering, not to exceed 24 hours per event.	10%	10%
Total Control Efficiency			19.00%	19.00%
		Separated Solids Piles Mitigations		
☒	☒	Feed according to NRC guidelines	10%	10%
☒	☒	LARGE CAFO ONLY: Within 72 hours of removal from the drying process, either a) remove separated solids from the facility, or b) cover separated solids outside the housing with a weatherproof covering from October through May, except for times when wind events remove the covering, not to exceed 24 hours per event.	10%	10%
Total Control Efficiency			19.00%	19.00%
		Solid Manure Land Application Mitigations		
☒	☒	Feed according to NRC guidelines	10%	10%
☒	☒	Incorporate all solid manure within 72 hours of land application. Note: If selected for dairies > 999 milk cows, control efficiency is already included in EF. Note: No additional control given for rapid manure incorporation (e.g. BACT requirement).	0%	0%
☐	☐	Only apply solid manure that has been treated with an anaerobic treatment lagoon, aerobic lagoon or digester system.	0%	0%
☐	☐	Apply no solid manure with a moisture content of more than 50%	0%	0%
Total Control Efficiency			10.00%	10.00%

Silage and TMR				
Measure Proposed?		Mitigation Measure(s) per Emissions Point	VOC Control Efficiency (%)	
Pre-Project	Post-Project		Pre-Project	Post-Project
		Corn/Alfalfa/Wheat Silage Mitigations		
☒	☒	1. Utilize a sealed feed storage system (e.g. Ag-Bag) for bagged silage, or 2. Cover the surface of silage piles, except for the area where feed is being removed from the pile, with a plastic tarp that is at least 5 mils thick (0.005 inches), multiple plastic tarps with a cumulative thickness of at least 5 mils (0.005 inches), or an oxygen barrier film covered with a UV resistant material within 72 hours of last delivery of material to the pile, and implement one of the following: a) build silage piles such that the average bulk density is at least 44 lb/cu-ft for corn silage and 40 lb/cu-ft for other silage types, as measured in accordance with Section 7.10 of Rule 4570, b) when creating a silage pile, adjust filling parameters to assure a calculated average bulk density of at least 44 lb/cu-ft for corn silage and at least 40 lb/cu-ft for other silage types, using a spreadsheet approved by the District, c) harvest silage crop at > or = 65% moisture for corn; and >= 60% moisture for alfalfa/grass and other silage crops; manage silage material delivery such that no more than 6 inches of materials are uncompacted on top of the pile; and incorporate the applicable Theoretical Length of Chop (TLC) and roller opening for the crop being harvested. <u>For dairies</u> - implement <u>two</u> of the following: <u>For heifer/calf ranches</u> - implement <u>one</u> of the following: <u>Manage Exposed Silage.</u> a) manage silage piles such that only one silage pile has an uncovered face and the uncovered face has a total exposed surface area of less than 2,150 sq. ft., or b) manage multiple uncovered silage piles such that the total exposed surface area of all silage piles is less than 4,300 sq ft. <u>Maintain Silage Working Face.</u> a) use a shaver/facer to remove silage from the silage pile, or b) maintain a smooth vertical surface on the working face of the silage pile <u>Silage Additive:</u> a) inoculate silage with homolactic acid bacteria in accordance with manufacturer recommendations to achieve a concentration of at least 100,000 colony forming units per gram of wet forage or apply propionic acid, benzoic acid, sorbic acid, sodium benzoate, or potassium sorbate at a rate specified by the manufacturer to reduce yeast counts when forming silage pile; or b) apply other additives at specified rates that have been demonstrated to reduce alcohol concentrations in silage and/or VOC emissions from silage and have been approved by the District and EPA.	39.0%	39.0%
Total Control Efficiency*			39.00%	39.00%

*Assumes 25% control for density mitigation measures and 10% each for the two optional measures, resulting in an overall control of 39%. The same conservative control efficiency will be applied to the sealed feed storage system (Ag-Bag).

		TMR Mitigations		
☒	☒	(D) Push feed so that it is within 3 feet of feedlane fence within 2 hrs of putting out the feed or use a feed trough or other feeding structure designed to maintain feed within reach of the cows.	10%	10%
☒	☒	(D) Begin feeding total mixed rations within 2 hrs of grinding and mixing rations. <u>Note: If selected for dairies > 999 milk cows, control efficiency already included in EF.</u>	0%	0%
☐	☐	Feed steam-flaked, dry rolled, cracked or ground corn or other ground cereal grains.	0%	0%
☒	☒	Remove uneaten wet feed from feed bunks within 24 hrs after then end of a rain event.	10%	10%
☐	☐	(D) For total mixed rations that contain at least 30% by weight of silage, feed animals total mixed rations that contain at least 45% moisture.	0%	0%
☒	☒	Feed according to NRC guidelines. <u>Note: If selected for dairies, control efficiency already included in EF.</u>	0%	0%
Total Control Efficiency			19.00%	19.00%

Ammonia Mitigation Measures and Control Efficiencies

Milking Parlor				
Measure Proposed?		Mitigation Measure(s) per Emissions Point	NH3 Control Efficiency (%)	
Pre-Project	Post-Project		Pre-Project	Post-Project
		Milking Parlor Floor Mitigations		
☒	☒	Feed according to NRC guidelines	28%	28%
Total Control Efficiency			28%	28%

Cow Housing				
Measure Proposed?		Mitigation Measure(s) per Emissions Point	NH3 Control Efficiency (%)	
Pre-Project	Post-Project		Pre-Project	Post-Project
		Corrals/Pens Mitigations		
☒	☒	Feed according to NRC guidelines	28%	28%
☐	☒	Clean manure from corrals at least four times per year with at least 60 days between cleaning, or clean corrals at least once between April and July and at least once between September and December. OR Use lime or a similar absorbent material in the corral according to the manufacturer's recommendation to minimize moisture in the corrals. OR Apply thymol to the corral soil in accordance with the manufacturer's recommendation.	0%	50%
Total Control Efficiency			28%	64%
		Bedding Mitigations		
☒	☒	Feed according to NRC guidelines	28%	28%
☒	☒	Use non-manure-based bedding and non-separated solids based bedding for at least 90% of the bedding material, by weight, for freestalls (e.g. rubber mats, almond shells, sand, or waterbeds). OR For a large dairy only (1,000 milk cows or larger) - Remove manure that is not dry from individual cow freestall beds or rake, harrow, scrape, or grade freestall bedding at least once every 7 days. OR For a medium dairy only (500 to 999 milk cows) - Remove manure that is not dry from individual cow freestall beds or rake, harrow, scrape, or grade freestall bedding at least once every 14 days.	47.7%	47.7%
Total Control Efficiency			62.34%	62.34%
		Lanes Mitigations		
☒	☒	Feed according to NRC guidelines	28%	28%
Total Control Efficiency			28%	28%

Liquid Manure Handling				
Measure Proposed?		Mitigation Measure(s) per Emissions Point	NH3 Control Efficiency (%)	
Pre-Project	Post-Project		Pre-Project	Post-Project
		Lagoons/Storage Ponds Mitigations		
☒	☒	Feed according to NRC guidelines	28%	28%
☒	☒	Use phototropic lagoon OR Remove solids from the waste system with a solid separator system, prior to the waste entering the lagoon.	80%	80%
Total Control Efficiency			85.6%	85.6%
		Liquid Manure Land Application Mitigations		
☒	☒	Feed according to NRC guidelines	28%	28%
☐	☐	Only apply liquid manure that has been treated with an anaerobic treatment lagoon	0%	0%
Total Control Efficiency			28.00%	28.00%

Solid Manure Handling				
Measure Proposed?		Mitigation Measure(s) per Emissions Point	NH3 Control Efficiency (%)	
Pre-Project	Post-Project		Pre-Project	Post-Project
		Solid Manure Land Application Mitigations		
☒	☒	Feed according to NRC guidelines	28%	28%
☐	☐	Incorporate all solid manure within 72 hours of land application. AND Only apply solid manure that has been treated with an anaerobic treatment lagoon, aerobic lagoon or digester system. AND Apply no solid manure with a moisture content of more than 50%	0%	0%
Total Control Efficiency			28.00%	28.00%

Control Measure	PM10 Control Efficiency
Shaded corrals (milk and dry cows)	16.7%
Shaded corrals (heifers and bulls)	8.3%
Downwind shelterbelts	12.5%
Upwind shelterbelts	10%
Freestall with no exercise pens and non-manure based bedding	90%
Freestall with no exercise pens and manure based bedding	80%
Fibrous layer in dusty areas (i.e. hay, etc.)	10%
Bi-weekly corral/exercise pen scraping and/or manure removal using a pull type manure harvesting equipment in morning hours when moisture in air except during periods of rainy weather	15%
Sprinkling of open corrals/exercise pens	12.5%
Feeding young stock (heifers and calves) near dusk	10%

Pre-Project PM10 Mitigation Measures														
Housing Name(s) or #(s)	Type of Housing	Type of cow	Total # of cows in Each Housing Structure(s)	Maximum Design Capacity of <u>Each</u> Structure	# of Combined Housing Structures in row	Shaded Corrals	Downwind Shelterbelts	Upwind Shelterbelts	No exercise pens, non-manure bedding	No exercise pens, manure bedding	Fibrous layer	Bi-weekly scraping Corrals/Pens	Sprinkling Corrals/Pens	Feed Young Stock Near Dusk
Free Stall 1	freestall	support stock	250	250	1	☐	☐	☐	☐	☐	☐	☐	☐	☐
Free Stall 2	freestall	milk cows	250	250	1	☐	☐	☐	☐	☐	☐	☐	☐	☐
Free Stall 3	freestall	milk cows	800	800	1	☐	☐	☐	☐	☐	☐	☐	☐	☐
Corral 1	open corral	large heifers	130	130	1	☒	☐	☐	☐	☐	☐	☐	☐	☐
Corral 2-3	open corral	calves	65	65	2	☒	☐	☐	☐	☐	☐	☐	☐	☐
Corral 4-5	open corral	medium heifers	90	90	2	☒	☐	☐	☐	☐	☐	☐	☐	☐
Corral 6	open corral	medium heifers	90	90	1	☒	☐	☐	☐	☐	☐	☐	☐	☐
Corral 7	open corral	medium heifers	95	95	1	☒	☐	☐	☐	☐	☐	☐	☐	☐
Calf Hutches	on ground hutches	calves	205	205	1	☐	☐	☐	☐	☐	☐	☐	☐	☐
						☐	☐	☐	☐	☐	☐	☐	☐	☐
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Pre-Project PM10 Control Efficiencies and Emission Factors																	
	Housing Name(s) or #(s)	Type of Housing	Type of cow	Total # of cows in Each Housing Structure(s)	Maximum Design Capacity of Each Structure	Uncontrolled EF (lb/hd-yr)	Shaded Corrals	Downwind Shelterbelts	Upwind Shelterbelts	No exercise pens, non-manure bedding	No exercise pens, manure bedding	Fibrous layer	Bi-weekly scraping Corrals/Pens	Sprinkling Corrals/Pens	Feed Young Stock Near Dusk	Controlled EF (lb/hd-yr)	
1	Free Stall 1	freestall	support stock	250	250	1.370	0.0%	0.0%	0%	0%	0%	0%	0%	0.0%	0%	1.37	
2	Free Stall 2	freestall	milk cows	250	250	1.370	0.0%	0.0%	0%	0%	0%	0%	0%	0.0%	0%	1.37	
3	Free Stall 3	freestall	milk cows	800	800	1.370	0.0%	0.0%	0%	0%	0%	0%	0%	0.0%	0%	1.37	
4	Corral 1	open corral	large heifers	130	130	8.010	8.3%	0.0%	0%	0%	0%	0%	0%	0.0%	0%	7.35	
5	Corral 2-3	open corral	calves	65	65	1.370	8.3%	0.0%	0%	0%	0%	0%	0%	0.0%	0%	1.26	
6	Corral 4-5	open corral	medium heifers	90	90	10.550	8.3%	0.0%	0%	0%	0%	0%	0%	0.0%	0%	9.67	
7	Corral 6	open corral	medium heifers	90	90	10.550	8.3%	0.0%	0%	0%	0%	0%	0%	0.0%	0%	9.67	
8	Corral 7	open corral	medium heifers	95	95	10.550	8.3%	0.0%	0%	0%	0%	0%	0%	0.0%	0%	9.67	
9	Calf Hutches	on ground hutches	calves	205	205	0.343	0.0%	0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.34	
10	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
11	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
12	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
13	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
14	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
15	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
16	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
17	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
18	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
19	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
20	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
21	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
22	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
23	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
24	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
25	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
26	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
27	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
28	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
29	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
30	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
31	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
32	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
33	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
34	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
35	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
36	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
37	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
38	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
39	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
40	0	0	0	0	0	0.000		0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00	
	Pre-Project Total # of Cows			2,130			Pre-Project Total # of Cows			2,130			Pre-Project Total # of Cows			2,130	

Post-Project PM10 Mitigation Measures

Post-Project PM10 Mitigation Measures															
	Housing Name(s) or #(s)	Type of Housing	Type of cow	Total # of cows in Each Housing Structure(s)	Maximum Design Capacity of Each Structure	# of Combined Housing Structures in row	Shaded Corrals	Downwind Shelterbelts	Upwind Shelterbelts	No exercise pens, non-manure bedding	No exercise pens, manure bedding	Fibrous layer	Bi-weekly scraping Corrals/Pens	Sprinkling Corrals/Pens	Feed Young Stock Near Dusk
1	Free Stall 1	freestall	milk cows	400	400	1	☐	☐	☐	☐	☒	☐	☐	☐	☐
2	Free Stall 2	freestall	milk cows	800	800	1	☐	☐	☐	☒	☐	☐	☐	☐	☐
3	Free Stall 3	freestall	milk cows	400	400	1	☐	☐	☐	☐	☐	☐	☒	☐	☐
4	Free Stall 4	freestall	milk cows	400	400	1	☐	☐	☐	☐	☐	☐	☒	☐	☐
5	Free Stall 5	freestall	milk cows	400	400	1	☐	☐	☐	☒	☐	☐	☐	☐	☐
6	Free Stall 6	freestall	milk cows	400	400	1	☐	☐	☐	☐	☐	☐	☒	☐	☐
7	Free Stall 7	freestall	support stock	800	800	1	☐	☐	☐	☐	☒	☐	☐	☐	☐
8	Free Stall 8	freestall	support stock	1,020	1,020	1	☐	☐	☐	☒	☐	☐	☐	☐	☐
9	Calf Hutches	on ground hutches	calves	280	280	1	☐	☐	☐	☐	☐	☐	☐	☐	☒
10							☐	☐	☐	☐	☐	☐	☐	☐	☐
11							☐	☐	☐	☐	☐	☐	☐	☐	☐
12							☐	☐	☐	☐	☐	☐	☐	☐	☐
13							☐	☐	☐	☐	☐	☐	☐	☐	☐
14							☐	☐	☐	☐	☐	☐	☐	☐	☐
15							☐	☐	☐	☐	☐	☐	☐	☐	☐
16							☐	☐	☐	☐	☐	☐	☐	☐	☐
17							☐	☐	☐	☐	☐	☐	☐	☐	☐
18							☐	☐	☐	☐	☐	☐	☐	☐	☐
19							☐	☐	☐	☐	☐	☐	☐	☐	☐
20							☐	☐	☐	☐	☐	☐	☐	☐	☐
21							☐	☐	☐	☐	☐	☐	☐	☐	☐
22							☐	☐	☐	☐	☐	☐	☐	☐	☐
23							☐	☐	☐	☐	☐	☐	☐	☐	☐
24							☐	☐	☐	☐	☐	☐	☐	☐	☐
25							☐	☐	☐	☐	☐	☐	☐	☐	☐
26							☐	☐	☐	☐	☐	☐	☐	☐	☐
27							☐	☐	☐	☐	☐	☐	☐	☐	☐
28							☐	☐	☐	☐	☐	☐	☐	☐	☐
29							☐	☐	☐	☐	☐	☐	☐	☐	☐
30							☐	☐	☐	☐	☐	☐	☐	☐	☐
31							☐	☐	☐	☐	☐	☐	☐	☐	☐
32							☐	☐	☐	☐	☐	☐	☐	☐	☐
33							☐	☐	☐	☐	☐	☐	☐	☐	☐
34							☐	☐	☐	☐	☐	☐	☐	☐	☐
35							☐	☐	☐	☐	☐	☐	☐	☐	☐
36							☐	☐	☐	☐	☐	☐	☐	☐	☐
37							☐	☐	☐	☐	☐	☐	☐	☐	☐
38							☐	☐	☐	☐	☐	☐	☐	☐	☐
39							☐	☐	☐	☐	☐	☐	☐	☐	☐
40							☐	☐	☐	☐	☐	☐	☐	☐	☐
Post-Project PM10 Mitigation Measures for New Housing Units at an Expanding Dairy															
	Housing Name(s) or #(s)	Type of Housing	Type of cow	Total # of cows in Each Housing Structure(s)	Maximum Design Capacity of Each Structure	# of Combined Housing Structures in row	Shaded Corrals	Downwind Shelterbelts	Upwind Shelterbelts	No exercise pens, non-manure bedding	No exercise pens, manure bedding	Fibrous layer	Bi-weekly scraping Corrals/Pens	Sprinkling Corrals/Pens	Feed Young Stock Near Dusk
1	Loafing Barn 1	loafing barn	support stock	250	250	1	☐	☐	☐	☒	☐	☐	☐	☐	☐
2	Loafing Barn 2	freestall	support stock	925	925	1	☐	☐	☐	☒	☐	☐	☐	☐	☐
3							☐	☐	☐	☐	☐	☐	☐	☐	☐
4							☐	☐	☐	☐	☐	☐	☐	☐	☐
5							☐	☐	☐	☐	☐	☐	☐	☐	☐
6							☐	☐	☐	☐	☐	☐	☐	☐	☐
7							☐	☐	☐	☐	☐	☐	☐	☐	☐
8							☐	☐	☐	☐	☐	☐	☐	☐	☐
9							☐	☐	☐	☐	☐	☐	☐	☐	☐
10							☐	☐	☐	☐	☐	☐	☐	☐	☐
11							☐	☐	☐	☐	☐	☐	☐	☐	☐
12							☐	☐	☐	☐	☐	☐	☐	☐	☐
13							☐	☐	☐	☐	☐	☐	☐	☐	☐
14							☐	☐	☐	☐	☐	☐	☐	☐	☐
Post-Project Total # of Cows				6,075	(The post-project total includes dairy cows already on-site and new cows from the expansion.)										

Post-Project PM10 Control Efficiencies and Emission Factors

	Housing Name(s) or #(s)	Type of Housing	Type of cow	Total # of cows in Each Housing Structure(s)	Maximum Design Capacity of Each Structure	Uncontrolled EF (lb/hd-yr)	Shaded Corrals	Downwind Shelterbelts	Upwind Shelterbelts	No exercise pens, non-manure bedding	No exercise pens, manure bedding	Fibrous layer	Bi-weekly scraping Corrals/Pens	Sprinkling Corrals/Pens	Feed Young Stock Near Dusk	Controlled EF (lb/hd-yr)
1	Free Stall 1	freestall	milk cows	400	400	1.370	0.0%	0.0%	0%	0%	80%	0%	0%	0.0%	0%	0.27
2	Free Stall 2	freestall	milk cows	800	800	1.370	0.0%	0.0%	0%	90%	0%	0%	0%	0.0%	0%	0.14
3	Free Stall 3	freestall	milk cows	400	400	1.370	0.0%	0.0%	0%	0%	0%	0%	15%	0.0%	0%	1.17
4	Free Stall 4	freestall	milk cows	400	400	1.370	0.0%	0.0%	0%	0%	0%	0%	15%	0.0%	0%	1.17
5	Free Stall 5	freestall	milk cows	400	400	1.370	0.0%	0.0%	0%	90%	0%	0%	0%	0.0%	0%	0.14
6	Free Stall 6	freestall	milk cows	400	400	1.370	0.0%	0.0%	0%	0%	0%	0%	15%	0.0%	0%	1.17
7	Free Stall 7	freestall	support stock	800	800	1.370	0.0%	0.0%	0%	0%	80%	0%	0%	0.0%	0%	0.27
8	Free Stall 8	freestall	support stock	1,020	1,020	1.370	0.0%	0.0%	0%	90%	0%	0%	0%	0.0%	0%	0.14
9	Calf Hutches	on ground hutches	calves	280	280	0.343	0.0%	0.0%	0%	0%	0%	0%	0%	0.0%	10%	0.31
10	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
11	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
12	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
13	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
14	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
15	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
16	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
17	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
18	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
19	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
20	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
21	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
22	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
23	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
24	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
25	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
26	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
27	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
28	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
29	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
30	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
31	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
32	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
33	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
34	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
35	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
36	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
37	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
38	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
39	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
40	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00

Post-Project PM10 Control Efficiencies and Emission Factors for New Housing Emissions Units

	Housing Name(s) or #(s)	Type of Housing	Type of cow	Total # of cows in Each Housing Structure(s)	Maximum Design Capacity of Each Structure	Uncontrolled EF (lb/hd-yr)	Shaded Corrals	Downwind Shelterbelts	Upwind Shelterbelts	No exercise pens, non-manure bedding	No exercise pens, manure bedding	Fibrous layer	Bi-weekly scraping Corrals/Pens	Sprinkling Corrals/Pens	Feed Young Stock Near Dusk	Controlled EF (lb/hd-yr)
1	Loafing Barn 1	loafing barn	support stock	250	250	5.280	0.0%	0.0%	0%	90%	0%	0%	0%	0.0%	0%	0.53
2	Loafing Barn 2	freestall	support stock	925	925	1.370	0.0%	0.0%	0%	90%	0%	0%	0%	0.0%	0%	0.14
3	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
4	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
5	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
6	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
7	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
8	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
9	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
10	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
11	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
12	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
13	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00
14	0	0	0	0	0			0.0%	0%	0%	0%	0%	0%	0.0%	0%	0.00

Increase in Emissions

SSIFE (lb/yr)							
	NOx	SOx	PM10	CO	VOC	NH3	H2S
Milking Parlor	0	0	0	0	772	267	0
Cow Housing	0	0	-4,123	0	25,929	31,337	0
Liquid Manure	0	0	0	0	6,867	18,696	293
Solid Manure	0	0	0	0	1,320	7,012	0
Feed Handling	0	0	0	0	31,140	0	0
Total	0	0	-4,123	0	66,027	57,312	293

Total Daily Change in Emissions (lb/day)							
	NOx	SOx	PM10	CO	VOC	NH3	H2S
Milking Parlor	0.0	0.0	0.0	0.0	2.2	0.7	0.0
Cow Housing	0.0	0.0	-11.1	0.0	70.8	86.1	0.0
Liquid Manure	0.0	0.0	0.0	0.0	18.8	51.2	0.8
Solid Manure	0.0	0.0	0.0	0.0	3.7	19.2	0.0
Feed Handling	0.0	0.0	0.0	0.0	85.3	0.0	0.0
Total	0.0	0.0	-11.1	0.0	180.8	157.3	0.8

Total Annual Change in Non-Fugitive Emissions (Major Source Emissions) (lb/yr)							
	NOx	SOx	PM10	CO	VOC	NH3	H2S
Milking Parlor	0	0	0	0	0	0	0
Cow Housing	0	0	0	0	0	0	0
Liquid Manure	0	0	0	0	3,306	0	N/A
Solid Manure	0	0	0	0	0	0	0
Feed Handling	0	0	0	0	0	0	0
Total	0	0	0	0	3,306	0	N/A

Mitigated

Name							Cow Housing Summary		*Notes:
Applicability		Use this spreadsheet to enter data from the Engineer's Dairy Calculator. Entries here will be linked to other worksheets. After completion, proceed to RMR worksheet for further entries.							
<i>Author or updater</i>		Matthew Cegielski			<i>Last Update</i>		September 24, 2018		
Facility: ID#:		Correia Family Dairy Expansion N-6126			0		Not Set		
Project #:					N/A				

Potential to Emit - Cow Housing								
Housing Name(s) or #(s)	Type of Cow	# of Cows	VOC (lb/hr)	VOC (lb/yr)	NH ₃ (lb/hr)	NH ₃ (lb/yr)	PM ₁₀ (lb/hr)	PM ₁₀ (lb/yr)
Free Stall 1	milk cows	400	0.31	2,725	0.70	6,077	-0.03	-233
Free Stall 2	milk cows	800	0.59	5,143	0.90	7,850	-0.03	-233
Free Stall 3	milk cows	400	-0.43	-3,740	-2.34	-20,519	-0.07	-630
Free Stall 4	milk cows	400	0.37	3,212	0.83	7,217	-0.05	-489
Free Stall 5	milk cows	400	0.41	3,644	0.94	8,249	-0.01	-108
Free Stall 6	milk cows	400	0.37	3,242	0.83	7,216	-0.15	-1,275
Free Stall 7	support stock	800	0.34	2,999	0.43	3,812	-0.08	-652
Free Stall 8	support stock	1,020	0.44	3,878	0.57	4,995	-0.09	-779
Loafing Barn 1	support stock	300	0.12	1,015	0.17	1,384	0.02	132
Loafing Barn 2	support stock	750	0.43	3,755	0.58	5,121	0.01	127
Calf Hutches	calves	245	0.03	207	0.03	253	0.01	87

Mitigated

PM ₁₀ based Agricultural Emissions from Operations generating Dust from Livestock																											
Use this spreadsheet when the emissions are from a Feedlot Soil sources or Cow Housing and the PM ₁₀ rates are known (e.g. Dairy operations). Ammonia and PM ₁₀ Emission rates linked to Cow Housing worksheet. No entries required on this worksheet. Zero and null entries will be highlighted in red after entry.																											
Author or updater	Matthew Cepowski																										
Last Update	September 24, 2018																										
Facility:	Corriva Family Dairy Expansion																										
ID#:	N-6126																										
Project #:	N/A																										
Formula																											
Emission are calculated by the multiplication of the PM ₁₀ Rates and the Emission Factors.																											
	Free Stall 1		Free Stall 2		Free Stall 3		Free Stall 4		Free Stall 5		Free Stall 6		Free Stall 7		Free Stall 8		Loafing Barn 1		Loafing Barn 2		Calf Hutches						
	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr					
PM ₁₀ Emissions Rates	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00	0.00	0.00	0.00	1.67E-02	1.32E+02	1.25E-02	1.27E+02	8.33E-03	8.70E+01			
Substances	CAS#	Dust* PM ₁₀ lb/lb	LB/HR	LB/YR	LB/HR	LB/YR	LB/HR	LB/YR	LB/HR	LB/YR	LB/HR	LB/YR	LB/HR	LB/YR	LB/HR	LB/YR	LB/HR	LB/YR	LB/HR	LB/YR	LB/HR	LB/YR					
Aluminum	7429905	4.69E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.77E-04	6.15E+00	5.83E-04	5.92E+00	3.88E-04	4.06E+00
Ammonia	7440361	1.90E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.17E-07	2.51E-03	2.38E-07	2.41E-03	1.58E-07	1.65E-03
Arsenic	7440382	1.60E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.67E-07	2.11E-03	2.00E-07	2.03E-03	1.33E-07	1.39E-03
Barium	7440393	4.69E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.82E-06	6.19E-02	5.88E-06	5.96E-02	3.91E-06	4.08E-02
Bromine	7728946	4.40E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.33E-07	5.81E-03	5.50E-07	5.59E-03	3.67E-07	3.83E-03
Cadmium	7440247	1.40E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.33E-07	1.85E-03	1.75E-07	1.78E-03	1.17E-07	1.22E-03
Copper	7440508	1.32E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.20E-06	1.74E-02	1.65E-06	1.68E-02	1.10E-06	1.15E-02
Hexavalent Chromium**	18540299	7.00E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.17E-08	9.24E-05	8.75E-09	8.89E-05	5.83E-09	6.09E-05
Lead	7439921	3.50E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.83E-07	4.62E-03	4.38E-07	4.45E-03	2.92E-07	3.05E-03
Manganese	7439963	7.50E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.27E-05	1.00E-01	9.40E-06	9.84E-02	6.33E-06	6.60E-02
Mercury	7439976	4.00E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.67E-08	5.28E-04	5.00E-08	5.08E-04	3.23E-08	3.48E-04
Nickel	7440020	7.00E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.17E-07	9.24E-04	8.75E-08	8.89E-04	5.83E-08	6.09E-04
Polychlorinated Biphenyls	7728390	4.01E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.69E-04	5.30E-02	5.02E-04	5.10E-02	3.35E-04	3.49E-02
Selenium	7783492	1.70E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.67E-08	1.33E-04	1.25E-08	1.27E-04	8.33E-09	8.70E-05
Sulfates	9960	7.28E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.21E-04	9.61E-01	9.10E-05	9.25E-01	6.07E-05	6.34E-01
Vandadium	7440622	3.00E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.00E-07	3.96E-03	3.75E-07	3.81E-03	2.50E-07	2.61E-03
Zinc	7440666	3.42E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.70E-06	4.51E-02	4.28E-06	4.34E-02	2.85E-06	2.98E-02
Ammonia	7564417		6.90E-01	6.08E+03	8.94E-01	7.85E+03	0.00E+00	0.00E+00	8.25E-01	7.22E+03	9.42E-01	8.25E+03	8.25E-01	7.22E+03	4.33E-01	3.81E+03	5.71E-01	5.00E+03	1.67E-01	1.34E+03	5.83E-01	5.12E+03	2.92E-02	2.53E+02			
References:																											
* Emission factors are derived from a worst case composite of 1997 San Joaquin Valley soil profiles listed in EPA's speciation program.																											
** Hexavalent chromium is assumed to be 5% of chromium.																											
Pollutants required for toxic reporting. Current as of update date.																											
Compounds Tested for but not detected			CAS#																								
Cadmium			7440439																								
			7440143																								

Agricultural Miscellaneous Emissions from Dairy Operations (Cow Housing)																								
Use this spreadsheet to characterize the miscellaneous emissions from Dairy sources when VOC rates are known. VOC emission rates linked to Cow Housing worksheet. No entries required on this worksheet. Zero and null entries will be highlighted in red after entry.																								
Author or updater: Matthew Cogswell																								
Last Update: September 24, 2018																								
Facility: Correia Family Dairy Expansion																								
ID#: N-6126																								
Project #: N/A																								
Formula																								
Emissions are calculated by the multiplication of the VOC Rates, and Emission Factors.																								
		Free Stall 1		Free Stall 2		Free Stall 3		Free Stall 4		Free Stall 5		Free Stall 6		Free Stall 7		Free Stall 8		Loafing Barn 1		Loafing Barn 2		Calf Hutches		
		lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	lb/hr	lb/yr	
VOC Emission Rates		3.08E-01	2.72E+0	5.88E-01	5.14E+0	0.00E+00	0.0	3.67E-01	3.21E+0	4.13E-01	3.644.0	3.67E-01	3.24E+0	0.34	2999.00	0.44	3878.00	1.17E-01	1.01E+0	4.29E-01	3765	2.50E-02	207.0	
Substances		CAS#	Volatiles (lb/lb VOC)	LBHR	LB/YR	LBHR	LB/YR	LBHR	LB/YR	LBHR	LB/YR	LBHR	LB/YR	LBHR	LB/YR	LBHR	LB/YR	LBHR	LB/YR	LBHR	LB/YR	LBHR	LB/YR	
1,1,2,2-Tetrachloroethane		79345	8.73E-06	2.69E-06	2.38E-02	5.13E-06	4.49E-02	0.00E+00	0.00E+00	3.20E-06	2.80E-02	3.60E-06	3.18E-02	3.20E-06	2.83E-02	2.98E-06	2.62E-02	3.86E-06	3.39E-02	1.02E-06	8.86E-03	3.75E-06	3.28E-02	
1,1,2-Trichloroethane		79005	2.26E-04	6.97E-05	6.16E-01	1.33E-04	1.18E+00	0.00E+00	0.00E+00	8.29E-05	7.26E-01	9.32E-05	8.24E-01	8.29E-05	7.33E-01	7.72E-05	6.78E-01	9.98E-05	8.76E-01	2.64E-05	2.29E-01	9.70E-05	8.49E-01	
1,2,3-Trichloropropane		96184	2.76E-04	8.51E-05	7.52E-01	1.62E-04	1.42E+00	0.00E+00	0.00E+00	1.01E-04	8.87E-01	1.14E-04	1.01E+00	1.01E-04	8.95E-01	9.43E-05	8.28E-01	1.22E-04	1.07E+00	3.22E-05	2.80E-01	1.18E-04	1.04E+00	
1,2,4-Trichlorobenzene		128821	7.79E-04	2.40E-04	2.12E+00	4.58E-04	4.01E+00	0.00E+00	0.00E+00	2.88E-04	2.50E+00	3.21E-04	2.84E+00	2.88E-04	2.53E+00	2.66E-04	2.34E+00	3.44E-04	3.02E+00	9.09E-05	7.91E-01	3.34E-04	2.93E+00	
1,2-Dibromo-3-chloropropane		96128	4.94E-05	1.52E-05	1.35E-01	2.90E-05	2.54E-01	0.00E+00	0.00E+00	1.81E-05	1.59E-01	2.04E-05	1.80E-01	1.81E-05	1.60E-01	1.69E-05	1.48E-01	2.18E-05	1.92E-01	5.76E-06	5.01E-02	2.12E-05	1.85E-01	
1,2-Dichlorobenzene		95501	5.48E-04	1.69E-04	1.49E+00	3.22E-04	2.82E+00	0.00E+00	0.00E+00	2.01E-04	1.76E+00	2.26E-04	2.00E+00	2.01E-04	1.78E+00	1.87E-04	1.64E+00	2.42E-04	2.13E+00	6.39E-05	5.56E-01	2.35E-04	2.06E+00	
1,2-Dichlorobenzene		94733	4.90E-04	1.51E-04	1.34E+00	2.89E-04	2.52E+00	0.00E+00	0.00E+00	1.80E-04	1.57E+00	2.02E-04	1.79E+00	1.80E-04	1.59E+00	1.78E-04	1.47E+00	2.16E-04	1.90E+00	5.72E-05	4.97E-01	2.10E-04	1.84E+00	
1,4 Dioxane		123911	1.41E-03	4.35E-04	3.84E+00	8.28E-04	7.25E+00	0.00E+00	0.00E+00	5.17E-04	4.53E+00	5.82E-04	5.14E+00	5.17E-04	4.57E+00	4.82E-04	4.23E+00	6.23E-04	5.47E+00	1.65E-04	1.43E+00	6.05E-04	5.29E+00	
1,4-Dichlorobenzene		106467	5.19E-04	1.60E-04	1.41E+00	3.05E-04	2.67E+00	0.00E+00	0.00E+00	1.90E-04	1.67E+00	2.14E-04	1.89E+00	1.90E-04	1.68E+00	1.77E-04	1.56E+00	2.29E-04	2.01E+00	6.06E-05	5.27E-01	2.23E-04	1.95E+00	
Acetaldehyde		75070	2.41E-03	7.43E-04	6.57E+00	1.42E-03	1.24E+01	0.00E+00	0.00E+00	8.84E-04	7.74E+00	9.94E-04	8.78E+00	8.84E-04	7.81E+00	8.23E-04	7.23E+00	1.06E-03	9.35E+00	2.81E-04	2.45E+00	1.03E-03	9.05E+00	
Acrylonitrile		107131	2.43E-04	7.49E-05	6.62E-01	1.43E-04	1.25E+00	0.00E+00	0.00E+00	9.91E-05	7.81E-01	1.00E-04	8.85E-01	9.91E-05	7.88E-01	8.30E-05	7.29E-01	1.07E-04	9.42E-01	2.84E-05	2.47E-01	1.04E-04	9.12E-01	
Benzene		71432	3.19E-04	9.84E-05	8.69E-01	1.87E-04	1.64E+00	0.00E+00	0.00E+00	1.17E-04	1.02E+00	1.32E-04	1.16E+00	1.17E-04	1.03E+00	1.09E-04	9.57E-01	1.41E-04	1.24E+00	3.72E-05	3.24E-01	1.37E-04	1.20E+00	
Benzyl chloride		100447	2.89E-04	8.91E-05	7.88E-01	1.70E-04	1.49E+00	0.00E+00	0.00E+00	1.06E-04	9.28E-01	1.19E-04	1.05E+00	1.06E-04	9.37E-01	9.87E-05	8.67E-01	1.28E-04	1.12E+00	3.37E-05	2.93E-01	1.24E-04	1.09E+00	
Butyraldehyde		123728	1.14E-04	3.52E-05	3.11E-01	6.70E-05	5.86E-01	0.00E+00	0.00E+00	4.18E-05	3.66E-01	4.70E-05	4.15E-01	4.18E-05	3.70E-01	3.90E-05	3.42E-01	5.04E-05	4.42E-01	1.33E-05	1.16E-01	4.89E-05	4.28E-01	
Carbon Disulfide		75150	2.49E-03	7.68E-04	6.79E+00	1.46E-03	1.28E+01	0.00E+00	0.00E+00	9.13E-04	8.00E+00	1.03E-03	9.07E+00	9.13E-04	8.07E+00	8.51E-04	7.47E+00	1.10E-03	9.66E+00	2.91E-04	2.53E+00	1.07E-03	9.35E+00	
Carbon tetrachloride		56235	5.87E-05	1.81E-05	1.60E-01	3.45E-05	3.02E-01	0.00E+00	0.00E+00	2.15E-05	1.89E-01	2.42E-05	2.14E-01	2.15E-05	1.90E-01	2.01E-05	1.76E-01	2.59E-05	2.28E-01	6.85E-06	5.98E-02	2.52E-05	2.20E-01	
Chlorobenzene		108907	2.72E-04	8.39E-05	7.41E-01	1.60E-04	1.40E+00	0.00E+00	0.00E+00	9.97E-05	8.74E-01	1.12E-04	1.00E-01	9.97E-05	8.82E-01	9.29E-05	8.16E-01	1.20E-04	1.05E+00	3.17E-05	2.76E-01	1.17E-04	1.02E+00	
Chloroform		67663	1.31E-04	4.04E-05	3.57E-01	7.70E-05	6.74E-01	0.00E+00	0.00E+00	4.80E-05	4.21E-01	5.40E-05	4.77E-01	4.80E-05	4.25E-01	4.48E-05	3.93E-01	5.79E-05	5.08E-01	1.53E-05	1.33E-01	5.62E-05	4.92E-01	
Chloromethane		74873	7.93E-04	2.45E-04	2.16E+00	4.69E-04	4.08E+00	0.00E+00	0.00E+00	2.91E-04	2.55E+00	3.27E-04	2.89E+00	2.91E-04	2.57E+00	2.71E-04	2.38E+00	3.50E-04	3.08E-01	9.25E-05	8.05E-01	3.40E-04	2.98E+00	
Crotanaldehyde		4170303	1.41E-04	4.35E-05	3.84E-01	8.28E-05	7.25E-01	0.00E+00	0.00E+00	5.17E-05	4.53E-01	5.82E-05	5.14E-01	5.17E-05	4.57E-01	4.82E-05	4.23E-01	6.23E-05	5.47E-01	1.65E-05	1.43E-01	6.05E-05	5.29E-01	
Cyclohexane		110827	6.83E-03	2.11E-03	1.86E+01	4.01E-03	3.51E+01	0.00E+00	0.00E+00	2.50E-03	2.19E+01	2.82E-03	2.49E+01	2.50E-03	2.21E+01	2.33E-03	2.05E+01	3.02E-03	2.65E+01	7.97E-04	6.93E+00	2.93E-03	2.56E+01	
Ethyl Chloride		75003	2.39E-04	7.37E-05	6.51E-01	1.40E-04	1.23E+00	0.00E+00	0.00E+00	8.76E-05	7.68E-01	9.86E-05	8.71E-01	8.76E-05	7.75E-01	8.17E-05	7.17E-01	1.06E-04	9.27E-01	2.79E-05	2.43E-01	1.03E-04	8.97E-01	
Ethylbenzene		106414	3.47E-04	1.07E-04	9.46E-01	2.04E-04	1.78E+00	0.00E+00	0.00E+00	1.27E-04	1.11E+00	1.43E-04	1.26E+00	1.27E-04	1.12E+00	1.19E-04	1.04E+00	1.53E-04	1.35E+00	4.05E-05	3.52E-01	1.49E-04	1.30E+00	
Ethylene Dibromide (EDB)		106934	3.96E-04	9.44E-05	8.39E-01	1.90E-04	1.67E+00	0.00E+00	0.00E+00	1.12E-04	9.83E-01	1.26E-04	1.12E+00	1.12E-04	9.92E-01	1.05E-04	9.18E-01	1.35E-04	1.19E+00	3.57E-05	3.11E-01	1.31E-04	1.15E+00	
Ethylene Dichloride (EDC)		107062	5.89E-05	1.82E-05	1.61E-01	3.46E-05	3.03E-01	0.00E+00	0.00E+00	2.16E-05	1.89E-01	2.43E-05	2.15E-01	2.16E-05	1.91E-01	2.01E-05	1.77E-01	2.60E-05	2.28E-01	6.87E-06	5.98E-02	2.53E-05	2.21E-01	
Formaldehyde		50000	3.98E-04	1.23E-04	1.08E+00	2.34E-04	2.05E+00	0.00E+00	0.00E+00	1.46E-04	1.28E+00	1.64E-04	1.45E+00	1.46E-04	1.29E+00	1.36E-04	1.19E+00	1.76E-04	1.54E+00	4.64E-05	4.04E-01	1.71E-04	1.49E+00	
Hexane		110543	8.12E-04	2.50E-04	2.21E+00	4.77E-04	4.18E+00	0.00E+00	0.00E+00	2.98E-04	2.61E+00	3.35E-04	2.96E+00	2.98E-04	2.63E+00	2.77E-04	2.44E+00	3.59E-04	3.15E+00	9.47E-05	8.24E-01	3.48E-04	3.05E+00	
Isopropyl Alcohol		67630	1.62E-03	5.00E-04	4.41E+00	9.52E-04	8.33E+00	0.00E+00	0.00E+00	5.94E-04	5.20E+00	6.68E-04	5.90E+00	5.94E-04	5.25E+00	5.54E-04	4.86E+00	7.16E-04	6.28E+00	1.89E-04	1.64E+00	6.95E-04	6.08E+00	
Isopropylbenzene (Cumene)		96525	5.61E-05	1.73E-05	1.53E-01	3.30E-05	2.89E-01	0.00E+00	0.00E+00	2.06E-05	1.80E-01	2.31E-05	2.04E-01	2.06E-05	1.82E-01	1.82E-05	1.68E-01	2.48E-05	2.18E-01	6.55E-06	5.69E-02	2.41E-05	2.11E-01	
Methyl Ethyl Ketone (2-butanone)		78933	1.46E-02	4.50E-03	3.98E-01	8.58E-03	7.51E+01	0.00E+00	0.00E+00	5.35E-03	4.69E+01	6.02E-03	5.32E-01	5.35E-03	4.73E+01	4.99E-03	4.38E-01	6.45E-03	5.62E+00	1.70E-03	1.48E-01	6.27E-03	5.48E-01	
Methyl Isobutyl Ketone		106161	7.09E-04	2.19E-04	1.93E+00	4.17E-04	3.65E+00	0.00E+00	0.00E+00	2.60E-04	2.28E+00	2.92E-04	2.59E+00	2.60E-04	2.30E+00	2.42E-04	2.13E+00	3.13E-04	2.75E+00	8.27E-05	7.20E-01	3.04E-04	2.66E+00	
Methyl Nonyl Ketone		91516	6.82E-04	1.96E-04	1.73E+00	3.87E-04	3.35E+00	0.00E+00	0.00E+00	2.56E-04	2.23E+00	2.92E-04	2.59E+00	2.56E-04	2.23E+00	2.42E-04	2.13E+00	3.13E-04	2.75E+00	8.27E-05	7.20E-01	3.04E-04	2.66E+00	
Perchloroethylene		127784	6.51E-04	2.01E-04	1.79E+00	4.12E-04	3.35E+00	0.00E+00	0.00E+00	2.30E-04	2.09E+00	2.69E-04	2.37E+00	2.30E-04	2.10E+00	2.22E-04	2.19E+00	2.88E-04	2.52E+00	7.60E-05	6.61E-01	2.79E-04	2.44E+00	
Styrene		105235	3.59E-04	1.19E-04	9.78E-01	2.11E-04	1.85E+00	0.00E+00	0.00E+00	1.32E-04	1.15E+00	1.48E-04	1.31E+00	1.32E-04	1.18E+00	1.23E-04	1.08E+00	1.59E-04	1.39E+00	4.19E-05	3.64E-01	1.54E-04	1.35E+00	
1,1,1-Trichloro-2-butene		106446	8.92E-04	2.75E-04	2.43E+00	5.24E-04	4.59E+00	0.00E+00	0.00E+00	3.27E-04	2.87E+00	3.68E-04	3.25E+00	3.27E-04	2.89E+00	3.05E-04	2.68E+00	3.94E-04	3.46E+00	1.04E-04	9.05E-01	3.83E-04	3.35E+00	
Toluene		100283	3.09E-04	2.72E-04	2.39E+00	5.29E-04	4.62E+00	0.00E+00	0.00E+00	3.02E-04	3.44E+00	4.14E-04	3.90E+00	3.02E-04	3.47E+00	3.66E-04	3.21E+00	4.15E-04	3.62E+00	1.09E-04	9.45E-01	4.59E-04	4.02E+00	
Trichlorofluoromethane*		75394	1.08E-07	3.33E-08	2.94E-04	6.35E-08	5.55E-04	0.00E+00	0.00E+00	3.96E-08	3.47E-04	4.46E-08	3.94E-04	3.96E-08	3.50E-04	3.69E-08	3.24E-04	4.77E-08	4.19E-04	1.26E-08	1.10E-04	4.64E-08	4.08E-04	
Vinyl acetate		106054	1.97E-03	6.07E-04	5.32E-04	1.01E+01	8.71E+00	0.00E+00	0.00E+00	7.18E-04	6.33E+00	8.13E-0												

Mitigated

Copy and paste values from the corresponding table in the Engineer Dairy Calculator's RMR Summary worksheet. Paste values only with matched destination formatting. Ensure the same names are lined up by row number. Zero and null entries will be highlighted in red after entry.

SSIFE RMR Summary							
	PM10 lb/hr	PM10 lb/yr	VOC lb/hr	VOC lb/yr	NH3 lb/hr	NH3 lb/yr	H2S lb/yr
Milking Parlor	-	-	0.09	772	0.03	267	-
Cow Housing	-0.5	-4,123	2.96	25,929	3.58	31,337	-
Liquid Manure	-	-	0.78	6,867	2.13	18,696	-
Solid Manure	-	-	0.15	1,320	0.80	7,012	-
Feed Handling	-	-	3.55	31,140	-	-	-
Lagoon/Storage Pond	-	-	0.38	3,322	0.33	2,920	294
Land Application (Liquid)	-	-	0.40	3,541	1.81	15,841	-
Land Application (Solid)	-	-	0.09	767	0.43	3,723	-
Solid Manure Storage	-	-	0.05	475	0.38	3,285	-

SSIFE Total Herd Summary	
Change in Milk Cows	1,950
Change in Dairy Head	3,945
Change in Dairy Head (Flushed)	3,945

Mitigated

Name Agricultural Miscellaneous Emissions from Dairy Operations (Milk Parlors)

Applicability Use this spreadsheet to characterize the miscellaneous emissions from Dairy sources when VOC rates are known. VOC emission rates linked to RMR worksheet. Enter VOC and NH₃ rates if there is more than one Milk Parlor.

Author or updater	Matthew Cegielski	Last Update	August 26, 2016
Facility:	Correia Family Dairy Expansion		
ID#:	N-6126		
Project #:	N/A		
More than one Milk Parlor?	N		
Inputs	VOC lb/yr	NH ₃ lb/yr	Formula
Milk Parlor 1	772	267	Select N or Y from the dropdown. If there is more than one Milk Parlor, enter VOC and NH ₃ rates. Toxic emissions are calculated by the multiplication of the VOC Rates and Emission Factors.
Milk Parlor 2			lb/hr lb/yr lb/hr lb/yr

VOC Emission Rates			8.82E-02	7.72E+02	0.00E+00	0.00E+00
Substances	CAS#	Toxic EF's (lb/lb VOC)*	LB/HR	LB/YR	LB/HR	LB/YR
1,1,2,2-Tetrachloroethane	79345	8.73E-06	7.70E-07	6.74E-03	0.00E+00	0.00E+00
1,1,2-Trichloroethane	79005	2.26E-04	1.99E-05	1.75E-01	0.00E+00	0.00E+00
1,2,3-Trichloropropane	96184	2.76E-04	2.43E-05	2.13E-01	0.00E+00	0.00E+00
1,2,4-Trichlorobenzene	120821	7.79E-04	6.87E-05	6.02E-01	0.00E+00	0.00E+00
1,2-Dibromo-3-chloropropane	96128	4.94E-05	4.35E-06	3.81E-02	0.00E+00	0.00E+00
1,2-Dichlorobenzene	95501	5.48E-04	4.83E-05	4.23E-01	0.00E+00	0.00E+00
1,3-Dichlorobenzene	541731	4.90E-04	4.32E-05	3.78E-01	0.00E+00	0.00E+00
1,4 Dioxane	123911	1.41E-03	1.24E-04	1.09E+00	0.00E+00	0.00E+00
1,4-Dichlorobenzene	106467	5.19E-04	4.58E-05	4.01E-01	0.00E+00	0.00E+00
Acetaldehyde	75070	2.41E-03	2.12E-04	1.86E+00	0.00E+00	0.00E+00
Acrylonitrile	107131	2.43E-04	2.14E-05	1.88E-01	0.00E+00	0.00E+00
Benzene	71432	3.19E-04	2.81E-05	2.46E-01	0.00E+00	0.00E+00
Benzyl chloride	100447	2.89E-04	2.55E-05	2.23E-01	0.00E+00	0.00E+00
Butyraldehyde	123728	1.14E-04	1.00E-05	8.80E-02	0.00E+00	0.00E+00
Carbon Disulfide	75150	2.49E-03	2.19E-04	1.92E+00	0.00E+00	0.00E+00
Carbon tetrachloride	56235	5.87E-05	5.17E-06	4.53E-02	0.00E+00	0.00E+00
Chlorobenzene	108907	2.72E-04	2.40E-05	2.10E-01	0.00E+00	0.00E+00
Chloroform	67663	1.31E-04	1.15E-05	1.01E-01	0.00E+00	0.00E+00
Chloromethane	74873	7.93E-04	6.99E-05	6.12E-01	0.00E+00	0.00E+00
Crotonaldehyde	4170303	1.41E-04	1.24E-05	1.09E-01	0.00E+00	0.00E+00
Cyclohexane	110827	6.83E-03	6.02E-04	5.27E+00	0.00E+00	0.00E+00
Ethyl Chloride	75003	2.39E-04	2.11E-05	1.85E-01	0.00E+00	0.00E+00
Ethylbenzene	100414	3.47E-04	3.06E-05	2.68E-01	0.00E+00	0.00E+00
Ethylene Dibromide (EDB)	106934	3.06E-04	2.70E-05	2.36E-01	0.00E+00	0.00E+00
Ethylene Dichloride (EDC)	107062	5.89E-05	5.19E-06	4.55E-02	0.00E+00	0.00E+00
Formaldehyde	50000	3.98E-04	3.51E-05	3.07E-01	0.00E+00	0.00E+00
Hexane	110543	8.12E-04	7.16E-05	6.27E-01	0.00E+00	0.00E+00
Isopropyl Alcohol	67630	1.62E-03	1.43E-04	1.25E+00	0.00E+00	0.00E+00
Isopropylbenzene (Cumene)	98828	5.61E-05	4.95E-06	4.33E-02	0.00E+00	0.00E+00
Methyl Ethyl Ketone (2-butanone)	78933	1.46E-02	1.29E-03	1.13E+01	0.00E+00	0.00E+00
Methyl Isobutyl Ketone	108101	7.09E-04	6.25E-05	5.47E-01	0.00E+00	0.00E+00
Napthalene	91203	1.16E-03	1.02E-04	8.96E-01	0.00E+00	0.00E+00
Perchloroethylene	127184	6.51E-04	5.74E-05	5.03E-01	0.00E+00	0.00E+00
Styrene	100425	3.59E-04	3.16E-05	2.77E-01	0.00E+00	0.00E+00
t-1,4-Dichloro-2-butene	764410	8.92E-04	7.86E-05	6.89E-01	0.00E+00	0.00E+00
Toluene	108883	1.07E-03	9.43E-05	8.26E-01	0.00E+00	0.00E+00
Trichlorofluoromethane*	75694	1.08E-07	9.52E-09	8.34E-05	0.00E+00	0.00E+00
Vinyl acetate	108054	1.97E-03	1.74E-04	1.52E+00	0.00E+00	0.00E+00
Xylenes	1330207	1.80E-03	1.59E-04	1.39E+00	0.00E+00	0.00E+00
Ammonia	7664417		3.05E-02	2.67E+02	0.00E+00	0.0

References:

*Emission factors are derived from the District's evaluation of dairy research studies conducted by California colleges and universities.

Pollutants required for toxic reporting. Current as of update date.

(Does not include emissions from Lagoons or enteric emissions from cows)

Mitigated

Name	Agricultural Lagoon Emissions from Dairy Operations														Lagoon Area m ²	Lagoon Fraction			
Applicability	Use this spreadsheet when the emissions are from a Dairy Lagoon sources and the VOC rates are known. The VOC rates are linked to the RMR worksheet cells VOC rates in 'Lagoon/Storage Pond row'. Enter values into the Lagoon area calculator on the right to determine area fraction(s). Total ammonia value is linked to the RMR worksheet cells, 'Lagoon/Storage Pond'. Individual Lagoon values are calculated by multiplying the total lagoon ammonia by their area fraction. Entries required in yellow areas, output in gray areas.														3,312.00	0.05			
Author or updater	Matthew Cegielski		Last Update	September 12, 2018											3,312.00	0.05			
Facility:	Correia Family Dairy Expansion													3,312.00	0.05				
ID#:	N-6126													53,019.80	0.81				
Project #:	N/A													2,400.00	0.04				
Inputs	lb/hr	lb/yr	Formula											Totals	65,355.80	1.00			
VOC Rate	0.38	3,322	Emissions are calculated by the multiplication of the VOC rates, area fraction, and emission factors.												lb/hr	lb/yr			
			Lagoon Area Fraction		0.05		0.05		0.05		0.05		0.81		0.04		Lagoon NH3	3.33E-01	2.92E+03
Substances	CAS#	Emissions Factors lb/VOC*	LB/HR	LB/YR	Weeping Wall 01 LB/HR	Weeping Wall 01 LB/YR	Weeping Wall 02 LB/HR	Weeping Wall 02 LB/YR	Weeping Wall 03 LB/HR	Weeping Wall 03 LB/YR	Lagoon 01 LB/HR	Lagoon 01 LB/YR	Settling Basin LB/HR	Settling Basin LB/YR					
1,1,2,2-Tetrachloroethane	79345	3.44E-02	1.30E-02	1.14E+02	6.61E-04	5.79E+00	6.61E-04	5.79E+00	6.61E-04	5.79E+00	1.06E-02	9.28E+01	4.79E-04	4.19E+00					
1,1,2-Trichloroethane	79005	7.94E-03	3.01E-03	2.64E+01	1.53E-04	1.34E+00	1.53E-04	1.34E+00	1.53E-04	1.34E+00	2.44E-03	2.14E+01	1.11E-04	9.68E-01					
1,2,4-Trimethylbenzene	95506	2.94E-02	1.11E-02	9.78E+01	5.84E-04	4.94E+00	5.84E-04	4.94E+00	5.84E-04	4.94E+00	9.04E-03	7.92E+01	4.09E-04	3.58E+00					
1,2-Dichlorobenzene	95501	6.25E-02	2.37E-02	2.08E+02	1.20E-03	1.05E+01	1.20E-03	1.05E+01	1.20E-03	1.05E+01	1.92E-02	1.68E+02	8.70E-04	7.62E+00					
1,3-Dichlorobenzene	541731	4.94E-02	1.87E-02	1.64E+02	9.49E-04	8.31E+00	9.49E-04	8.31E+00	9.49E-04	8.31E+00	1.52E-02	1.33E+02	6.87E-04	6.02E+01					
1,3-Dichloropropene	542756	7.44E-03	2.82E-03	2.47E+01	1.43E-04	1.25E+00	1.43E-04	1.25E+00	1.43E-04	1.25E+00	2.29E-03	2.00E+01	1.04E-04	9.07E-01					
1,4 Dioxane	123911	2.50E-02	9.48E-03	8.30E+01	4.80E-04	4.21E+00	4.80E-04	4.21E+00	4.80E-04	4.21E+00	7.69E-03	6.74E+01	3.48E-04	3.05E+00					
1,4-Dichloro-2-butene	764410	6.88E-02	2.61E-02	2.28E+02	1.32E-03	1.16E+01	1.32E-03	1.16E+01	1.32E-03	1.16E+01	2.11E-02	1.85E+02	9.57E-04	8.39E+00					
1,4-Dichlorobenzene	106467	5.19E-02	1.97E-02	1.72E+02	9.97E-04	8.73E+00	9.97E-04	8.73E+00	9.97E-04	8.73E+00	1.60E-02	1.40E+02	7.22E-04	6.33E+00					
Acetaldehyde	75070	1.56E-02	5.92E-03	5.19E+01	3.00E-04	2.63E+00	3.00E-04	2.63E+00	3.00E-04	2.63E+00	4.81E-03	4.21E+01	2.18E-04	1.91E+00					
Acrylonitrile	107131	7.31E-03	2.77E-03	2.43E+01	1.41E-04	1.23E+00	1.41E-04	1.23E+00	1.41E-04	1.23E+00	2.25E-03	1.97E+01	1.02E-04	8.92E-01					
Benzene	71432	2.88E-03	1.09E-03	9.55E+00	5.52E-05	4.84E-01	5.52E-05	4.84E-01	5.52E-05	4.84E-01	8.84E-04	7.75E+00	4.00E-05	3.51E-01					
Benzyl chloride	100447	3.13E-02	1.18E-02	1.04E+02	6.00E-04	5.26E+00	6.00E-04	5.26E+00	6.00E-04	5.26E+00	9.61E-03	8.42E+01	4.35E-04	3.81E+00					
Carbon disulfide	75150	3.94E-02	1.49E-02	1.31E+02	7.57E-04	6.63E+00	7.57E-04	6.63E+00	7.57E-04	6.63E+00	1.21E-02	1.06E+02	5.48E-04	4.80E+00					
Chlorobenzene	108907	1.31E-02	4.98E-03	4.36E+01	2.52E-04	2.21E+00	2.52E-04	2.21E+00	2.52E-04	2.21E+00	4.04E-03	3.54E+01	1.83E-04	1.60E+00					
Cumene	98928	1.94E-02	7.35E-03	6.44E+01	3.72E-04	3.26E+00	3.72E-04	3.26E+00	3.72E-04	3.26E+00	5.96E-03	5.22E+01	2.70E-04	2.36E+00					
Cyclohexane	110827	8.19E-03	3.10E-03	2.72E+01	1.57E-04	1.38E+00	1.57E-04	1.38E+00	1.57E-04	1.38E+00	2.52E-03	2.21E+01	1.14E-04	9.99E-01					
Ethyl Chloride	75003	4.63E-03	1.75E-03	1.54E+01	8.89E-05	7.78E-01	8.89E-05	7.78E-01	8.89E-05	7.78E-01	1.42E-03	1.25E+01	6.44E-05	5.84E-01					
Ethylbenzene	100414	1.00E-02	3.79E-03	3.32E+01	1.92E-04	1.68E+00	1.92E-04	1.68E+00	1.92E-04	1.68E+00	3.08E-03	2.69E+01	1.39E-04	1.22E+00					
Ethylene Dibromide (EDB)	106934	1.44E-02	5.45E-03	4.77E+01	2.76E-04	2.42E+00	2.76E-04	2.42E+00	2.76E-04	2.42E+00	4.42E-03	3.87E+01	2.00E-04	1.75E+00					
Ethylene Dichloride (EDC)	107062	4.06E-03	1.54E-03	1.35E+01	7.81E-05	6.84E-01	7.81E-05	6.84E-01	7.81E-05	6.84E-01	1.25E-03	1.09E+01	5.66E-05	4.96E-01					
Formaldehyde	50000	8.13E-03	3.08E-03	2.70E+01	1.56E-04	1.37E+00	1.56E-04	1.37E+00	1.56E-04	1.37E+00	2.50E-03	2.19E+01	1.13E-04	9.91E-01					
Hexane	110543	4.31E-03	1.64E-03	1.43E+01	8.29E-05	7.26E-01	8.29E-05	7.26E-01	8.29E-05	7.26E-01	1.33E-03	1.16E+01	6.00E-05	5.26E-01					
Isopropyl Alcohol	67630	7.50E-03	2.84E-03	2.49E+01	1.44E-04	1.26E+00	1.44E-04	1.26E+00	1.44E-04	1.26E+00	2.31E-03	2.02E+01	1.04E-04	9.15E-01					
Methyl Ethyl Ketone	78933	1.38E-02	5.21E-03	4.57E+01	2.64E-04	2.31E+00	2.64E-04	2.31E+00	2.64E-04	2.31E+00	4.23E-03	3.71E+01	1.91E-04	1.68E+00					
Methyl Isobutyl Ketone	109101	1.13E-02	4.29E-03	3.76E+01	2.17E-04	1.90E+00	2.17E-04	1.90E+00	2.17E-04	1.90E+00	3.49E-03	3.05E+01	1.58E-04	1.35E+00					
Napthalene	91203	1.88E-01	7.11E-02	6.23E+02	3.60E-03	3.16E+01	3.60E-03	3.16E+01	3.60E-03	3.16E+01	5.77E-02	5.05E+02	2.61E-03	2.29E+01					
Perchloroethylene	127184	1.75E-01	6.64E-02	5.81E+02	3.36E-03	2.95E+01	3.36E-03	2.95E+01	3.36E-03	2.95E+01	5.38E-02	4.72E+02	2.44E-03	2.13E+01					
Styrene	100425	1.63E-02	6.16E-03	5.40E+01	3.12E-04	2.74E+00	3.12E-04	2.74E+00	3.12E-04	2.74E+00	5.00E-03	4.38E+01	2.26E-04	1.98E+00					
Toluene	108883	1.25E-02	4.74E-03	4.15E+01	2.40E-04	2.10E+00	2.40E-04	2.10E+00	2.40E-04	2.10E+00	3.84E-03	3.37E+01	1.74E-04	1.52E+00					
Trichloroethylene	79016	1.12E-02	4.24E-03	3.72E+01	2.15E-04	1.88E+00	2.15E-04	1.88E+00	2.15E-04	1.88E+00	3.44E-03	3.01E+01	1.56E-04	1.36E+00					
Xylenes	1330207	1.88E-02	7.11E-03	6.23E+01	3.60E-04	3.16E+00	3.60E-04	3.16E+00	3.60E-04	3.16E+00	5.77E-03	5.05E+01	2.61E-04	2.29E+00					
Ammonia	7664417				1.689E-02	1.480E+02	1.689E-02	1.480E+02	1.689E-02	1.480E+02	2.704E-01	2.369E+03	1.224E-02	1.072E+02					
References:																			
*Emission factors are derived from data used to establish the District's volatile organic compound (VOC) emission factor for dairies																			
Pollutants required for toxic reporting. Current as of update date.																			
(Does not include emissions from Miscellaneous Processes or enteric emissions from cows)																			

APPENDIX C. AAQA TABLES

Operational AAQA Inputs

Correia Family Dairy Expansion

Table C-1. Unmitigated AAQA Operational Emissions

Source Name		Pounds/Year					AAQA Emission Inputs (g/sec)											
		NOx	CO	SO2	PM10	PM2.5	NOx 1 Hour	NOx Annual	CO 1 Hour	CO 8 Hour	SOx 1 Hour	SOx 3 Hour	SOx 24 Hour	SOx Annual	PM10 24 Hour	PM10 Annual	PM2.5 24 Hour	PM2.5 Annual
Free Stall Barn 01	BRN01	0.00	0.00	0.00	123.00	123.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.77E-03	1.77E-03	1.77E-03	1.77E-03
Free Stall Barn 02	BRN02	0.00	0.00	0.00	589.00	589.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.47E-03	8.47E-03	8.47E-03	8.47E-03
Free Stall Barn 03	BRN03	0.00	0.00	0.00	0.00	0.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Free Stall Barn 04	BRN04	0.00	0.00	0.00	0.00	0.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Free Stall Barn 05	BRN05	0.00	0.00	0.00	303.00	303.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.36E-03	4.36E-03	4.36E-03	4.36E-03
Free Stall Barn 06	BRN06	0.00	0.00	0.00	0.00	0.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Free Stall Barn 07	BRN07	0.00	0.00	0.00	61.00	61.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.77E-04	8.77E-04	8.77E-04	8.77E-04
Free Stall Barn 08	BRN08	0.00	0.00	0.00	269.00	269.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.87E-03	3.87E-03	3.87E-03	3.87E-03
Loaf Barn 01	LFB01	0.00	0.00	0.00	1,320.00	1,320.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.90E-02	1.90E-02	1.90E-02	1.90E-02
Loaf Barn 02	LFB02	0.00	0.00	0.00	4,884.00	4,884.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.02E-02	7.02E-02	7.02E-02	7.02E-02
Calf Hutches	CH01	0.00	0.00	0.00	96.00	96.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.38E-03	1.38E-03	1.38E-03	1.38E-03
Road Segment 1	RS01	9.39	1.41	0.04	0.02	0.02	1.35E-04	1.35E-04	2.03E-05	2.03E-05	5.85E-07	5.85E-07	5.85E-07	5.85E-07	2.81E-07	2.81E-07	2.69E-07	2.69E-07
Road Segment 2	RS02	1.99	0.30	0.01	0.00	0.00	2.86E-05	2.86E-05	4.30E-06	4.30E-06	1.24E-07	1.24E-07	1.24E-07	1.24E-07	5.94E-08	5.94E-08	5.69E-08	5.69E-08
Road Segment 3	RS03	2.87	0.43	0.01	0.01	0.01	4.13E-05	4.13E-05	6.22E-06	6.22E-06	1.79E-07	1.79E-07	1.79E-07	1.79E-07	8.60E-08	8.60E-08	8.23E-08	8.23E-08
Road Segment 4	RS04	1.94	0.29	0.01	0.00	0.00	2.80E-05	2.80E-05	4.21E-06	4.21E-06	1.21E-07	1.21E-07	1.21E-07	1.21E-07	5.82E-08	5.82E-08	5.57E-08	5.57E-08
Road Segment 5	RS05	9.40	1.41	0.04	0.02	0.02	1.35E-04	1.35E-04	2.03E-05	2.03E-05	5.86E-07	5.86E-07	5.86E-07	5.86E-07	2.81E-07	2.81E-07	2.69E-07	2.69E-07
Road Segment 6	RS06	1.01	0.15	0.00	0.00	0.00	1.46E-05	1.46E-05	2.20E-06	2.20E-06	6.33E-08	6.33E-08	6.33E-08	6.33E-08	3.04E-08	3.04E-08	2.91E-08	2.91E-08
Road Segment 7	RS07	1.96	0.29	0.01	0.00	0.00	2.81E-05	2.81E-05	4.23E-06	4.23E-06	1.22E-07	1.22E-07	1.22E-07	1.22E-07	5.86E-08	5.86E-08	5.60E-08	5.60E-08
Quarter Mile Off Site	OFT1	4.21	0.63	0.02	0.01	0.01	6.05E-05	6.05E-05	9.11E-06	9.11E-06	2.62E-07	2.62E-07	2.62E-07	2.62E-07	1.26E-07	1.26E-07	1.21E-07	1.21E-07
Milk Tanker Idling	MTI	0.38	0.44	0.00	0.00	0.00	5.44E-06	5.44E-06	6.31E-06	6.31E-06	1.08E-08	1.08E-08	1.08E-08	1.08E-08	1.10E-08	1.10E-08	1.05E-08	1.05E-08
Commodity Truck Idling	CTI	0.24	0.28	0.00	0.00	0.00	3.49E-06	3.49E-06	4.04E-06	4.04E-06	6.92E-09	6.92E-09	6.92E-09	6.92E-09	7.03E-09	7.03E-09	6.73E-09	6.73E-09
Manure Transport Idling	SMI	0.59	0.68	0.00	0.00	0.00	8.42E-06	8.42E-06	9.76E-06	9.76E-06	1.67E-08	1.67E-08	1.67E-08	1.67E-08	1.70E-08	1.70E-08	1.62E-08	1.62E-08
Scraping 01	SCRPO1	2.08	1.83	0.03	0.15	0.15	3.00E-05	3.00E-05	2.63E-05	2.63E-05	4.23E-07	4.23E-07	4.23E-07	4.23E-07	2.10E-06	2.10E-06	2.10E-06	2.10E-06
Scraping 02	SCRPO2	1.19	1.05	0.02	0.08	0.08	1.72E-05	1.72E-05	1.51E-05	1.51E-05	2.42E-07	2.42E-07	2.42E-07	2.42E-07	1.20E-06	1.20E-06	1.20E-06	1.20E-06
Manure Loading Tractor	MTI	7.21	11.86	0.18	0.71	0.71	1.04E-04	1.04E-04	1.71E-04	1.71E-04	2.61E-06	2.61E-06	2.61E-06	2.61E-06	1.02E-05	1.02E-05	1.02E-05	1.02E-05
Bedding Delivery 01	BED01	10.46	9.18	0.15	0.73	0.73	1.50E-04	1.50E-04	1.32E-04	1.32E-04	2.12E-06	2.12E-06	2.12E-06	2.12E-06	1.06E-05	1.06E-05	1.06E-05	1.06E-05
Bedding Delivery 02	BED02	5.99	5.25	0.08	0.42	0.42	8.61E-05	8.61E-05	7.56E-05	7.56E-05	1.22E-06	1.22E-06	1.22E-06	1.22E-06	6.04E-06	6.04E-06	6.04E-06	6.04E-06

Operational AAQA Results

Correia Family Dairy Expansion

Table C-2a. Unmitigated AAQA Summary Report Table

Device	NOx 1 Hour	NOx Annual	CO 1 Hour	CO 8 Hour	SOx 1 Hour	SOx 3 Hour	SOx 24 Hour	SOx Annual	PM10 24 Hour	PM10 Annual	PM2.5 24 Hour	PM2.5 Annual
BRN01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.01	0.00
BRN02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.02	0.07	0.00
BRN03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BRN04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BRN05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.01	0.03	0.00
BRN06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BRN07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.01	0.00
BRN08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.95	0.21	0.34	0.02
LFB01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.02	0.07	0.00
LFB02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	153.00	22.20	17.44	2.53
CH01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.22	0.02	0.37	0.00
RS01	0.04	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RS02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RS03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RS04	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RS05	0.52	0.01	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RS06	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RS07	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OFTT	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MTI	0.00	0.00	0.02	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MTI	0.08	0.00	0.02	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CTI	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SMI	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SCRPO1	0.03	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SCRPO2	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MTI	0.08	0.00	0.02	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MTI	0.00	0.00	0.02	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BED01	0.14	0.02	0.03	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BED02	0.01	0.00	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Facility Total	1.30E+00	6.00E-02	5.84E-01	7.07E-01	1.51E-02	7.28E-03	7.11E-03	5.57E-04	1.61E+02	2.25E+01	1.83E+01	2.56E+00
Background	91.83	20.37	3262.00	1631.00	13.32	11.99	6.13	1.15	128.00	37.00	41.20	10.10
Project Totals	93.13	20.43	3263	1632	13.34	12.00	6.14	1.15	288.93	59.49	59.55	12.66
AAQS	188.68	57	23000	10000	196	1300	105	80	50	20	35	9
	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Fail	Fail	Fail	Fail

Note: All values are in µg/m³

Table C-2b. Unmitigated Project Significance Level Comparison

Category	NOx 1 Hour	NOx Annual	CO 1 Hour	CO 8 Hour	SOx 1 Hour	SOx 3 Hour	SOx 24 Hour	SOx Annual	PM10 24 Hour	PM10 Annual	PM2.5 24 Hour	PM2.5 Annual
Project	--	--	--	--	--	--	--	--	160.93	22.49	18.35	2.56
SIL	7.5	1	2000	500	7.8	25	5	1	10.4	2.08	2.5	0.63
									Fail	Fail	Fail	Fail

Note: All values are in µg/m³

AAQA for Correia Family Dairy Expansion (N-6126)

All Values are in ug/m^3

	NOx 1 Hour	NOx Annual	CO 1 Hour	CO 8 Hour	SOx 1 Hour	SOx 3 Hour	SOx 24 Hour	SOx Annual	PM 24 Hour	PM Annual
BRN01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.153E-01	3.477E-03
BRN02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.346E-01	1.970E-02
BRN03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BRN04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BRN05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.888E-01	7.036E-03
BRN06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BRN07	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.769E-02	1.720E-03
BRN08	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.947E+00	2.119E-01
LFB01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.436E-01	2.067E-02
LFB02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.526E+02	2.216E+01
CH01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.224E+00	2.105E-02
RS01	4.215E-02	2.980E-02	3.058E-03	3.594E-03	1.827E-04	7.250E-05	5.081E-05	1.249E-04	1.135E-05	5.621E-07
RS02	1.370E-02	8.357E-05	8.377E-04	9.155E-04	5.938E-05	2.030E-05	1.077E-05	4.672E-07	1.512E-06	5.385E-08
RS03	1.480E-02	6.501E-05	5.801E-04	5.053E-04	6.414E-05	1.374E-05	6.831E-06	3.332E-07	9.444E-07	5.374E-08
RS04	1.861E-01	1.234E-04	6.673E-04	3.233E-03	8.068E-04	1.074E-05	4.317E-05	6.949E-07	7.826E-07	5.165E-08
RS05	5.210E-01	5.170E-03	3.092E-03	1.720E-02	2.258E-03	5.670E-05	3.187E-04	2.234E-05	9.436E-06	5.529E-07
RS06	7.309E-03	3.438E-05	3.212E-04	4.734E-04	3.168E-05	7.444E-06	5.391E-06	1.842E-07	5.936E-07	2.289E-08
RS07	1.444E-01	1.770E-04	8.193E-04	4.301E-03	6.258E-04	1.328E-05	5.447E-05	1.086E-06	9.651E-07	6.226E-08
OFTT	8.212E-03	8.505E-04	4.081E-03	6.773E-04	3.559E-05	1.011E-04	1.160E-05	2.202E-06	1.968E-05	4.878E-07
MTI	4.427E-03	8.076E-04	2.191E-02	1.508E-01	2.122E-03	1.954E-04	1.525E-03	2.846E-05	2.124E-04	1.180E-05

MTI	8.440E-02	8.076E-04	2.191E-02	1.508E-01	2.122E-03	1.954E-04	1.525E-03	2.846E-05	2.124E-04	1.180E-05
CTI	1.600E-03	1.505E-05	5.482E-04	8.111E-04	3.175E-06	5.220E-07	8.179E-07	4.100E-08	1.330E-07	7.063E-09
SMI	2.259E-03	1.523E-05	1.092E-03	6.997E-04	4.483E-06	1.513E-06	4.887E-07	3.569E-08	2.787E-07	1.202E-08
SCRPO1	2.723E-02	3.358E-03	6.115E-03	1.118E-02	3.843E-04	7.016E-05	8.285E-05	4.797E-05	1.162E-04	4.343E-06
SCRPO2	2.490E-03	3.970E-05	7.437E-02	6.336E-04	3.515E-05	9.635E-04	4.213E-06	4.883E-07	8.343E-04	1.381E-04
MTI	8.440E-02	8.076E-04	2.191E-02	1.508E-01	2.122E-03	1.954E-04	1.525E-03	2.846E-05	2.124E-04	1.180E-05
MTI	4.427E-03	8.076E-04	2.191E-02	1.508E-01	2.122E-03	1.954E-04	1.525E-03	2.846E-05	2.124E-04	1.180E-05
BED01	1.367E-01	1.680E-02	2.778E-02	5.578E-02	1.929E-03	3.269E-04	4.148E-04	2.403E-04	5.413E-04	2.048E-05
BED02	1.250E-02	1.993E-04	3.734E-01	3.181E-03	1.765E-04	4.837E-03	2.115E-05	2.451E-06	4.188E-03	6.935E-04

Facility Totals	1.298E+00	5.996E-02	5.844E-01	7.065E-01	1.509E-02	7.277E-03	7.125E-03	5.573E-04	1.605E+02	2.245E+01
AAQS	188.68	100	23000	10000	200	1300	105	80	50	20
	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Fail	Fail

EPA's Significance Level (ug/m^3)

NOx 1 Hour	NOx Annual	CO 1 Hour	CO 8 Hour	SOx 1 Hour	SOx 3 Hour	SOx 24 Hour	SOx Annual	PM 24 Hour	PM Annual
8.0	1.0	2000.0	500.0	0.0	25.0	5.0	1.0	5.0	1.0

AAQA Emission (g/sec)

<i>Device</i>	NOx 1 Hour	NOx Annual	CO 1 Hour	CO 8 Hour	SOx 1 Hour	SOx 3 Hour	SOx 24 Hour	SOx Annual	PM 24 Hour	PM Annual
BRN01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.77E-03	1.77E-03
BRN02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.47E-03	8.47E-03
BRN03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BRN04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BRN05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.36E-03	4.36E-03
BRN06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BRN07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.77E-04	8.77E-04
BRN08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.87E-03	3.87E-03
LFB01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.90E-02	1.90E-02
LFB02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.02E-02	7.02E-02
CH01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.38E-03	1.38E-03
RS01	1.35E-04	1.35E-04	2.03E-05	2.03E-05	5.85E-07	5.85E-07	5.85E-07	5.85E-07	2.81E-07	2.81E-07
RS02	2.86E-05	2.86E-05	4.30E-06	4.30E-06	1.24E-07	1.24E-07	1.24E-07	1.24E-07	5.94E-08	5.94E-08
RS03	4.13E-05	4.13E-05	6.22E-06	6.22E-06	1.79E-07	1.79E-07	1.79E-07	1.79E-07	8.60E-08	8.60E-08
RS04	2.80E-05	2.80E-05	4.21E-06	4.21E-06	1.21E-07	1.21E-07	1.21E-07	1.21E-07	5.82E-08	5.82E-08
RS05	1.35E-04	1.35E-04	2.03E-05	2.03E-05	5.86E-07	5.86E-07	5.86E-07	5.86E-07	2.81E-07	2.81E-07
RS06	1.46E-05	1.46E-05	2.20E-06	2.20E-06	6.33E-08	6.33E-08	6.33E-08	6.33E-08	3.04E-08	3.04E-08
RS07	2.81E-05	2.81E-05	4.23E-06	4.23E-06	1.22E-07	1.22E-07	1.22E-07	1.22E-07	5.86E-08	5.86E-08
OFTT	6.05E-05	6.05E-05	9.11E-06	9.11E-06	2.62E-07	2.62E-07	2.62E-07	2.62E-07	1.26E-07	1.26E-07
MTI	5.44E-06	5.44E-06	6.31E-06	6.31E-06	1.08E-08	1.08E-08	1.08E-08	1.08E-08	1.10E-08	1.10E-08
CTI	3.49E-06	3.49E-06	4.04E-06	4.04E-06	6.92E-09	6.92E-09	6.92E-09	6.92E-09	7.03E-09	7.03E-09
SMI	8.42E-06	8.42E-06	9.76E-06	9.76E-06	1.67E-08	1.67E-08	1.67E-08	1.67E-08	1.70E-08	1.70E-08
SCRPO1	3.00E-05	3.00E-05	2.63E-05	2.63E-05	4.23E-07	4.23E-07	4.23E-07	4.23E-07	2.10E-06	2.10E-06
SCRPO2	1.72E-05	1.72E-05	1.51E-05	1.51E-05	2.42E-07	2.42E-07	2.42E-07	2.42E-07	1.20E-06	1.20E-06
MTI	1.04E-04	1.04E-04	1.71E-04	1.71E-04	2.61E-06	2.61E-06	2.61E-06	2.61E-06	1.02E-05	1.02E-05
BED01	1.50E-04	1.50E-04	1.32E-04	1.32E-04	2.12E-06	2.12E-06	2.12E-06	2.12E-06	1.06E-05	1.06E-05
BED02	8.61E-05	8.61E-05	7.56E-05	7.56E-05	1.22E-06	1.22E-06	1.22E-06	1.22E-06	6.04E-06	6.04E-06

Operational AAQA Inputs

Correia Family Dairy Expansion

Table C-3. AAQA Operational Emissions

Source Name		Pounds/Year					AAQA Emission Inputs (g/sec)											
		NOx	CO	SO2	PM10	PM2.5	NOx 1 Hour	NOx Annual	CO 1 Hour	CO 8 Hour	SOx 1 Hour	SOx 3 Hour	SOx 24 Hour	SOx Annual	PM10 24 Hour	PM10 Annual	PM2.5 24 Hour	PM2.5 Annual
Free Stall Barn 01	BRN01	0.00	0.00	0.00	0.00	0.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Free Stall Barn 02	BRN02	0.00	0.00	0.00	0.00	0.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Free Stall Barn 03	BRN03	0.00	0.00	0.00	0.00	0.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Free Stall Barn 04	BRN04	0.00	0.00	0.00	0.00	0.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Free Stall Barn 05	BRN05	0.00	0.00	0.00	0.00	0.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Free Stall Barn 06	BRN06	0.00	0.00	0.00	0.00	0.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Free Stall Barn 07	BRN07	0.00	0.00	0.00	0.00	0.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Free Stall Barn 08	BRN08	0.00	0.00	0.00	0.00	0.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Loaf Barn 01	LFB01	0.00	0.00	0.00	132.00	132.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.90E-03	1.90E-03	1.90E-03	1.90E-03
Loaf Barn 02	LFB02	0.00	0.00	0.00	127.00	127.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.83E-03	1.83E-03	1.83E-03	1.83E-03
Calf Hutches	CH01	0.00	0.00	0.00	87.00	87.00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.25E-03	1.25E-03	1.25E-03	1.25E-03
Road Segment 1	RS01	9.39	1.41	0.04	0.02	0.02	1.35E-04	1.35E-04	2.03E-05	2.03E-05	5.85E-07	5.85E-07	5.85E-07	5.85E-07	2.81E-07	2.81E-07	2.69E-07	2.69E-07
Road Segment 2	RS02	1.99	0.30	0.01	0.00	0.00	2.86E-05	2.86E-05	4.30E-06	4.30E-06	1.24E-07	1.24E-07	1.24E-07	1.24E-07	5.94E-08	5.94E-08	5.69E-08	5.69E-08
Road Segment 3	RS03	2.87	0.43	0.01	0.01	0.01	4.13E-05	4.13E-05	6.22E-06	6.22E-06	1.79E-07	1.79E-07	1.79E-07	1.79E-07	8.60E-08	8.60E-08	8.23E-08	8.23E-08
Road Segment 4	RS04	1.94	0.29	0.01	0.00	0.00	2.80E-05	2.80E-05	4.21E-06	4.21E-06	1.21E-07	1.21E-07	1.21E-07	1.21E-07	5.82E-08	5.82E-08	5.57E-08	5.57E-08
Road Segment 5	RS05	9.40	1.41	0.04	0.02	0.02	1.35E-04	1.35E-04	2.03E-05	2.03E-05	5.86E-07	5.86E-07	5.86E-07	5.86E-07	2.81E-07	2.81E-07	2.69E-07	2.69E-07
Road Segment 6	RS06	1.01	0.15	0.00	0.00	0.00	1.46E-05	1.46E-05	2.20E-06	2.20E-06	6.33E-08	6.33E-08	6.33E-08	6.33E-08	3.04E-08	3.04E-08	2.91E-08	2.91E-08
Road Segment 7	RS07	1.96	0.29	0.01	0.00	0.00	2.81E-05	2.81E-05	4.23E-06	4.23E-06	1.22E-07	1.22E-07	1.22E-07	1.22E-07	5.86E-08	5.86E-08	5.60E-08	5.60E-08
Quarter Mile Off Site	OFT1	4.21	0.63	0.02	0.01	0.01	6.05E-05	6.05E-05	9.11E-06	9.11E-06	2.62E-07	2.62E-07	2.62E-07	2.62E-07	1.26E-07	1.26E-07	1.21E-07	1.21E-07
Milk Tanker Idling	MTI	0.38	0.44	0.00	0.00	0.00	5.44E-06	5.44E-06	6.31E-06	6.31E-06	1.08E-08	1.08E-08	1.08E-08	1.08E-08	1.10E-08	1.10E-08	1.05E-08	1.05E-08
Commodity Truck Idling	CTI	0.24	0.28	0.00	0.00	0.00	3.49E-06	3.49E-06	4.04E-06	4.04E-06	6.92E-09	6.92E-09	6.92E-09	6.92E-09	7.03E-09	7.03E-09	6.73E-09	6.73E-09
Manure Transport Idling	SMI	0.59	0.68	0.00	0.00	0.00	8.42E-06	8.42E-06	9.76E-06	9.76E-06	1.67E-08	1.67E-08	1.67E-08	1.67E-08	1.70E-08	1.70E-08	1.62E-08	1.62E-08
Scraping 01	SCRPO1	2.08	1.83	0.03	0.15	0.15	3.00E-05	3.00E-05	2.63E-05	2.63E-05	4.23E-07	4.23E-07	4.23E-07	4.23E-07	2.10E-06	2.10E-06	2.10E-06	2.10E-06
Scraping 02	SCRPO2	1.19	1.05	0.02	0.08	0.08	1.72E-05	1.72E-05	1.51E-05	1.51E-05	2.42E-07	2.42E-07	2.42E-07	2.42E-07	1.20E-06	1.20E-06	1.20E-06	1.20E-06
Manure Loading Tractor	MTI	7.21	11.86	0.18	0.71	0.71	1.04E-04	1.04E-04	1.71E-04	1.71E-04	2.61E-06	2.61E-06	2.61E-06	2.61E-06	1.02E-05	1.02E-05	1.02E-05	1.02E-05
Bedding Delivery 01	BED01	10.46	9.18	0.15	0.73	0.73	1.50E-04	1.50E-04	1.32E-04	1.32E-04	2.12E-06	2.12E-06	2.12E-06	2.12E-06	1.06E-05	1.06E-05	1.06E-05	1.06E-05
Bedding Delivery 02	BED02	5.99	5.25	0.08	0.42	0.42	8.61E-05	8.61E-05	7.56E-05	7.56E-05	1.22E-06	1.22E-06	1.22E-06	1.22E-06	6.04E-06	6.04E-06	6.04E-06	6.04E-06

Operational AAQA Results

Correia Family Dairy Expansion

Table C-4a. Mitigated AAQA Summary Report Table

Device	NOx 1 Hour	NOx Annual	CO 1 Hour	CO 8 Hour	SOx 1 Hour	SOx 3 Hour	SOx 24 Hour	SOx Annual	PM10 24 Hour	PM10 Annual	PM2.5 24 Hour	PM2.5 Annual
BRN01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BRN02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BRN03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BRN04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BRN05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BRN06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BRN07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BRN08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
LFB01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.33E-02	2.68E-03	8.36E-03	3.06E-04
LFB02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.99E+00	3.71E-01	3.41E-01	4.23E-02
CH01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.06E+00	6.91E-01	6.91E-01	7.88E-02
RS01	4.21E-02	2.98E-02	3.06E-03	3.59E-03	1.83E-04	7.25E-05	5.08E-05	1.25E-04	1.17E-05	8.19E-07	1.33E-06	9.34E-08
RS02	1.37E-02	8.36E-05	8.38E-04	9.15E-04	5.94E-05	2.03E-05	1.08E-05	4.67E-07	1.46E-06	6.68E-08	1.66E-07	7.62E-09
RS03	1.48E-02	6.50E-05	5.80E-04	5.05E-04	6.41E-05	1.37E-05	6.83E-06	3.33E-07	9.08E-07	6.37E-08	1.04E-07	7.26E-09
RS04	1.86E-01	1.23E-04	6.67E-04	3.23E-03	8.07E-04	1.07E-05	4.32E-05	6.95E-07	7.67E-07	6.39E-08	8.74E-08	7.28E-09
RS05	5.21E-01	5.17E-03	3.09E-03	1.72E-02	2.26E-03	5.67E-05	3.19E-04	2.23E-05	9.56E-06	8.09E-07	1.09E-06	9.22E-08
RS06	7.31E-03	3.44E-05	3.21E-04	4.73E-04	3.17E-05	7.44E-06	5.39E-06	1.84E-07	5.88E-07	2.77E-08	6.70E-08	3.16E-09
RS07	1.44E-01	1.77E-04	8.19E-04	4.30E-03	6.26E-04	1.33E-05	5.45E-05	1.09E-06	9.90E-07	7.89E-08	1.13E-07	8.99E-09
OFTT	8.21E-03	8.50E-04	4.08E-03	6.77E-04	3.56E-05	1.01E-04	1.16E-05	2.20E-06	2.01E-05	8.23E-07	2.29E-06	9.38E-08
MTI	4.43E-03	8.08E-04	2.19E-02	1.51E-01	2.12E-03	1.95E-04	1.52E-03	2.85E-05	2.07E-04	1.52E-05	2.36E-05	1.73E-06
MTI	8.44E-02	8.08E-04	2.19E-02	1.51E-01	2.12E-03	1.95E-04	1.52E-03	2.85E-05	2.07E-04	1.52E-05	2.36E-05	1.73E-06
CTI	1.60E-03	1.51E-05	5.48E-04	8.11E-04	3.17E-06	5.22E-07	8.18E-07	4.10E-08	1.37E-07	8.94E-09	1.56E-08	1.02E-09
SMI	2.26E-03	1.52E-05	1.09E-03	7.00E-04	4.48E-06	1.51E-06	4.89E-07	3.57E-08	2.80E-07	1.45E-08	3.19E-08	1.65E-09
SCRPO1	2.72E-02	3.36E-03	6.11E-03	1.12E-02	3.84E-04	7.02E-05	8.28E-05	4.80E-05	1.22E-04	6.23E-06	1.39E-05	7.10E-07
SCRPO2	2.49E-03	3.97E-05	7.44E-02	6.34E-04	3.51E-05	9.64E-04	4.21E-06	4.88E-07	5.94E-04	1.08E-04	6.77E-05	1.23E-05
MTI	8.44E-02	8.08E-04	2.19E-02	1.51E-01	2.12E-03	1.95E-04	1.52E-03	2.85E-05	2.07E-04	1.52E-05	2.36E-05	1.73E-06
MTI	4.43E-03	8.08E-04	2.19E-02	1.51E-01	2.12E-03	1.95E-04	1.52E-03	2.85E-05	2.07E-04	1.52E-05	2.36E-05	1.73E-06
BED01	1.37E-01	1.68E-02	2.78E-02	5.58E-02	1.93E-03	3.27E-04	4.15E-04	2.40E-04	5.58E-04	2.90E-05	6.36E-05	3.31E-06
BED02	1.25E-02	1.99E-04	3.73E-01	3.18E-03	1.76E-04	4.84E-03	2.11E-05	2.45E-06	2.98E-03	5.40E-04	3.40E-04	6.16E-05
Facility Total	1.30E+00	6.00E-02	5.84E-01	7.07E-01	1.51E-02	7.28E-03	7.11E-03	5.57E-04	9.13E+00	1.07E+00	1.04E+00	1.21E-01
Background	91.83	20.37	3262.00	1631.00	13.32	11.99	6.13	1.15	128.00	37.00	41.20	10.10
Project Totals	93.13	20.43	3263	1632	13.34	12.00	6.14	1.15	137.13	38.07	42.24	10.22
<i>AAQS</i>	<i>188.68</i>	<i>57</i>	<i>23000</i>	<i>10000</i>	<i>196</i>	<i>1300</i>	<i>105</i>	<i>80</i>	<i>50</i>	<i>20</i>	<i>35</i>	<i>9</i>
	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass*	Pass*	Pass*	Pass*

Note: All values are in µg/m³

Table C-4b. Mitigated Project Significance Level Comparison

Category	NOx 1 Hour	NOx Annual	CO 1 Hour	CO 8 Hour	SOx 1 Hour	SOx 3 Hour	SOx 24 Hour	SOx Annual	PM10 24 Hour	PM10 Annual	PM2.5 24 Hour	PM2.5 Annual
Project	--	--	--	--	--	--	--	--	9.13	1.07	1.04	0.12
<i>SIL</i>	<i>7.5</i>	<i>1</i>	<i>2000</i>	<i>500</i>	<i>7.8</i>	<i>25</i>	<i>5</i>	<i>1</i>	<i>10.4</i>	<i>2.08</i>	<i>2.5</i>	<i>0.63</i>
									Pass	Pass	Pass	Pass

Note: All values are in µg/m³

AAQA for Correia Family Dairy Expansion (N-6126)

All Values are in ug/m^3

	NOx 1 Hour	NOx Annual	CO 1 Hour	CO 8 Hour	SOx 1 Hour	SOx 3 Hour	SOx 24 Hour	SOx Annual	PM 24 Hour	PM Annual
BRN01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BRN02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BRN03	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BRN04	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BRN05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BRN06	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BRN07	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
BRN08	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
LFB01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.327E-02	2.684E-03
LFB02	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.993E+00	3.713E-01
CH01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.062E+00	6.911E-01
RS01	4.215E-02	2.980E-02	3.058E-03	3.594E-03	1.827E-04	7.250E-05	5.081E-05	1.249E-04	1.166E-05	8.186E-07
RS02	1.370E-02	8.357E-05	8.377E-04	9.155E-04	5.938E-05	2.030E-05	1.077E-05	4.672E-07	1.457E-06	6.677E-08
RS03	1.480E-02	6.501E-05	5.801E-04	5.053E-04	6.414E-05	1.374E-05	6.831E-06	3.332E-07	9.076E-07	6.369E-08
RS04	1.861E-01	1.234E-04	6.673E-04	3.233E-03	8.068E-04	1.074E-05	4.317E-05	6.949E-07	7.671E-07	6.392E-08
RS05	5.210E-01	5.170E-03	3.092E-03	1.720E-02	2.258E-03	5.670E-05	3.187E-04	2.234E-05	9.564E-06	8.088E-07
RS06	7.309E-03	3.438E-05	3.212E-04	4.734E-04	3.168E-05	7.444E-06	5.391E-06	1.842E-07	5.885E-07	2.767E-08
RS07	1.444E-01	1.770E-04	8.193E-04	4.301E-03	6.258E-04	1.328E-05	5.447E-05	1.086E-06	9.902E-07	7.893E-08
OFTT	8.212E-03	8.505E-04	4.081E-03	6.773E-04	3.559E-05	1.011E-04	1.160E-05	2.202E-06	2.014E-05	8.226E-07
MTI	4.427E-03	8.076E-04	2.191E-02	1.508E-01	2.122E-03	1.954E-04	1.525E-03	2.846E-05	2.068E-04	1.519E-05

MTI	8.440E-02	8.076E-04	2.191E-02	1.508E-01	2.122E-03	1.954E-04	1.525E-03	2.846E-05	2.068E-04	1.519E-05
CTI	1.600E-03	1.505E-05	5.482E-04	8.111E-04	3.175E-06	5.220E-07	8.179E-07	4.100E-08	1.372E-07	8.944E-09
SMI	2.259E-03	1.523E-05	1.092E-03	6.997E-04	4.483E-06	1.513E-06	4.887E-07	3.569E-08	2.799E-07	1.452E-08
SCRPO1	2.723E-02	3.358E-03	6.115E-03	1.118E-02	3.843E-04	7.016E-05	8.285E-05	4.797E-05	1.222E-04	6.234E-06
SCRPO2	2.490E-03	3.970E-05	7.437E-02	6.336E-04	3.515E-05	9.635E-04	4.213E-06	4.883E-07	5.943E-04	1.076E-04
MTI	8.440E-02	8.076E-04	2.191E-02	1.508E-01	2.122E-03	1.954E-04	1.525E-03	2.846E-05	2.068E-04	1.519E-05
MTI	4.427E-03	8.076E-04	2.191E-02	1.508E-01	2.122E-03	1.954E-04	1.525E-03	2.846E-05	2.068E-04	1.519E-05
BED01	1.367E-01	1.680E-02	2.778E-02	5.578E-02	1.929E-03	3.269E-04	4.148E-04	2.403E-04	5.582E-04	2.901E-05
BED02	1.250E-02	1.993E-04	3.734E-01	3.181E-03	1.765E-04	4.837E-03	2.115E-05	2.451E-06	2.983E-03	5.400E-04

Facility Totals	1.298E+00	5.996E-02	5.844E-01	7.065E-01	1.509E-02	7.277E-03	7.125E-03	5.573E-04	9.134E+00	1.066E+00
AAQS	188.68	100	23000	10000	200	1300	105	80	50	20
	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass

EPA's Significance Level (ug/m^3)

NOx 1 Hour	NOx Annual	CO 1 Hour	CO 8 Hour	SOx 1 Hour	SOx 3 Hour	SOx 24 Hour	SOx Annual	PM 24 Hour	PM Annual
8.0	1.0	2000.0	500.0	0.0	25.0	5.0	1.0	5.0	1.0

AAQA Emission (g/sec)

<i>Device</i>	NOx 1 Hour	NOx Annual	CO 1 Hour	CO 8 Hour	SOx 1 Hour	SOx 3 Hour	SOx 24 Hour	SOx Annual	PM 24 Hour	PM Annual
BRN01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BRN02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BRN03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BRN04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BRN05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BRN06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BRN07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BRN08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
LFB01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.90E-03	1.90E-03
LFB02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.83E-03	1.83E-03
CH01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.25E-03	1.25E-03
RS01	1.35E-04	1.35E-04	2.03E-05	2.03E-05	5.85E-07	5.85E-07	5.85E-07	5.85E-07	2.81E-07	2.81E-07
RS02	2.86E-05	2.86E-05	4.30E-06	4.30E-06	1.24E-07	1.24E-07	1.24E-07	1.24E-07	5.94E-08	5.94E-08
RS03	4.13E-05	4.13E-05	6.22E-06	6.22E-06	1.79E-07	1.79E-07	1.79E-07	1.79E-07	8.60E-08	8.60E-08
RS04	2.80E-05	2.80E-05	4.21E-06	4.21E-06	1.21E-07	1.21E-07	1.21E-07	1.21E-07	5.82E-08	5.82E-08
RS05	1.35E-04	1.35E-04	2.03E-05	2.03E-05	5.86E-07	5.86E-07	5.86E-07	5.86E-07	2.81E-07	2.81E-07
RS06	1.46E-05	1.46E-05	2.20E-06	2.20E-06	6.33E-08	6.33E-08	6.33E-08	6.33E-08	3.04E-08	3.04E-08
RS07	2.81E-05	2.81E-05	4.23E-06	4.23E-06	1.22E-07	1.22E-07	1.22E-07	1.22E-07	5.86E-08	5.86E-08
OFTT	6.05E-05	6.05E-05	9.11E-06	9.11E-06	2.62E-07	2.62E-07	2.62E-07	2.62E-07	1.26E-07	1.26E-07
MTI	5.44E-06	5.44E-06	6.31E-06	6.31E-06	1.08E-08	1.08E-08	1.08E-08	1.08E-08	1.10E-08	1.10E-08
CTI	3.49E-06	3.49E-06	4.04E-06	4.04E-06	6.92E-09	6.92E-09	6.92E-09	6.92E-09	7.03E-09	7.03E-09
SMI	8.42E-06	8.42E-06	9.76E-06	9.76E-06	1.67E-08	1.67E-08	1.67E-08	1.67E-08	1.70E-08	1.70E-08
SCRPO1	3.00E-05	3.00E-05	2.63E-05	2.63E-05	4.23E-07	4.23E-07	4.23E-07	4.23E-07	2.10E-06	2.10E-06
SCRPO2	1.72E-05	1.72E-05	1.51E-05	1.51E-05	2.42E-07	2.42E-07	2.42E-07	2.42E-07	1.20E-06	1.20E-06
MTI	1.04E-04	1.04E-04	1.71E-04	1.71E-04	2.61E-06	2.61E-06	2.61E-06	2.61E-06	1.02E-05	1.02E-05
BED01	1.50E-04	1.50E-04	1.32E-04	1.32E-04	2.12E-06	2.12E-06	2.12E-06	2.12E-06	1.06E-05	1.06E-05
BED02	8.61E-05	8.61E-05	7.56E-05	7.56E-05	1.22E-06	1.22E-06	1.22E-06	1.22E-06	6.04E-06	6.04E-06

APPENDIX D. HRA TABLES

Table D-1. Sources of Potential Emissions

Correia Family Dairy

Facility ID: N-6126

Source ID	Description
Barn 01	Freestall Barn
Barn 02	Freestall Barn
Barn 03	Freestall Barn
Barn 04	Freestall Barn
Barn 05	Freestall Barn
Barn 06	Freestall Barn
Barn 07	Freestall Barn
Barn 08	Freestall Barn
Bedding Delivery 01	Bedding Delivery 01
Bedding Delivery 02	Bedding Delivery 02
Breathing	Gasoline Operations
CH01	Calf Hutches
CTI	Commodity Truck Idling
LA 01	Land Application
LA 02	Land Application
LA 03	Land Application
LA 04	Land Application
LA 05	Land Application
LA 06	Land Application
LA 07	Land Application
Loading	Gasoline Operations
Loaf 01	Loafing Barn
Loaf 02	Loafing Barn
Manure Scraping 01	Manure Scraping
Manure Scraping 02	Manure Scraping
Milk Par	Milking Parlor
MLTI	Manure Loading Tractor Idling
MTI	Milk Truck Idling
QMTT	Quarter Mile Offsite Truck Travel
Refueling	Gasoline Operations
Road Segment 1	Onsite Truck Travel
Road Segment 2	Onsite Truck Travel
Road Segment 3	Onsite Truck Travel
Road Segment 4	Onsite Truck Travel
Road Segment 5	Onsite Truck Travel
Road Segment 6	Onsite Truck Travel
Road Segment 7	Onsite Truck Travel
SB01	Settling Basin
SMS	Solid Manure Storage
SMTI	Solid Manure Truck Idling
Spillage	Gasoline Operations
WW01	Weeping Wall
WW02	Weeping Wall
WW03	Weeping Wall
WWP	Wastewater Pond

Table D-2. Chemicals of Potential Concern

Correia Family Dairy
Facility ID: N-6126

Substance Name	CAS No.	Cancer	Chronic	Acute
Diesel PM	9901	X	X	
SULFATES	9960			X
Formaldehyde	50000	X	X	X
Carbon tetrachloride	56235	X	X	X
Isopropyl alcohol	67630		X	X
Chloroform	67663	X	X	X
Benzene	71432	X	X	X
Methyl chloride {Chloromethane}	74873			
Ethyl chloride {Chlorethane}	75003		X	
Acetaldehyde	75070	X	X	X
Carbon disulfide	75150		X	X
Trichlorofluoromethane {Freon 11}	75694			
Methyl ethyl ketone {2-Butanone}	78933			X
1,1,2-Trichloroethane	79005	X		
Trichloroethylene	79016	X	X	
1,1,2,2-Tetrachloroethane	79345	X		
Naphthalene	91203	X	X	
1,2-Dichlorobenzene	95501			
1,2,4-Trimethylbenzene	95636		X	X
1,2-Dibromo-3-chloropropane	96128	X		
1,2,3-Trichloropropane	96184			
Cumene	98828			
Ethyl benzene	100414	X	X	
Styrene	100425		X	X
Benzyl chloride	100447	X		X
p-Dichlorobenzene	106467	X	X	
Ethylene dibromide {EDB}	106934	X	X	
Ethylene dichloride {EDC}	107062	X	X	
Acrylonitrile	107131	X	X	
Vinyl acetate	108054		X	
Methyl isobutyl ketone {Hexone}	108101			
Toluene	108883		X	X
Chlorobenzene	108907		X	
Hexane	110543		X	
Cyclohexane	110827			
1,2,4-Trichlorobenzene	120821			
Butyraldehyde	123728			
1,4-Dioxane	123911	X	X	X
Perchloroethylene {Tetrachloroethene}	127184	X	X	X
1,3-Dichlorobenzene	541731			
1,3-Dichloropropene	542756			
1,4-Dichloro-2-butene	764410			
Xylenes (mixed)	1330207		X	X
Crotonaldehyde	4170303			
Aluminum	7429905			
Lead	7439921	X		
Manganese	7439965		X	
Mercury	7439976		X	X
Nickel	7440020	X	X	X
Antimony	7440360			
Arsenic	7440382	X	X	X
Barium	7440393			
Chromium	7440473			
Copper	7440508			X
Vanadium (fume or dust)	7440622			X
Zinc	7440666			
Ammonia	7664417		X	X
Phosphorus	7723140			
Bromine	7726956			
Selenium	7782492		X	
Chromium, hexavalent (& compounds)	18540299	X	X	

Table D-3. Unmitigated: Cancer Risk by Substance and Exposure Pathway

Correia Family Dairy

Facility ID: N-6126

Receptor ID: 4

Location: 680573.2 UTM E, 4110388.2 UTM N

Chemical Name	CAS	Inhalation	Soil	Dermal	Mother's Milk	Homegrown Produce	Total	Contribution
Diesel PM - Construction (Unmitigated)	9901	9.11E-06	-	-	-	-	9.11E-06	33.81%
Diesel PM	9901	5.98E-07	-	-	-	-	5.98E-07	2.22%
SULFATES	9960	-	-	-	-	-	-	-
Formaldehyde	50000	1.11E-07	-	-	-	-	1.11E-07	0.41%
Carbon tetrachloride	56235	1.10E-07	-	-	-	-	1.10E-07	0.41%
Isopropyl alcohol	67630	-	-	-	-	-	-	-
Chloroform	67663	3.10E-08	-	-	-	-	3.10E-08	0.12%
Benzene	71432	4.14E-07	-	-	-	-	4.14E-07	1.54%
Methyl chloride {Chloromethane}	74873	-	-	-	-	-	-	-
Ethyl chloride {Chlorethane}	75003	-	-	-	-	-	-	-
Acetaldehyde	75070	3.07E-07	-	-	-	-	3.07E-07	1.14%
Carbon disulfide	75150	-	-	-	-	-	-	-
Trichlorofluoromethane {Freon 11}	75694	-	-	-	-	-	-	-
Methyl ethyl ketone {2-Butanone}	78933	-	-	-	-	-	-	-
1,1,2-Trichloroethane	79005	1.80E-07	-	-	-	-	1.80E-07	0.67%
Trichloroethylene	79016	3.30E-09	-	-	-	-	3.30E-09	0.01%
1,1,2,2-Tetrachloroethane	79345	3.11E-07	-	-	-	-	3.11E-07	1.16%
Naphthalene	91203	2.68E-06	-	-	-	-	2.68E-06	9.96%
1,2-Dichlorobenzene	95501	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	95636	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane	96128	4.31E-06	-	-	-	-	4.31E-06	15.99%
1,2,3-Trichloropropane	96184	-	-	-	-	-	-	-
Cumene	98828	-	-	-	-	-	-	-
Ethyl benzene	100414	4.16E-08	-	-	-	-	4.16E-08	0.15%
Styrene	100425	-	-	-	-	-	-	-
Benzyl chloride	100447	8.36E-07	-	-	-	-	8.36E-07	3.10%
p-Dichlorobenzene	106467	3.46E-07	-	-	-	-	3.46E-07	1.28%
Ethylene dibromide {EDB}	106934	1.11E-06	-	-	-	-	1.11E-06	4.10%
Ethylene dichloride {EDC}	107062	6.52E-08	-	-	-	-	6.52E-08	0.24%
Acrylonitrile	107131	3.34E-06	-	-	-	-	3.34E-06	12.38%
Vinyl acetate	108054	-	-	-	-	-	-	-
Methyl isobutyl ketone {Hexone}	108101	-	-	-	-	-	-	-
Toluene	108883	-	-	-	-	-	-	-
Chlorobenzene	108907	-	-	-	-	-	-	-
Hexane	110543	-	-	-	-	-	-	-
Cyclohexane	110827	-	-	-	-	-	-	-

Table D-3. Unmitigated: Cancer Risk by Substance and Exposure Pathway

Correia Family Dairy

Facility ID: N-6126

Receptor ID: 4

Location: 680573.2 UTM E, 4110388.2 UTM N

Chemical Name	CAS	Inhalation	Soil	Dermal	Mother's Milk	Homegrown Produce	Total	Contribution
1,2,4-Trichlorobenzene	120821	-	-	-	-	-	-	-
Butyraldehyde	123728	-	-	-	-	-	-	-
1,4-Dioxane	123911	5.03E-07	-	-	-	-	5.03E-07	1.87%
Perchloroethylene {Tetrachloroethene}	127184	3.25E-07	-	-	-	-	3.25E-07	1.21%
1,3-Dichlorobenzene	541731	-	-	-	-	-	-	-
1,3-Dichloropropene	542756	-	-	-	-	-	-	-
1,4-Dichloro-2-butene	764410	-	-	-	-	-	-	-
Xylenes (mixed)	1330207	-	-	-	-	-	-	-
Crotonaldehyde	4170303	-	-	-	-	-	-	-
Aluminum	7429905	-	-	-	-	-	-	-
Lead	7439921	8.63E-10	9.45E-09	2.01E-10	1.57E-10	2.86E-09	1.35E-08	0.05%
Manganese	7439965	-	-	-	-	-	-	-
Mercury	7439976	-	-	-	-	-	-	-
Nickel	7440020	6.10E-09	-	-	-	-	6.10E-09	0.02%
Antimony	7440360	-	-	-	-	-	-	-
Arsenic	7440382	1.13E-07	7.62E-07	3.24E-08	-	7.24E-07	1.63E-06	6.05%
Barium	7440393	-	-	-	-	-	-	-
Chromium	7440473	-	-	-	-	-	-	-
Copper	7440508	-	-	-	-	-	-	-
Vanadium (fume or dust)	7440622	-	-	-	-	-	-	-
Zinc	7440666	-	-	-	-	-	-	-
Ammonia	7664417	-	-	-	-	-	-	-
Phosphorus	7723140	-	-	-	-	-	-	-
Bromine	7726956	-	-	-	-	-	-	-
Selenium	7782492	-	-	-	-	-	-	-
Chromium, hexavalent (& compounds)	18540299	3.42E-07	4.49E-09	1.58E-10	-	2.22E-07	5.69E-07	2.11%
Total		2.52E-05	7.76E-07	3.28E-08	1.57E-10	9.49E-07	2.70E-05	100.00%

Table D-4. Unmitigated: Chronic Hazard by Substance

Correia Family Dairy
 Facility ID: N-6126
 Receptor ID: 3
 Location: 680558.9 UTM E, 4110388.2 UTM N

Chemical Name	CAS	CV	CNS	IMMUN	KIDN	GILV	REPRO	RESP	SKIN	EYE	BONE	ENDO	HEM	ODOR	Chronic Risk @ Max Target Organ (RESP)	Contribution ¹
Diesel PM - Construction (Unmitigated)	9901	-	-	-	-	-	-	5.32E-03	-	-	-	-	-	-	5.32E-03	1.43%
Diesel PM	9901	-	-	-	-	-	-	1.15E-04	-	-	-	-	-	-	1.15E-04	0.03%
SULFATES	9960	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Formaldehyde	50000	-	-	-	-	-	-	6.18E-04	-	-	-	-	-	-	6.18E-04	0.17%
Carbon tetrachloride	56235	-	1.92E-05	-	-	1.92E-05	1.92E-05	-	-	-	-	-	-	-	-	-
Isopropyl alcohol	67630	-	-	-	3.08E-06	-	3.08E-06	-	-	-	-	-	-	-	-	-
Chloroform	67663	-	-	-	5.73E-06	5.73E-06	5.73E-06	-	-	-	-	-	-	-	-	-
Benzene	71432	-	-	-	-	-	-	-	-	-	-	-	1.45E-03	-	-	-
Methyl chloride {Chloromethane}	74873	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethyl chloride {Chlorethane}	75003	-	-	-	-	1.11E-07	1.11E-07	-	-	-	-	-	-	-	-	-
Acetaldehyde	75070	-	-	-	-	-	-	2.30E-04	-	-	-	-	-	-	2.30E-04	0.06%
Carbon disulfide	75150	-	4.29E-05	-	-	-	4.29E-05	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane {Freon 11}	75694	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl ethyl ketone {2-Butanone}	78933	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	79005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethylene	79016	-	7.94E-07	-	-	-	-	-	-	7.94E-07	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	79345	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	91203	-	-	-	-	-	-	2.58E-03	-	-	-	-	-	-	2.58E-03	0.69%
1,2-Dichlorobenzene	95501	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	95636	-	3.13E-04	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane	96128	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,3-Trichloropropane	96184	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cumene	98828	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethyl benzene	100414	-	-	-	2.50E-06	2.50E-06	2.50E-06	-	-	-	-	2.50E-06	-	-	-	-
Styrene	100425	-	6.00E-06	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzyl chloride	100447	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
p-Dichlorobenzene	106467	-	1.13E-05	-	1.13E-05	1.13E-05	-	1.13E-05	-	-	-	-	-	-	1.13E-05	0.00%
Ethylene dibromide {EDB}	106934	-	-	-	-	-	5.78E-03	-	-	-	-	-	-	-	-	-
Ethylene dichloride {EDC}	107062	-	-	-	-	2.36E-06	-	-	-	-	-	-	-	-	-	-
Acrylonitrile	107131	-	-	-	-	-	-	6.99E-04	-	-	-	-	-	-	6.99E-04	0.19%
Vinyl acetate	108054	-	-	-	-	-	-	1.29E-04	-	-	-	-	-	-	1.29E-04	0.03%
Methyl isobutyl ketone {Hexone}	108101	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	108883	-	-	-	-	-	-	-	-	3.51E-05	-	-	-	-	-	-
Chlorobenzene	108907	-	-	-	4.12E-06	4.12E-06	4.12E-06	-	-	-	-	-	-	-	-	-
Hexane	110543	-	1.55E-06	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane	110827	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	120821	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Butyraldehyde	123728	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dioxane	123911	6.52E-06	-	-	6.52E-06	6.52E-06	-	-	-	-	-	-	-	-	-	-
Perchloroethylene {Tetrachloroethene}	127184	-	-	-	4.57E-04	4.57E-04	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	541731	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichloropropene	542756	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichloro-2-butene	764410	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylenes (mixed)	1330207	-	3.51E-05	-	-	-	-	3.51E-05	-	3.51E-05	-	-	-	-	3.51E-05	0.01%
Crotonaldehyde	4170303	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aluminum	7429905	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	7439921	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manganese	7439965	-	8.58E-03	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	7439976	-	5.53E-04	-	5.53E-04	-	5.53E-04	-	-	-	-	-	-	-	-	-

Table D-4. Unmitigated: Chronic Hazard by Substance

Correia Family Dairy
 Facility ID: N-6126
 Receptor ID: 3
 Location: 680558.9 UTM E, 4110388.2 UTM N

Chemical Name	CAS	CV	CNS	IMMUN	KIDN	GILV	REPRO	RESP	SKIN	EYE	BONE	ENDO	HEM	ODOR	Chronic Risk @ Max Target Organ (RESP)	Contribution ¹
Nickel	7440020	-	-	-	-	-	1.02E-05	5.09E-04	-	-	-	-	5.09E-04	-	5.09E-04	0.14%
Antimony	7440360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic	7440382	1.06E-01	1.06E-01	-	-	-	1.06E-01	1.06E-01	1.06E-01	-	-	-	-	-	1.06E-01	28.43%
Barium	7440393	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	7440473	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	7440508	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vanadium (fume or dust)	7440622	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	7440666	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammonia	7664417	-	-	-	-	-	-	2.55E-01	-	-	-	-	-	-	2.55E-01	68.81%
Phosphorus	7723140	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromine	7726956	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	7782492	1.14E-05	1.14E-05	-	-	1.14E-05	-	-	-	-	-	-	-	-	-	-
Chromium, hexavalent (& compounds)	18540299	-	-	-	-	-	-	3.56E-06	-	-	-	-	1.02E-05	-	3.56E-06	0.00%
Total		1.06E-01	1.15E-01	-	1.04E-03	5.20E-04	1.12E-01	3.71E-01	1.06E-01	7.09E-05	-	2.50E-06	1.97E-03	-	3.71E-01	100.00%

1. Contribution by pollutant is based on the target organ with the maximum chronic hazard.

Table D-5. Unmitigated: Acute Hazard by Substance

Correia Family Dairy
 Facility ID: N-6126
 Receptor ID: 1
 Location: 680483.7 UTM E, 4110392 UTM N

Chemical Name	CAS	CV	CNS	IMMUN	KIDN	GILV	REPRO	RESP	SKIN	EYE	BONE	ENDO	HEM	ODOR	Acute Risk @ Max Target Organ (EYE)	Contribution ¹
Diesel PM - Construction (Unmitigated)	9901	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Diesel PM	9901	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SULFATES	9960	-	-	-	-	-	-	8.63E-03	-	-	-	-	-	-	-	-
Formaldehyde	50000	-	-	-	-	-	-	-	-	1.21E-02	-	-	-	-	1.21E-02	0.81%
Carbon tetrachloride	56235	-	3.75E-05	-	-	3.75E-05	3.75E-05	-	-	-	-	-	-	-	-	-
Isopropyl alcohol	67630	-	-	-	-	-	-	6.67E-04	-	6.67E-04	-	-	-	-	6.67E-04	0.04%
Chloroform	67663	-	1.06E-03	-	-	-	1.06E-03	1.06E-03	-	-	-	-	-	-	-	-
Benzene	71432	-	-	3.49E-02	-	-	3.49E-02	-	-	-	-	-	3.49E-02	-	-	-
Methyl chloride {Chloromethane}	74873	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethyl chloride {Chlorethane}	75003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acetaldehyde	75070	-	-	-	-	-	-	6.97E-03	-	6.97E-03	-	-	-	-	6.97E-03	0.47%
Carbon disulfide	75150	-	6.29E-04	-	-	-	6.29E-04	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane {Freon 11}	75694	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl ethyl ketone {2-Butanone}	78933	-	-	-	-	-	-	1.39E-03	-	1.39E-03	-	-	-	-	1.39E-03	0.09%
1,1,2-Trichloroethane	79005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethylene	79016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	79345	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	91203	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	95501	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	95636	-	2.72E-04	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane	96128	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,3-Trichloropropane	96184	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cumene	98828	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethyl benzene	100414	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	100425	-	-	-	-	-	3.80E-05	3.80E-05	-	3.80E-05	-	-	-	-	3.80E-05	0.00%
Benzyl chloride	100447	-	-	-	-	-	-	4.36E-03	-	4.36E-03	-	-	-	-	4.36E-03	0.29%
p-Dichlorobenzene	106467	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylene dibromide {EDB}	106934	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylene dichloride {EDC}	107062	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acrylonitrile	107131	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl acetate	108054	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl isobutyl ketone {Hexone}	108101	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	108883	-	7.87E-04	-	-	-	-	7.87E-04	-	7.87E-04	-	-	-	-	7.87E-04	0.05%
Chlorobenzene	108907	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexane	110543	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane	110827	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	120821	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Butyraldehyde	123728	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dioxane	123911	-	-	-	-	-	-	7.56E-04	-	7.56E-04	-	-	-	-	7.56E-04	0.05%
Perchloroethylene {Tetrachloroethene}	127184	-	2.34E-04	-	-	-	-	2.34E-04	-	2.34E-04	-	-	-	-	2.34E-04	0.02%
1,3-Dichlorobenzene	541731	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichloropropene	542756	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichloro-2-butene	764410	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylenes (mixed)	1330207	-	2.19E-04	-	-	-	-	2.19E-04	-	2.19E-04	-	-	-	-	2.19E-04	0.01%
Crotonaldehyde	4170303	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aluminum	7429905	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	7439921	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manganese	7439965	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	7439976	-	9.47E-04	-	-	-	9.47E-04	-	-	-	-	-	-	-	-	-

Table D-5. Unmitigated: Acute Hazard by Substance

Correia Family Dairy
 Facility ID: N-6126
 Receptor ID: 1
 Location: 680483.7 UTM E, 4110392 UTM N

Chemical Name	CAS	CV	CNS	IMMUN	KIDN	GILV	REPRO	RESP	SKIN	EYE	BONE	ENDO	HEM	ODOR	Acute Risk @ Max Target Organ (EYE)	Contribution ¹
Nickel	7440020	-	-	4.98E-03	-	-	-	-	-	-	-	-	-	-	-	-
Antimony	7440360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic	7440382	1.14E-02	1.14E-02	-	-	-	1.14E-02	-	-	-	-	-	-	-	-	-
Barium	7440393	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	7440473	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	7440508	-	-	-	-	-	-	1.88E-04	-	-	-	-	-	-	-	-
Vanadium (fume or dust)	7440622	-	-	-	-	-	-	1.43E-04	-	1.43E-04	-	-	-	-	1.43E-04	0.01%
Zinc	7440666	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammonia	7664417	-	-	-	-	-	-	1.46E+00	-	1.46E+00	-	-	-	-	1.46E+00	98.15%
Phosphorus	7723140	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromine	7726956	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	7782492	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium, hexavalent (& compounds)	18540299	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		1.14E-02	1.55E-02	3.98E-02	-	3.75E-05	4.89E-02	1.49E+00	-	1.49E+00	-	-	3.49E-02	-	1.49E+00	100.00%

1. Contribution by pollutant is based on the target organ with the maximum acute hazard.

Table D-6. Mitigation Scenario 1: Cancer Risk by Substance and Exposure Pathway

Correia Family Dairy

Facility ID: N-6126

Receptor ID: 6

Location: 680975.1 UTM E, 4110408.5 UTM N

Chemical Name	CAS	Inhalation	Soil	Dermal	Mother's Milk	Homegrown Produce	Total	Contribution
Diesel PM - Construction (Unmitigated)	9901	1.20E-06	-	-	-	-	1.20E-06	7.75%
Diesel PM	9901	2.73E-07	-	-	-	-	2.73E-07	1.76%
SULFATES	9960	-	-	-	-	-	-	-
Formaldehyde	50000	6.66E-08	-	-	-	-	6.66E-08	0.43%
Carbon tetrachloride	56235	4.50E-08	-	-	-	-	4.50E-08	0.29%
Isopropyl alcohol	67630	-	-	-	-	-	-	-
Chloroform	67663	1.27E-08	-	-	-	-	1.27E-08	0.08%
Benzene	71432	2.05E-07	-	-	-	-	2.05E-07	1.33%
Methyl chloride {Chloromethane}	74873	-	-	-	-	-	-	-
Ethyl chloride {Chlorethane}	75003	-	-	-	-	-	-	-
Acetaldehyde	75070	1.45E-07	-	-	-	-	1.45E-07	0.94%
Carbon disulfide	75150	-	-	-	-	-	-	-
Trichlorofluoromethane {Freon 11}	75694	-	-	-	-	-	-	-
Methyl ethyl ketone {2-Butanone}	78933	-	-	-	-	-	-	-
1,1,2-Trichloroethane	79005	1.29E-07	-	-	-	-	1.29E-07	0.83%
Trichloroethylene	79016	1.09E-08	-	-	-	-	1.09E-08	0.07%
1,1,2,2-Tetrachloroethane	79345	9.70E-07	-	-	-	-	9.70E-07	6.27%
Naphthalene	91203	3.86E-06	-	-	-	-	3.86E-06	24.92%
1,2-Dichlorobenzene	95501	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	95636	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane	96128	1.77E-06	-	-	-	-	1.77E-06	11.43%
1,2,3-Trichloropropane	96184	-	-	-	-	-	-	-
Cumene	98828	-	-	-	-	-	-	-
Ethyl benzene	100414	2.78E-08	-	-	-	-	2.78E-08	0.18%
Styrene	100425	-	-	-	-	-	-	-
Benzyl chloride	100447	9.94E-07	-	-	-	-	9.94E-07	6.42%
p-Dichlorobenzene	106467	3.96E-07	-	-	-	-	3.96E-07	2.56%
Ethylene dibromide {EDB}	106934	8.94E-07	-	-	-	-	8.94E-07	5.77%
Ethylene dichloride {EDC}	107062	6.26E-08	-	-	-	-	6.26E-08	0.40%
Acrylonitrile	107131	2.27E-06	-	-	-	-	2.27E-06	14.63%
Vinyl acetate	108054	-	-	-	-	-	-	-
Methyl isobutyl ketone {Hexone}	108101	-	-	-	-	-	-	-
Toluene	108883	-	-	-	-	-	-	-
Chlorobenzene	108907	-	-	-	-	-	-	-
Hexane	110543	-	-	-	-	-	-	-
Cyclohexane	110827	-	-	-	-	-	-	-

Table D-6. Mitigation Scenario 1: Cancer Risk by Substance and Exposure Pathway

Correia Family Dairy

Facility ID: N-6126

Receptor ID: 6

Location: 680975.1 UTM E, 4110408.5 UTM N

Chemical Name	CAS	Inhalation	Soil	Dermal	Mother's Milk	Homegrown Produce	Total	Contribution
1,2,4-Trichlorobenzene	120821	-	-	-	-	-	-	-
Butyraldehyde	123728	-	-	-	-	-	-	-
1,4-Dioxane	123911	2.89E-07	-	-	-	-	2.89E-07	1.87%
Perchloroethylene {Tetrachloroethene}	127184	5.84E-07	-	-	-	-	5.84E-07	3.77%
1,3-Dichlorobenzene	541731	-	-	-	-	-	-	-
1,3-Dichloropropene	542756	-	-	-	-	-	-	-
1,4-Dichloro-2-butene	764410	-	-	-	-	-	-	-
Xylenes (mixed)	1330207	-	-	-	-	-	-	-
Crotonaldehyde	4170303	-	-	-	-	-	-	-
Aluminum	7429905	-	-	-	-	-	-	-
Lead	7439921	4.99E-10	5.46E-09	1.16E-10	9.08E-11	1.65E-09	7.82E-09	0.05%
Manganese	7439965	-	-	-	-	-	-	-
Mercury	7439976	-	-	-	-	-	-	-
Nickel	7440020	3.53E-09	-	-	-	-	3.53E-09	0.02%
Antimony	7440360	-	-	-	-	-	-	-
Arsenic	7440382	6.51E-08	4.41E-07	1.88E-08	-	4.19E-07	9.44E-07	6.10%
Barium	7440393	-	-	-	-	-	-	-
Chromium	7440473	-	-	-	-	-	-	-
Copper	7440508	-	-	-	-	-	-	-
Vanadium (fume or dust)	7440622	-	-	-	-	-	-	-
Zinc	7440666	-	-	-	-	-	-	-
Ammonia	7664417	-	-	-	-	-	-	-
Phosphorus	7723140	-	-	-	-	-	-	-
Bromine	7726956	-	-	-	-	-	-	-
Selenium	7782492	-	-	-	-	-	-	-
Chromium, hexavalent (& compounds)	18540299	1.98E-07	2.60E-09	9.12E-11	-	1.28E-07	3.29E-07	2.12%
Total		1.45E-05	4.49E-07	1.90E-08	9.08E-11	5.49E-07	1.55E-05	100.00%

Table D-7. Mitigation Scenario 1: Chronic Hazard by Substance

Correia Family Dairy
 Facility ID: N-6126
 Receptor ID: 6
 Location: 680975.1 UTM E, 4110408.5 UTM N

Chemical Name	CAS	CV	CNS	IMMUN	KIDN	GILV	REPRO	RESP	SKIN	EYE	BONE	ENDO	HEM	ODOR	Chronic Risk @ Max Target Organ (RESP)	Contribution ¹
Diesel PM - Construction (Unmitigated)	9901	-	-	-	-	-	-	7.01E-04	-	-	-	-	-	-	7.01E-04	0.41%
Diesel PM	9901	-	-	-	-	-	-	5.24E-05	-	-	-	-	-	-	5.24E-05	0.03%
SULFATES	9960	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Formaldehyde	50000	-	-	-	-	-	-	3.72E-04	-	-	-	-	-	-	3.72E-04	0.22%
Carbon tetrachloride	56235	-	7.93E-06	-	-	7.93E-06	7.93E-06	-	-	-	-	-	-	-	-	-
Isopropyl alcohol	67630	-	-	-	1.41E-06	-	1.41E-06	-	-	-	-	-	-	-	-	-
Chloroform	67663	-	-	-	2.36E-06	2.36E-06	2.36E-06	-	-	-	-	-	-	-	-	-
Benzene	71432	-	-	-	-	-	-	-	-	-	-	-	7.24E-04	-	-	-
Methyl chloride {Chloromethane}	74873	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethyl chloride {Chlorethane}	75003	-	-	-	-	6.58E-08	6.58E-08	-	-	-	-	-	-	-	-	-
Acetaldehyde	75070	-	-	-	-	-	-	1.10E-04	-	-	-	-	-	-	1.10E-04	0.06%
Carbon disulfide	75150	-	2.41E-05	-	-	-	2.41E-05	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane {Freon 11}	75694	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl ethyl ketone {2-Butanone}	78933	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	79005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethylene	79016	-	2.75E-06	-	-	-	-	-	-	2.75E-06	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	79345	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	91203	-	-	-	-	-	-	3.77E-03	-	-	-	-	-	-	3.77E-03	2.23%
1,2-Dichlorobenzene	95501	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	95636	-	1.08E-03	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane	96128	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,3-Trichloropropane	96184	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cumene	98828	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethyl benzene	100414	-	-	-	1.69E-06	1.69E-06	1.69E-06	-	-	-	-	1.69E-06	-	-	-	-
Styrene	100425	-	4.82E-06	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzyl chloride	100447	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
p-Dichlorobenzene	106467	-	1.31E-05	-	1.31E-05	1.31E-05	-	1.31E-05	-	-	-	-	-	-	1.31E-05	0.01%
Ethylene dibromide {EDB}	106934	-	-	-	-	-	4.72E-03	-	-	-	-	-	-	-	-	-
Ethylene dichloride {EDC}	107062	-	-	-	-	2.30E-06	-	-	-	-	-	-	-	-	-	-
Acrylonitrile	107131	-	-	-	-	-	-	4.79E-04	-	-	-	-	-	-	4.79E-04	0.28%
Vinyl acetate	108054	-	-	-	-	-	-	5.33E-05	-	-	-	-	-	-	5.33E-05	0.03%
Methyl isobutyl ketone {Hexone}	108101	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	108883	-	-	-	-	-	-	-	-	1.84E-05	-	-	-	-	-	-
Chlorobenzene	108907	-	-	-	3.41E-06	3.41E-06	3.41E-06	-	-	-	-	-	-	-	-	-
Hexane	110543	-	7.22E-07	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane	110827	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	120821	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Butyraldehyde	123728	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dioxane	123911	3.77E-06	-	-	3.77E-06	3.77E-06	-	-	-	-	-	-	-	-	-	-
Perchloroethylene {Tetrachloroethene}	127184	-	-	-	8.39E-04	8.39E-04	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	541731	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichloropropene	542756	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichloro-2-butene	764410	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylenes (mixed)	1330207	-	1.80E-05	-	-	-	-	1.80E-05	-	1.80E-05	-	-	-	-	1.80E-05	0.01%
Crotonaldehyde	4170303	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aluminum	7429905	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	7439921	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manganese	7439965	-	4.93E-03	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	7439976	-	3.18E-04	-	3.18E-04	-	3.18E-04	-	-	-	-	-	-	-	-	-

Table D-7. Mitigation Scenario 1: Chronic Hazard by Substance

Correia Family Dairy
 Facility ID: N-6126
 Receptor ID: 6
 Location: 680975.1 UTM E, 4110408.5 UTM N

Chemical Name	CAS	CV	CNS	IMMUN	KIDN	GILV	REPRO	RESP	SKIN	EYE	BONE	ENDO	HEM	ODOR	Chronic Risk @ Max Target Organ (RESP)	Contribution ¹
Nickel	7440020	-	-	-	-	-	5.85E-06	2.93E-04	-	-	-	-	2.93E-04	-	2.93E-04	0.17%
Antimony	7440360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic	7440382	6.07E-02	6.07E-02	-	-	-	6.07E-02	6.07E-02	6.07E-02	-	-	-	-	-	6.07E-02	35.85%
Barium	7440393	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	7440473	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	7440508	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vanadium (fume or dust)	7440622	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	7440666	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammonia	7664417	-	-	-	-	-	-	1.03E-01	-	-	-	-	-	-	1.03E-01	60.69%
Phosphorus	7723140	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromine	7726956	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	7782492	6.58E-06	6.58E-06	-	-	6.58E-06	-	-	-	-	-	-	-	-	-	-
Chromium, hexavalent (& compounds)	18540299	-	-	-	-	-	-	2.05E-06	-	-	-	-	5.84E-06	-	2.05E-06	0.00%
Total		6.07E-02	6.71E-02	-	1.18E-03	8.80E-04	6.58E-02	1.69E-01	6.07E-02	3.92E-05	-	1.69E-06	1.02E-03	-	1.69E-01	100.00%

1. Contribution by pollutant is based on the target organ with the maximum chronic hazard.

Table D-8. Mitigation Scenario 1: Acute Hazard by Substance

Correia Family Dairy
 Facility ID: N-6126
 Receptor ID: 10
 Location: 680339.1 UTM E, 4110499.7 UTM N

Chemical Name	CAS	CV	CNS	IMMUN	KIDN	GILV	REPRO	RESP	SKIN	EYE	BONE	ENDO	HEM	ODOR	Acute Risk @ Max Target Organ (EYE)	Contribution ¹
Diesel PM - Construction (Unmitigated)	9901	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Diesel PM	9901	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SULFATES	9960	-	-	-	-	-	-	5.17E-03	-	-	-	-	-	-	-	-
Formaldehyde	50000	-	-	-	-	-	-	-	-	7.88E-03	-	-	-	-	7.88E-03	0.95%
Carbon tetrachloride	56235	-	2.08E-05	-	-	2.08E-05	2.08E-05	-	-	-	-	-	-	-	-	-
Isopropyl alcohol	67630	-	-	-	-	-	-	3.88E-04	-	3.88E-04	-	-	-	-	3.88E-04	0.05%
Chloroform	67663	-	5.87E-04	-	-	-	5.87E-04	5.87E-04	-	-	-	-	-	-	-	-
Benzene	71432	-	-	1.72E-02	-	-	1.72E-02	-	-	-	-	-	1.72E-02	-	-	-
Methyl chloride {Chloromethane}	74873	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethyl chloride {Chlorethane}	75003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acetaldehyde	75070	-	-	-	-	-	-	4.12E-03	-	4.12E-03	-	-	-	-	4.12E-03	0.49%
Carbon disulfide	75150	-	4.00E-04	-	-	-	4.00E-04	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane {Freon 11}	75694	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl ethyl ketone {2-Butanone}	78933	-	-	-	-	-	-	7.76E-04	-	7.76E-04	-	-	-	-	7.76E-04	0.09%
1,1,2-Trichloroethane	79005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethylene	79016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	79345	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	91203	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	95501	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	95636	-	2.50E-04	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane	96128	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,3-Trichloropropane	96184	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cumene	98828	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethyl benzene	100414	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	100425	-	-	-	-	-	2.73E-05	2.73E-05	-	2.73E-05	-	-	-	-	2.73E-05	0.00%
Benzyl chloride	100447	-	-	-	-	-	-	3.47E-03	-	3.47E-03	-	-	-	-	3.47E-03	0.42%
p-Dichlorobenzene	106467	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylene dibromide {EDB}	106934	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylene dichloride {EDC}	107062	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acrylonitrile	107131	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl acetate	108054	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl isobutyl ketone {Hexone}	108101	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	108883	-	3.80E-04	-	-	-	-	3.80E-04	-	3.80E-04	-	-	-	-	3.80E-04	0.05%
Chlorobenzene	108907	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexane	110543	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane	110827	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	120821	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Butyraldehyde	123728	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dioxane	123911	-	-	-	-	-	-	4.86E-04	-	4.86E-04	-	-	-	-	4.86E-04	0.06%
Perchloroethylene {Tetrachloroethene}	127184	-	2.01E-04	-	-	-	-	2.01E-04	-	2.01E-04	-	-	-	-	2.01E-04	0.02%
1,3-Dichlorobenzene	541731	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichloropropene	542756	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichloro-2-butene	764410	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylenes (mixed)	1330207	-	1.12E-04	-	-	-	-	1.12E-04	-	1.12E-04	-	-	-	-	1.12E-04	0.01%
Crotonaldehyde	4170303	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aluminum	7429905	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	7439921	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manganese	7439965	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	7439976	-	5.68E-04	-	-	-	5.68E-04	-	-	-	-	-	-	-	-	-
Nickel	7440020	-	-	2.98E-03	-	-	-	-	-	-	-	-	-	-	-	-

Table D-8. Mitigation Scenario 1: Acute Hazard by Substance

Correia Family Dairy
 Facility ID: N-6126
 Receptor ID: 10
 Location: 680339.1 UTM E, 4110499.7 UTM N

Chemical Name	CAS	CV	CNS	IMMUN	KIDN	GILV	REPRO	RESP	SKIN	EYE	BONE	ENDO	HEM	ODOR	Acute Risk @ Max Target Organ (EYE)	Contribution ¹
Antimony	7440360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic	7440382	6.81E-03	6.81E-03	-	-	-	6.81E-03	-	-	-	-	-	-	-	-	-
Barium	7440393	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	7440473	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	7440508	-	-	-	-	-	-	1.12E-04	-	-	-	-	-	-	-	-
Vanadium (fume or dust)	7440622	-	-	-	-	-	-	8.54E-05	-	8.54E-05	-	-	-	-	8.54E-05	0.01%
Zinc	7440666	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammonia	7664417	-	-	-	-	-	-	8.15E-01	-	8.15E-01	-	-	-	-	8.15E-01	97.85%
Phosphorus	7723140	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromine	7726956	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	7782492	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium, hexavalent (& compounds)	18540299	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		6.81E-03	9.33E-03	2.02E-02	-	2.08E-05	2.56E-02	8.31E-01	-	8.33E-01	-	-	1.72E-02	-	8.33E-01	100.00%

1. Contribution by pollutant is based on the target organ with the maximum acute hazard.

Table D-9. Mitigation Scenario 2: Cancer Risk by Substance and Exposure Pathway

Correia Family Dairy

Facility ID: N-6126

Receptor ID: 4

Location: 680573.2 UTM E, 4110388.2 UTM N

Chemical Name	CAS	Inhalation	Soil	Dermal	Mother's Milk	Homegrown Produce	Total	Contribution
Diesel PM - Construction (Unmitigated)	9901	-	-	-	-	-	-	-
Diesel PM	9901	5.98E-07	-	-	-	-	5.98E-07	3.82%
SULFATES	9960	-	-	-	-	-	-	-
Formaldehyde	50000	1.11E-07	-	-	-	-	1.11E-07	0.71%
Carbon tetrachloride	56235	1.10E-07	-	-	-	-	1.10E-07	0.70%
Isopropyl alcohol	67630	-	-	-	-	-	-	-
Chloroform	67663	3.10E-08	-	-	-	-	3.10E-08	0.20%
Benzene	71432	4.14E-07	-	-	-	-	4.14E-07	2.65%
Methyl chloride {Chloromethane}	74873	-	-	-	-	-	-	-
Ethyl chloride {Chlorethane}	75003	-	-	-	-	-	-	-
Acetaldehyde	75070	3.07E-07	-	-	-	-	3.07E-07	1.96%
Carbon disulfide	75150	-	-	-	-	-	-	-
Trichlorofluoromethane {Freon 11}	75694	-	-	-	-	-	-	-
Methyl ethyl ketone {2-Butanone}	78933	-	-	-	-	-	-	-
1,1,2-Trichloroethane	79005	1.80E-07	-	-	-	-	1.80E-07	1.15%
Trichloroethylene	79016	3.30E-09	-	-	-	-	3.30E-09	0.02%
1,1,2,2-Tetrachloroethane	79345	3.11E-07	-	-	-	-	3.11E-07	1.99%
Naphthalene	91203	2.68E-06	-	-	-	-	2.68E-06	17.15%
1,2-Dichlorobenzene	95501	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	95636	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane	96128	4.31E-06	-	-	-	-	4.31E-06	27.54%
1,2,3-Trichloropropane	96184	-	-	-	-	-	-	-
Cumene	98828	-	-	-	-	-	-	-
Ethyl benzene	100414	4.16E-08	-	-	-	-	4.16E-08	0.27%
Styrene	100425	-	-	-	-	-	-	-
Benzyl chloride	100447	8.36E-07	-	-	-	-	8.36E-07	5.34%
p-Dichlorobenzene	106467	3.46E-07	-	-	-	-	3.46E-07	2.21%
Ethylene dibromide {EDB}	106934	1.11E-06	-	-	-	-	1.11E-06	7.06%
Ethylene dichloride {EDC}	107062	6.52E-08	-	-	-	-	6.52E-08	0.42%
Acrylonitrile	107131	3.34E-06	-	-	-	-	3.34E-06	21.32%
Vinyl acetate	108054	-	-	-	-	-	-	-
Methyl isobutyl ketone {Hexone}	108101	-	-	-	-	-	-	-
Toluene	108883	-	-	-	-	-	-	-
Chlorobenzene	108907	-	-	-	-	-	-	-
Hexane	110543	-	-	-	-	-	-	-
Cyclohexane	110827	-	-	-	-	-	-	-

Table D-9. Mitigation Scenario 2: Cancer Risk by Substance and Exposure Pathway

Correia Family Dairy

Facility ID: N-6126

Receptor ID: 4

Location: 680573.2 UTM E, 4110388.2 UTM N

Chemical Name	CAS	Inhalation	Soil	Dermal	Mother's Milk	Homegrown Produce	Total	Contribution
1,2,4-Trichlorobenzene	120821	-	-	-	-	-	-	-
Butyraldehyde	123728	-	-	-	-	-	-	-
1,4-Dioxane	123911	5.03E-07	-	-	-	-	5.03E-07	3.21%
Perchloroethylene {Tetrachloroethene}	127184	3.25E-07	-	-	-	-	3.25E-07	2.08%
1,3-Dichlorobenzene	541731	-	-	-	-	-	-	-
1,3-Dichloropropene	542756	-	-	-	-	-	-	-
1,4-Dichloro-2-butene	764410	-	-	-	-	-	-	-
Xylenes (mixed)	1330207	-	-	-	-	-	-	-
Crotonaldehyde	4170303	-	-	-	-	-	-	-
Aluminum	7429905	-	-	-	-	-	-	-
Lead	7439921	1.25E-11	1.37E-10	2.92E-12	2.28E-12	4.15E-11	1.97E-10	0.00%
Manganese	7439965	-	-	-	-	-	-	-
Mercury	7439976	-	-	-	-	-	-	-
Nickel	7440020	8.86E-11	-	-	-	-	8.86E-11	0.00%
Antimony	7440360	-	-	-	-	-	-	-
Arsenic	7440382	1.64E-09	1.11E-08	4.71E-10	-	1.05E-08	2.37E-08	0.15%
Barium	7440393	-	-	-	-	-	-	-
Chromium	7440473	-	-	-	-	-	-	-
Copper	7440508	-	-	-	-	-	-	-
Vanadium (fume or dust)	7440622	-	-	-	-	-	-	-
Zinc	7440666	-	-	-	-	-	-	-
Ammonia	7664417	-	-	-	-	-	-	-
Phosphorus	7723140	-	-	-	-	-	-	-
Bromine	7726956	-	-	-	-	-	-	-
Selenium	7782492	-	-	-	-	-	-	-
Chromium, hexavalent (& compounds)	18540299	4.97E-09	6.53E-11	2.29E-12	-	3.23E-09	8.26E-09	0.05%
Total		1.56E-05	1.13E-08	4.76E-10	2.28E-12	1.38E-08	1.57E-05	100.00%

Table D-10. Mitigation Scenario 2: Chronic Hazard by Substance

Correia Family Dairy
 Facility ID: N-6126
 Receptor ID: 3
 Location: 680558.9 UTM E, 4110388.2 UTM N

Chemical Name	CAS	CV	CNS	IMMUN	KIDN	GILV	REPRO	RESP	SKIN	EYE	BONE	ENDO	HEM	ODOR	Chronic Risk @ Max Target Organ (RESP)	Contribution ¹
Diesel PM - Construction (Unmitigated)	9901	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Diesel PM	9901	-	-	-	-	-	-	1.15E-04	-	-	-	-	-	-	1.15E-04	0.09%
SULFATES	9960	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Formaldehyde	50000	-	-	-	-	-	-	6.18E-04	-	-	-	-	-	-	6.18E-04	0.47%
Carbon tetrachloride	56235	-	1.92E-05	-	-	1.92E-05	1.92E-05	-	-	-	-	-	-	-	-	-
Isopropyl alcohol	67630	-	-	-	3.08E-06	-	3.08E-06	-	-	-	-	-	-	-	-	-
Chloroform	67663	-	-	-	5.73E-06	5.73E-06	5.73E-06	-	-	-	-	-	-	-	-	-
Benzene	71432	-	-	-	-	-	-	-	-	-	-	-	1.45E-03	-	-	-
Methyl chloride {Chloromethane}	74873	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethyl chloride {Chlorethane}	75003	-	-	-	-	1.11E-07	1.11E-07	-	-	-	-	-	-	-	-	-
Acetaldehyde	75070	-	-	-	-	-	-	2.30E-04	-	-	-	-	-	-	2.30E-04	0.18%
Carbon disulfide	75150	-	4.29E-05	-	-	-	4.29E-05	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane {Freon 11}	75694	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl ethyl ketone {2-Butanone}	78933	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	79005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethylene	79016	-	7.94E-07	-	-	-	-	-	-	7.94E-07	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	79345	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	91203	-	-	-	-	-	-	2.58E-03	-	-	-	-	-	-	2.58E-03	1.97%
1,2-Dichlorobenzene	95501	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	95636	-	3.13E-04	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane	96128	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,3-Trichloropropane	96184	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cumene	98828	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethyl benzene	100414	-	-	-	2.50E-06	2.50E-06	2.50E-06	-	-	-	-	2.50E-06	-	-	-	-
Styrene	100425	-	6.00E-06	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzyl chloride	100447	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
p-Dichlorobenzene	106467	-	1.13E-05	-	1.13E-05	1.13E-05	-	1.13E-05	-	-	-	-	-	-	1.13E-05	0.01%
Ethylene dibromide {EDB}	106934	-	-	-	-	-	5.78E-03	-	-	-	-	-	-	-	-	-
Ethylene dichloride {EDC}	107062	-	-	-	-	2.36E-06	-	-	-	-	-	-	-	-	-	-
Acrylonitrile	107131	-	-	-	-	-	-	6.99E-04	-	-	-	-	-	-	6.99E-04	0.53%
Vinyl acetate	108054	-	-	-	-	-	-	1.29E-04	-	-	-	-	-	-	1.29E-04	0.10%
Methyl isobutyl ketone {Hexone}	108101	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	108883	-	-	-	-	-	-	-	-	3.51E-05	-	-	-	-	-	-
Chlorobenzene	108907	-	-	-	4.12E-06	4.12E-06	4.12E-06	-	-	-	-	-	-	-	-	-
Hexane	110543	-	1.55E-06	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane	110827	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	120821	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Butyraldehyde	123728	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dioxane	123911	6.52E-06	-	-	6.52E-06	6.52E-06	-	-	-	-	-	-	-	-	-	-
Perchloroethylene {Tetrachloroethene}	127184	-	-	-	4.57E-04	4.57E-04	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	541731	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichloropropene	542756	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichloro-2-butene	764410	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylenes (mixed)	1330207	-	3.51E-05	-	-	-	-	3.51E-05	-	3.51E-05	-	-	-	-	3.51E-05	0.03%
Crotonaldehyde	4170303	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aluminum	7429905	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	7439921	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manganese	7439965	-	1.16E-04	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	7439976	-	7.48E-06	-	7.48E-06	-	7.48E-06	-	-	-	-	-	-	-	-	-

Table D-10. Mitigation Scenario 2: Chronic Hazard by Substance

Correia Family Dairy
 Facility ID: N-6126
 Receptor ID: 3
 Location: 680558.9 UTM E, 4110388.2 UTM N

Chemical Name	CAS	CV	CNS	IMMUN	KIDN	GILV	REPRO	RESP	SKIN	EYE	BONE	ENDO	HEM	ODOR	Chronic Risk @ Max Target Organ (RESP)	Contribution ¹
Nickel	7440020	-	-	-	-	-	1.37E-07	6.87E-06	-	-	-	-	6.87E-06	-	6.87E-06	0.01%
Antimony	7440360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic	7440382	1.43E-03	1.43E-03	-	-	-	1.43E-03	1.43E-03	1.43E-03	-	-	-	-	-	1.43E-03	1.09%
Barium	7440393	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	7440473	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	7440508	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vanadium (fume or dust)	7440622	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	7440666	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammonia	7664417	-	-	-	-	-	-	1.25E-01	-	-	-	-	-	-	1.25E-01	95.53%
Phosphorus	7723140	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromine	7726956	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	7782492	1.55E-07	1.55E-07	-	-	1.55E-07	-	-	-	-	-	-	-	-	-	-
Chromium, hexavalent (& compounds)	18540299	-	-	-	-	-	-	4.81E-08	-	-	-	-	1.37E-07	-	4.81E-08	0.00%
Total		1.43E-03	1.98E-03	-	4.97E-04	5.09E-04	7.29E-03	1.31E-01	1.43E-03	7.09E-05	-	2.50E-06	1.45E-03	-	1.31E-01	100.00%

1. Contribution by pollutant is based on the target organ with the maximum chronic hazard.

Table D-11. Mitigation Scenario 2: Acute Hazard by Substance

Correia Family Dairy
 Facility ID: N-6126
 Receptor ID: 1
 Location: 680483.7 UTM E, 4110392 UTM N

Chemical Name	CAS	CV	CNS	IMMUN	KIDN	GILV	REPRO	RESP	SKIN	EYE	BONE	ENDO	HEM	ODOR	Acute Risk @ Max Target Organ (EYE)	Contribution ¹
Diesel PM - Construction (Unmitigated)	9901	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Diesel PM	9901	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SULFATES	9960	-	-	-	-	-	-	2.19E-04	-	-	-	-	-	-	-	-
Formaldehyde	50000	-	-	-	-	-	-	-	-	1.21E-02	-	-	-	-	1.21E-02	1.64%
Carbon tetrachloride	56235	-	3.75E-05	-	-	3.75E-05	3.75E-05	-	-	-	-	-	-	-	-	-
Isopropyl alcohol	67630	-	-	-	-	-	-	6.67E-04	-	6.67E-04	-	-	-	-	6.67E-04	0.09%
Chloroform	67663	-	1.06E-03	-	-	-	1.06E-03	1.06E-03	-	-	-	-	-	-	-	-
Benzene	71432	-	-	3.49E-02	-	-	3.49E-02	-	-	-	-	-	3.49E-02	-	-	-
Methyl chloride {Chloromethane}	74873	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethyl chloride {Chlorethane}	75003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acetaldehyde	75070	-	-	-	-	-	-	6.97E-03	-	6.97E-03	-	-	-	-	6.97E-03	0.95%
Carbon disulfide	75150	-	6.29E-04	-	-	-	6.29E-04	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane {Freon 11}	75694	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl ethyl ketone {2-Butanone}	78933	-	-	-	-	-	-	1.39E-03	-	1.39E-03	-	-	-	-	1.39E-03	0.19%
1,1,2-Trichloroethane	79005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethylene	79016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	79345	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	91203	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	95501	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	95636	-	2.72E-04	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane	96128	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,3-Trichloropropane	96184	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cumene	98828	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethyl benzene	100414	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	100425	-	-	-	-	-	3.80E-05	3.80E-05	-	3.80E-05	-	-	-	-	3.80E-05	0.01%
Benzyl chloride	100447	-	-	-	-	-	-	4.36E-03	-	4.36E-03	-	-	-	-	4.36E-03	0.59%
p-Dichlorobenzene	106467	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylene dibromide {EDB}	106934	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylene dichloride {EDC}	107062	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acrylonitrile	107131	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl acetate	108054	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl isobutyl ketone {Hexone}	108101	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	108883	-	7.87E-04	-	-	-	-	7.87E-04	-	7.87E-04	-	-	-	-	7.87E-04	0.11%
Chlorobenzene	108907	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexane	110543	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane	110827	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	120821	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Butyraldehyde	123728	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dioxane	123911	-	-	-	-	-	-	7.56E-04	-	7.56E-04	-	-	-	-	7.56E-04	0.10%
Perchloroethylene {Tetrachloroethene}	127184	-	2.34E-04	-	-	-	-	2.34E-04	-	2.34E-04	-	-	-	-	2.34E-04	0.03%
1,3-Dichlorobenzene	541731	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichloropropene	542756	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichloro-2-butene	764410	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylenes (mixed)	1330207	-	2.19E-04	-	-	-	-	2.19E-04	-	2.19E-04	-	-	-	-	2.19E-04	0.03%
Crotonaldehyde	4170303	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aluminum	7429905	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	7439921	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manganese	7439965	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	7439976	-	2.40E-05	-	-	-	2.40E-05	-	-	-	-	-	-	-	-	-

Table D-11. Mitigation Scenario 2: Acute Hazard by Substance

Correia Family Dairy
 Facility ID: N-6126
 Receptor ID: 1
 Location: 680483.7 UTM E, 4110392 UTM N

Chemical Name	CAS	CV	CNS	IMMUN	KIDN	GILV	REPRO	RESP	SKIN	EYE	BONE	ENDO	HEM	ODOR	Acute Risk @ Max Target Organ (EYE)	Contribution ¹
Nickel	7440020	-	-	1.26E-04	-	-	-	-	-	-	-	-	-	-	-	-
Antimony	7440360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic	7440382	2.88E-04	2.88E-04	-	-	-	2.88E-04	-	-	-	-	-	-	-	-	-
Barium	7440393	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	7440473	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	7440508	-	-	-	-	-	-	4.75E-06	-	-	-	-	-	-	-	-
Vanadium (fume or dust)	7440622	-	-	-	-	-	-	3.60E-06	-	3.60E-06	-	-	-	-	3.60E-06	0.00%
Zinc	7440666	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammonia	7664417	-	-	-	-	-	-	7.09E-01	-	7.09E-01	-	-	-	-	7.09E-01	96.27%
Phosphorus	7723140	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromine	7726956	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	7782492	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium, hexavalent (& compounds)	18540299	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		2.88E-04	3.55E-03	3.50E-02	-	3.75E-05	3.69E-02	7.26E-01	-	7.37E-01	-	-	3.49E-02	-	7.37E-01	100.00%

1. Contribution by pollutant is based on the target organ with the maximum acute hazard.

Table D-12. Mitigation Scenario 3: Cancer Risk by Substance and Exposure Pathway

Correia Family Dairy

Facility ID: N-6126

Receptor ID: 4

Location: 680573.2 UTM E, 4110388.2 UTM N

Chemical Name	CAS	Inhalation	Soil	Dermal	Mother's Milk	Homegrown Produce	Total	Contribution
Diesel PM - Construction (All Tier 4F)	9901	1.77E-06	-	-	-	-	1.77E-06	10.15%
Diesel PM	9901	5.98E-07	-	-	-	-	5.98E-07	3.43%
SULFATES	9960	-	-	-	-	-	-	-
Formaldehyde	50000	1.11E-07	-	-	-	-	1.11E-07	0.64%
Carbon tetrachloride	56235	1.10E-07	-	-	-	-	1.10E-07	0.63%
Isopropyl alcohol	67630	-	-	-	-	-	-	-
Chloroform	67663	3.10E-08	-	-	-	-	3.10E-08	0.18%
Benzene	71432	4.14E-07	-	-	-	-	4.14E-07	2.38%
Methyl chloride {Chloromethane}	74873	-	-	-	-	-	-	-
Ethyl chloride {Chlorethane}	75003	-	-	-	-	-	-	-
Acetaldehyde	75070	3.07E-07	-	-	-	-	3.07E-07	1.76%
Carbon disulfide	75150	-	-	-	-	-	-	-
Trichlorofluoromethane {Freon 11}	75694	-	-	-	-	-	-	-
Methyl ethyl ketone {2-Butanone}	78933	-	-	-	-	-	-	-
1,1,2-Trichloroethane	79005	1.80E-07	-	-	-	-	1.80E-07	1.03%
Trichloroethylene	79016	3.30E-09	-	-	-	-	3.30E-09	0.02%
1,1,2,2-Tetrachloroethane	79345	3.11E-07	-	-	-	-	3.11E-07	1.79%
Naphthalene	91203	2.68E-06	-	-	-	-	2.68E-06	15.41%
1,2-Dichlorobenzene	95501	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	95636	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane	96128	4.31E-06	-	-	-	-	4.31E-06	24.75%
1,2,3-Trichloropropane	96184	-	-	-	-	-	-	-
Cumene	98828	-	-	-	-	-	-	-
Ethyl benzene	100414	4.16E-08	-	-	-	-	4.16E-08	0.24%
Styrene	100425	-	-	-	-	-	-	-
Benzyl chloride	100447	8.36E-07	-	-	-	-	8.36E-07	4.80%
p-Dichlorobenzene	106467	3.46E-07	-	-	-	-	3.46E-07	1.99%
Ethylene dibromide {EDB}	106934	1.11E-06	-	-	-	-	1.11E-06	6.34%
Ethylene dichloride {EDC}	107062	6.52E-08	-	-	-	-	6.52E-08	0.37%
Acrylonitrile	107131	3.34E-06	-	-	-	-	3.34E-06	19.16%
Vinyl acetate	108054	-	-	-	-	-	-	-
Methyl isobutyl ketone {Hexone}	108101	-	-	-	-	-	-	-
Toluene	108883	-	-	-	-	-	-	-
Chlorobenzene	108907	-	-	-	-	-	-	-
Hexane	110543	-	-	-	-	-	-	-
Cyclohexane	110827	-	-	-	-	-	-	-

Table D-12. Mitigation Scenario 3: Cancer Risk by Substance and Exposure Pathway

Correia Family Dairy

Facility ID: N-6126

Receptor ID: 4

Location: 680573.2 UTM E, 4110388.2 UTM N

Chemical Name	CAS	Inhalation	Soil	Dermal	Mother's Milk	Homegrown Produce	Total	Contribution
1,2,4-Trichlorobenzene	120821	-	-	-	-	-	-	-
Butyraldehyde	123728	-	-	-	-	-	-	-
1,4-Dioxane	123911	5.03E-07	-	-	-	-	5.03E-07	2.89%
Perchloroethylene {Tetrachloroethene}	127184	3.25E-07	-	-	-	-	3.25E-07	1.87%
1,3-Dichlorobenzene	541731	-	-	-	-	-	-	-
1,3-Dichloropropene	542756	-	-	-	-	-	-	-
1,4-Dichloro-2-butene	764410	-	-	-	-	-	-	-
Xylenes (mixed)	1330207	-	-	-	-	-	-	-
Crotonaldehyde	4170303	-	-	-	-	-	-	-
Aluminum	7429905	-	-	-	-	-	-	-
Lead	7439921	1.25E-11	1.37E-10	2.92E-12	2.28E-12	4.15E-11	1.97E-10	0.00%
Manganese	7439965	-	-	-	-	-	-	-
Mercury	7439976	-	-	-	-	-	-	-
Nickel	7440020	8.86E-11	-	-	-	-	8.86E-11	0.00%
Antimony	7440360	-	-	-	-	-	-	-
Arsenic	7440382	1.64E-09	1.11E-08	4.71E-10	-	1.05E-08	2.37E-08	0.14%
Barium	7440393	-	-	-	-	-	-	-
Chromium	7440473	-	-	-	-	-	-	-
Copper	7440508	-	-	-	-	-	-	-
Vanadium (fume or dust)	7440622	-	-	-	-	-	-	-
Zinc	7440666	-	-	-	-	-	-	-
Ammonia	7664417	-	-	-	-	-	-	-
Phosphorus	7723140	-	-	-	-	-	-	-
Bromine	7726956	-	-	-	-	-	-	-
Selenium	7782492	-	-	-	-	-	-	-
Chromium, hexavalent (& compounds)	18540299	4.97E-09	6.53E-11	2.29E-12	-	3.23E-09	8.26E-09	0.05%
Total		1.74E-05	1.13E-08	4.76E-10	2.28E-12	1.38E-08	1.74E-05	100.00%

Table D-13. Mitigation Scenario 3: Chronic Hazard by Substance

Correia Family Dairy
Facility ID: N-6126
Receptor ID: 3
Location: 680558.9 UTM E, 4110388.2 UTM N

Chemical Name	CAS	CV	CNS	IMMUN	KIDN	GILV	REPRO	RESP	SKIN	EYE	BONE	ENDO	HEM	ODOR	Chronic Risk @ Max Target Organ (RESP)	Contribution ¹
Diesel PM - Construction (All Tier 4F)	9901	-	-	-	-	-	-	1.03E-03	-	-	-	-	-	-	1.03E-03	0.78%
Diesel PM	9901	-	-	-	-	-	-	1.15E-04	-	-	-	-	-	-	1.15E-04	0.09%
SULFATES	9960	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Formaldehyde	50000	-	-	-	-	-	-	6.18E-04	-	-	-	-	-	-	6.18E-04	0.47%
Carbon tetrachloride	56235	-	1.92E-05	-	-	1.92E-05	1.92E-05	-	-	-	-	-	-	-	-	-
Isopropyl alcohol	67630	-	-	-	3.08E-06	-	3.08E-06	-	-	-	-	-	-	-	-	-
Chloroform	67663	-	-	-	5.73E-06	5.73E-06	5.73E-06	-	-	-	-	-	-	-	-	-
Benzene	71432	-	-	-	-	-	-	-	-	-	-	-	1.45E-03	-	-	-
Methyl chloride {Chloromethane}	74873	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethyl chloride {Chlorethane}	75003	-	-	-	-	1.11E-07	1.11E-07	-	-	-	-	-	-	-	-	-
Acetaldehyde	75070	-	-	-	-	-	-	2.30E-04	-	-	-	-	-	-	2.30E-04	0.17%
Carbon disulfide	75150	-	4.29E-05	-	-	-	4.29E-05	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane {Freon 11}	75694	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl ethyl ketone {2-Butanone}	78933	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	79005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethylene	79016	-	7.94E-07	-	-	-	-	-	-	7.94E-07	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	79345	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	91203	-	-	-	-	-	-	2.58E-03	-	-	-	-	-	-	2.58E-03	1.96%
1,2-Dichlorobenzene	95501	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	95636	-	3.13E-04	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane	96128	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,3-Trichloropropane	96184	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cumene	98828	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethyl benzene	100414	-	-	-	2.50E-06	2.50E-06	2.50E-06	-	-	-	-	2.50E-06	-	-	-	-
Styrene	100425	-	6.00E-06	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzyl chloride	100447	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
p-Dichlorobenzene	106467	-	1.13E-05	-	1.13E-05	1.13E-05	-	1.13E-05	-	-	-	-	-	-	1.13E-05	0.01%
Ethylene dibromide {EDB}	106934	-	-	-	-	-	5.78E-03	-	-	-	-	-	-	-	-	-
Ethylene dichloride {EDC}	107062	-	-	-	-	2.36E-06	-	-	-	-	-	-	-	-	-	-
Acrylonitrile	107131	-	-	-	-	-	-	6.99E-04	-	-	-	-	-	-	6.99E-04	0.53%
Vinyl acetate	108054	-	-	-	-	-	-	1.29E-04	-	-	-	-	-	-	1.29E-04	0.10%
Methyl isobutyl ketone {Hexone}	108101	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	108883	-	-	-	-	-	-	-	-	3.51E-05	-	-	-	-	-	-
Chlorobenzene	108907	-	-	-	4.12E-06	4.12E-06	4.12E-06	-	-	-	-	-	-	-	-	-
Hexane	110543	-	1.55E-06	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane	110827	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	120821	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Butyraldehyde	123728	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dioxane	123911	6.52E-06	-	-	6.52E-06	6.52E-06	-	-	-	-	-	-	-	-	-	-
Perchloroethylene {Tetrachloroethene}	127184	-	-	-	4.57E-04	4.57E-04	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	541731	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichloropropene	542756	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichloro-2-butene	764410	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylenes (mixed)	1330207	-	3.51E-05	-	-	-	-	3.51E-05	-	3.51E-05	-	-	-	-	3.51E-05	0.03%
Crotonaldehyde	4170303	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aluminum	7429905	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	7439921	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manganese	7439965	-	1.16E-04	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	7439976	-	7.48E-06	-	7.48E-06	-	7.48E-06	-	-	-	-	-	-	-	-	-

Table D-13. Mitigation Scenario 3: Chronic Hazard by Substance

Correia Family Dairy
 Facility ID: N-6126
 Receptor ID: 3
 Location: 680558.9 UTM E, 4110388.2 UTM N

Chemical Name	CAS	CV	CNS	IMMUN	KIDN	GILV	REPRO	RESP	SKIN	EYE	BONE	ENDO	HEM	ODOR	Chronic Risk @ Max Target Organ (RESP)	Contribution ¹
Nickel	7440020	-	-	-	-	-	1.37E-07	6.87E-06	-	-	-	-	6.87E-06	-	6.87E-06	0.01%
Antimony	7440360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic	7440382	1.43E-03	1.43E-03	-	-	-	1.43E-03	1.43E-03	1.43E-03	-	-	-	-	-	1.43E-03	1.08%
Barium	7440393	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	7440473	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	7440508	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vanadium (fume or dust)	7440622	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	7440666	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammonia	7664417	-	-	-	-	-	-	1.25E-01	-	-	-	-	-	-	1.25E-01	94.78%
Phosphorus	7723140	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromine	7726956	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	7782492	1.55E-07	1.55E-07	-	-	1.55E-07	-	-	-	-	-	-	-	-	-	-
Chromium, hexavalent (& compounds)	18540299	-	-	-	-	-	-	4.81E-08	-	-	-	-	1.37E-07	-	4.81E-08	0.00%
Total		1.43E-03	1.98E-03	-	4.97E-04	5.09E-04	7.29E-03	1.32E-01	1.43E-03	7.09E-05	-	2.50E-06	1.45E-03	-	1.32E-01	100.00%

1. Contribution by pollutant is based on the target organ with the maximum chronic hazard.

Table D-14. Mitigation Scenario 3: Acute Hazard by Substance

Correia Family Dairy
 Facility ID: N-6126
 Receptor ID: 1
 Location: 680483.7 UTM E, 4110392 UTM N

Chemical Name	CAS	CV	CNS	IMMUN	KIDN	GILV	REPRO	RESP	SKIN	EYE	BONE	ENDO	HEM	ODOR	Acute Risk @ Max Target Organ (EYE)	Contribution ¹
Diesel PM - Construction (All Tier 4F)	9901	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Diesel PM	9901	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SULFATES	9960	-	-	-	-	-	-	2.19E-04	-	-	-	-	-	-	-	-
Formaldehyde	50000	-	-	-	-	-	-	-	-	1.21E-02	-	-	-	-	1.21E-02	1.64%
Carbon tetrachloride	56235	-	3.75E-05	-	-	3.75E-05	3.75E-05	-	-	-	-	-	-	-	-	-
Isopropyl alcohol	67630	-	-	-	-	-	-	6.67E-04	-	6.67E-04	-	-	-	-	6.67E-04	0.09%
Chloroform	67663	-	1.06E-03	-	-	-	1.06E-03	1.06E-03	-	-	-	-	-	-	-	-
Benzene	71432	-	-	3.49E-02	-	-	3.49E-02	-	-	-	-	-	3.49E-02	-	-	-
Methyl chloride {Chloromethane}	74873	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethyl chloride {Chlorethane}	75003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acetaldehyde	75070	-	-	-	-	-	-	6.97E-03	-	6.97E-03	-	-	-	-	6.97E-03	0.95%
Carbon disulfide	75150	-	6.29E-04	-	-	-	6.29E-04	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane {Freon 11}	75694	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl ethyl ketone {2-Butanone}	78933	-	-	-	-	-	-	1.39E-03	-	1.39E-03	-	-	-	-	1.39E-03	0.19%
1,1,2-Trichloroethane	79005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethylene	79016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	79345	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	91203	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	95501	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	95636	-	2.72E-04	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane	96128	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,3-Trichloropropane	96184	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cumene	98828	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethyl benzene	100414	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	100425	-	-	-	-	-	3.80E-05	3.80E-05	-	3.80E-05	-	-	-	-	3.80E-05	0.01%
Benzyl chloride	100447	-	-	-	-	-	-	4.36E-03	-	4.36E-03	-	-	-	-	4.36E-03	0.59%
p-Dichlorobenzene	106467	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylene dibromide {EDB}	106934	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylene dichloride {EDC}	107062	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acrylonitrile	107131	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl acetate	108054	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl isobutyl ketone {Hexone}	108101	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	108883	-	7.87E-04	-	-	-	-	7.87E-04	-	7.87E-04	-	-	-	-	7.87E-04	0.11%
Chlorobenzene	108907	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexane	110543	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane	110827	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	120821	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Butyraldehyde	123728	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dioxane	123911	-	-	-	-	-	-	7.56E-04	-	7.56E-04	-	-	-	-	7.56E-04	0.10%
Perchloroethylene {Tetrachloroethene}	127184	-	2.34E-04	-	-	-	-	2.34E-04	-	2.34E-04	-	-	-	-	2.34E-04	0.03%
1,3-Dichlorobenzene	541731	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichloropropene	542756	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichloro-2-butene	764410	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylenes (mixed)	1330207	-	2.19E-04	-	-	-	-	2.19E-04	-	2.19E-04	-	-	-	-	2.19E-04	0.03%
Crotonaldehyde	4170303	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aluminum	7429905	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	7439921	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manganese	7439965	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	7439976	-	2.40E-05	-	-	-	2.40E-05	-	-	-	-	-	-	-	-	-

Table D-14. Mitigation Scenario 3: Acute Hazard by Substance

Correia Family Dairy
 Facility ID: N-6126
 Receptor ID: 1
 Location: 680483.7 UTM E, 4110392 UTM N

Chemical Name	CAS	CV	CNS	IMMUN	KIDN	GILV	REPRO	RESP	SKIN	EYE	BONE	ENDO	HEM	ODOR	Acute Risk @ Max Target Organ (EYE)	Contribution ¹
Nickel	7440020	-	-	1.26E-04	-	-	-	-	-	-	-	-	-	-	-	-
Antimony	7440360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic	7440382	2.88E-04	2.88E-04	-	-	-	2.88E-04	-	-	-	-	-	-	-	-	-
Barium	7440393	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	7440473	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	7440508	-	-	-	-	-	-	4.75E-06	-	-	-	-	-	-	-	-
Vanadium (fume or dust)	7440622	-	-	-	-	-	-	3.60E-06	-	3.60E-06	-	-	-	-	3.60E-06	0.00%
Zinc	7440666	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammonia	7664417	-	-	-	-	-	-	7.09E-01	-	7.09E-01	-	-	-	-	7.09E-01	96.27%
Phosphorus	7723140	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromine	7726956	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	7782492	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium, hexavalent (& compounds)	18540299	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		2.88E-04	3.55E-03	3.50E-02	-	3.75E-05	3.69E-02	7.26E-01	-	7.37E-01	-	-	3.49E-02	-	7.37E-01	100.00%

1. Contribution by pollutant is based on the target organ with the maximum acute hazard.

Table D-15. Mitigation Scenario 4: Cancer Risk by Substance and Exposure Pathway

Correia Family Dairy

Facility ID: N-6126

Receptor ID: 4

Location: 680573.2 UTM E, 4110388.2 UTM N

Chemical Name	CAS	Inhalation	Soil	Dermal	Mother's Milk	Homegrown Produce	Total	Contribution
Diesel PM - Construction (DPF)	9901	1.65E-06	-	-	-	-	1.65E-06	9.54%
Diesel PM	9901	5.98E-07	-	-	-	-	5.98E-07	3.46%
SULFATES	9960	-	-	-	-	-	-	-
Formaldehyde	50000	1.11E-07	-	-	-	-	1.11E-07	0.64%
Carbon tetrachloride	56235	1.10E-07	-	-	-	-	1.10E-07	0.63%
Isopropyl alcohol	67630	-	-	-	-	-	-	-
Chloroform	67663	3.10E-08	-	-	-	-	3.10E-08	0.18%
Benzene	71432	4.14E-07	-	-	-	-	4.14E-07	2.39%
Methyl chloride {Chloromethane}	74873	-	-	-	-	-	-	-
Ethyl chloride {Chlorethane}	75003	-	-	-	-	-	-	-
Acetaldehyde	75070	3.07E-07	-	-	-	-	3.07E-07	1.77%
Carbon disulfide	75150	-	-	-	-	-	-	-
Trichlorofluoromethane {Freon 11}	75694	-	-	-	-	-	-	-
Methyl ethyl ketone {2-Butanone}	78933	-	-	-	-	-	-	-
1,1,2-Trichloroethane	79005	1.80E-07	-	-	-	-	1.80E-07	1.04%
Trichloroethylene	79016	3.30E-09	-	-	-	-	3.30E-09	0.02%
1,1,2,2-Tetrachloroethane	79345	3.11E-07	-	-	-	-	3.11E-07	1.80%
Naphthalene	91203	2.68E-06	-	-	-	-	2.68E-06	15.51%
1,2-Dichlorobenzene	95501	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	95636	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane	96128	4.31E-06	-	-	-	-	4.31E-06	24.91%
1,2,3-Trichloropropane	96184	-	-	-	-	-	-	-
Cumene	98828	-	-	-	-	-	-	-
Ethyl benzene	100414	4.16E-08	-	-	-	-	4.16E-08	0.24%
Styrene	100425	-	-	-	-	-	-	-
Benzyl chloride	100447	8.36E-07	-	-	-	-	8.36E-07	4.83%
p-Dichlorobenzene	106467	3.46E-07	-	-	-	-	3.46E-07	2.00%
Ethylene dibromide {EDB}	106934	1.11E-06	-	-	-	-	1.11E-06	6.39%
Ethylene dichloride {EDC}	107062	6.52E-08	-	-	-	-	6.52E-08	0.38%
Acrylonitrile	107131	3.34E-06	-	-	-	-	3.34E-06	19.29%
Vinyl acetate	108054	-	-	-	-	-	-	-
Methyl isobutyl ketone {Hexone}	108101	-	-	-	-	-	-	-
Toluene	108883	-	-	-	-	-	-	-
Chlorobenzene	108907	-	-	-	-	-	-	-
Hexane	110543	-	-	-	-	-	-	-
Cyclohexane	110827	-	-	-	-	-	-	-

Table D-15. Mitigation Scenario 4: Cancer Risk by Substance and Exposure Pathway

Correia Family Dairy

Facility ID: N-6126

Receptor ID: 4

Location: 680573.2 UTM E, 4110388.2 UTM N

Chemical Name	CAS	Inhalation	Soil	Dermal	Mother's Milk	Homegrown Produce	Total	Contribution
1,2,4-Trichlorobenzene	120821	-	-	-	-	-	-	-
Butyraldehyde	123728	-	-	-	-	-	-	-
1,4-Dioxane	123911	5.03E-07	-	-	-	-	5.03E-07	2.91%
Perchloroethylene {Tetrachloroethene}	127184	3.25E-07	-	-	-	-	3.25E-07	1.88%
1,3-Dichlorobenzene	541731	-	-	-	-	-	-	-
1,3-Dichloropropene	542756	-	-	-	-	-	-	-
1,4-Dichloro-2-butene	764410	-	-	-	-	-	-	-
Xylenes (mixed)	1330207	-	-	-	-	-	-	-
Crotonaldehyde	4170303	-	-	-	-	-	-	-
Aluminum	7429905	-	-	-	-	-	-	-
Lead	7439921	1.25E-11	1.37E-10	2.92E-12	2.28E-12	4.15E-11	1.97E-10	0.00%
Manganese	7439965	-	-	-	-	-	-	-
Mercury	7439976	-	-	-	-	-	-	-
Nickel	7440020	8.86E-11	-	-	-	-	8.86E-11	0.00%
Antimony	7440360	-	-	-	-	-	-	-
Arsenic	7440382	1.64E-09	1.11E-08	4.71E-10	-	1.05E-08	2.37E-08	0.14%
Barium	7440393	-	-	-	-	-	-	-
Chromium	7440473	-	-	-	-	-	-	-
Copper	7440508	-	-	-	-	-	-	-
Vanadium (fume or dust)	7440622	-	-	-	-	-	-	-
Zinc	7440666	-	-	-	-	-	-	-
Ammonia	7664417	-	-	-	-	-	-	-
Phosphorus	7723140	-	-	-	-	-	-	-
Bromine	7726956	-	-	-	-	-	-	-
Selenium	7782492	-	-	-	-	-	-	-
Chromium, hexavalent (& compounds)	18540299	4.97E-09	6.53E-11	2.29E-12	-	3.23E-09	8.26E-09	0.05%
Total		1.73E-05	1.13E-08	4.76E-10	2.28E-12	1.38E-08	1.73E-05	100.00%

Table D-16. Mitigation Scenario 4: Chronic Hazard by Substance

Correia Family Dairy
 Facility ID: N-6126
 Receptor ID: 3
 Location: 680558.9 UTM E, 4110388.2 UTM N

Chemical Name	CAS	CV	CNS	IMMUN	KIDN	GILV	REPRO	RESP	SKIN	EYE	BONE	ENDO	HEM	ODOR	Chronic Risk @ Max Target Organ (RESP)	Contribution ¹
Diesel PM - Construction (DPF)	9901	-	-	-	-	-	-	9.63E-04	-	-	-	-	-	-	9.63E-04	0.73%
Diesel PM	9901	-	-	-	-	-	-	1.15E-04	-	-	-	-	-	-	1.15E-04	0.09%
SULFATES	9960	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Formaldehyde	50000	-	-	-	-	-	-	6.18E-04	-	-	-	-	-	-	6.18E-04	0.47%
Carbon tetrachloride	56235	-	1.92E-05	-	-	1.92E-05	1.92E-05	-	-	-	-	-	-	-	-	-
Isopropyl alcohol	67630	-	-	-	3.08E-06	-	3.08E-06	-	-	-	-	-	-	-	-	-
Chloroform	67663	-	-	-	5.73E-06	5.73E-06	5.73E-06	-	-	-	-	-	-	-	-	-
Benzene	71432	-	-	-	-	-	-	-	-	-	-	-	1.45E-03	-	-	-
Methyl chloride {Chloromethane}	74873	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethyl chloride {Chlorethane}	75003	-	-	-	-	1.11E-07	1.11E-07	-	-	-	-	-	-	-	-	-
Acetaldehyde	75070	-	-	-	-	-	-	2.30E-04	-	-	-	-	-	-	2.30E-04	0.17%
Carbon disulfide	75150	-	4.29E-05	-	-	-	4.29E-05	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane {Freon 11}	75694	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl ethyl ketone {2-Butanone}	78933	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2-Trichloroethane	79005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethylene	79016	-	7.94E-07	-	-	-	-	-	-	7.94E-07	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	79345	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	91203	-	-	-	-	-	-	2.58E-03	-	-	-	-	-	-	2.58E-03	1.96%
1,2-Dichlorobenzene	95501	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	95636	-	3.13E-04	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane	96128	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,3-Trichloropropane	96184	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cumene	98828	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethyl benzene	100414	-	-	-	2.50E-06	2.50E-06	2.50E-06	-	-	-	-	2.50E-06	-	-	-	-
Styrene	100425	-	6.00E-06	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzyl chloride	100447	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
p-Dichlorobenzene	106467	-	1.13E-05	-	1.13E-05	1.13E-05	-	1.13E-05	-	-	-	-	-	-	1.13E-05	0.01%
Ethylene dibromide {EDB}	106934	-	-	-	-	-	5.78E-03	-	-	-	-	-	-	-	-	-
Ethylene dichloride {EDC}	107062	-	-	-	-	2.36E-06	-	-	-	-	-	-	-	-	-	-
Acrylonitrile	107131	-	-	-	-	-	-	6.99E-04	-	-	-	-	-	-	6.99E-04	0.53%
Vinyl acetate	108054	-	-	-	-	-	-	1.29E-04	-	-	-	-	-	-	1.29E-04	0.10%
Methyl isobutyl ketone {Hexone}	108101	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	108883	-	-	-	-	-	-	-	-	3.51E-05	-	-	-	-	-	-
Chlorobenzene	108907	-	-	-	4.12E-06	4.12E-06	4.12E-06	-	-	-	-	-	-	-	-	-
Hexane	110543	-	1.55E-06	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane	110827	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	120821	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Butyraldehyde	123728	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dioxane	123911	6.52E-06	-	-	6.52E-06	6.52E-06	-	-	-	-	-	-	-	-	-	-
Perchloroethylene {Tetrachloroethene}	127184	-	-	-	4.57E-04	4.57E-04	-	-	-	-	-	-	-	-	-	-
1,3-Dichlorobenzene	541731	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichloropropene	542756	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichloro-2-butene	764410	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylenes (mixed)	1330207	-	3.51E-05	-	-	-	-	3.51E-05	-	3.51E-05	-	-	-	-	3.51E-05	0.03%
Crotonaldehyde	4170303	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aluminum	7429905	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	7439921	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manganese	7439965	-	1.16E-04	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	7439976	-	7.48E-06	-	7.48E-06	-	7.48E-06	-	-	-	-	-	-	-	-	-

Table D-16. Mitigation Scenario 4: Chronic Hazard by Substance

Correia Family Dairy
 Facility ID: N-6126
 Receptor ID: 3
 Location: 680558.9 UTM E, 4110388.2 UTM N

Chemical Name	CAS	CV	CNS	IMMUN	KIDN	GILV	REPRO	RESP	SKIN	EYE	BONE	ENDO	HEM	ODOR	Chronic Risk @ Max Target Organ (RESP)	Contribution ¹
Nickel	7440020	-	-	-	-	-	1.37E-07	6.87E-06	-	-	-	-	6.87E-06	-	6.87E-06	0.01%
Antimony	7440360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic	7440382	1.43E-03	1.43E-03	-	-	-	1.43E-03	1.43E-03	1.43E-03	-	-	-	-	-	1.43E-03	1.08%
Barium	7440393	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	7440473	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	7440508	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vanadium (fume or dust)	7440622	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	7440666	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammonia	7664417	-	-	-	-	-	-	1.25E-01	-	-	-	-	-	-	1.25E-01	94.83%
Phosphorus	7723140	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromine	7726956	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	7782492	1.55E-07	1.55E-07	-	-	1.55E-07	-	-	-	-	-	-	-	-	-	-
Chromium, hexavalent (& compounds)	18540299	-	-	-	-	-	-	4.81E-08	-	-	-	-	1.37E-07	-	4.81E-08	0.00%
Total		1.43E-03	1.98E-03	-	4.97E-04	5.09E-04	7.29E-03	1.32E-01	1.43E-03	7.09E-05	-	2.50E-06	1.45E-03	-	1.32E-01	100.00%

1. Contribution by pollutant is based on the target organ with the maximum chronic hazard.

Table D-14. Mitigation Scenario 4: Acute Hazard by Substance

Correia Family Dairy
 Facility ID: N-6126
 Receptor ID: 1
 Location: 680483.7 UTM E, 4110392 UTM N

Chemical Name	CAS	CV	CNS	IMMUN	KIDN	GILV	REPRO	RESP	SKIN	EYE	BONE	ENDO	HEM	ODOR	Acute Risk @ Max Target Organ (EYE)	Contribution ¹
Diesel PM - Construction (DPF)	9901	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Diesel PM	9901	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SULFATES	9960	-	-	-	-	-	-	2.19E-04	-	-	-	-	-	-	-	-
Formaldehyde	50000	-	-	-	-	-	-	-	-	1.21E-02	-	-	-	-	1.21E-02	1.64%
Carbon tetrachloride	56235	-	3.75E-05	-	-	3.75E-05	3.75E-05	-	-	-	-	-	-	-	-	-
Isopropyl alcohol	67630	-	-	-	-	-	-	6.67E-04	-	6.67E-04	-	-	-	-	6.67E-04	0.09%
Chloroform	67663	-	1.06E-03	-	-	-	1.06E-03	1.06E-03	-	-	-	-	-	-	-	-
Benzene	71432	-	-	3.49E-02	-	-	3.49E-02	-	-	-	-	-	3.49E-02	-	-	-
Methyl chloride {Chloromethane}	74873	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethyl chloride {Chlorethane}	75003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acetaldehyde	75070	-	-	-	-	-	-	6.97E-03	-	6.97E-03	-	-	-	-	6.97E-03	0.95%
Carbon disulfide	75150	-	6.29E-04	-	-	-	6.29E-04	-	-	-	-	-	-	-	-	-
Trichlorofluoromethane {Freon 11}	75694	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl ethyl ketone {2-Butanone}	78933	-	-	-	-	-	-	1.39E-03	-	1.39E-03	-	-	-	-	1.39E-03	0.19%
1,1,2-Trichloroethane	79005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trichloroethylene	79016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	79345	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	91203	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dichlorobenzene	95501	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trimethylbenzene	95636	-	2.72E-04	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane	96128	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,3-Trichloropropane	96184	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cumene	98828	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethyl benzene	100414	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Styrene	100425	-	-	-	-	-	3.80E-05	3.80E-05	-	3.80E-05	-	-	-	-	3.80E-05	0.01%
Benzyl chloride	100447	-	-	-	-	-	-	4.36E-03	-	4.36E-03	-	-	-	-	4.36E-03	0.59%
p-Dichlorobenzene	106467	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylene dibromide {EDB}	106934	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ethylene dichloride {EDC}	107062	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Acrylonitrile	107131	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vinyl acetate	108054	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methyl isobutyl ketone {Hexone}	108101	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Toluene	108883	-	7.87E-04	-	-	-	-	7.87E-04	-	7.87E-04	-	-	-	-	7.87E-04	0.11%
Chlorobenzene	108907	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hexane	110543	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane	110827	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2,4-Trichlorobenzene	120821	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Butyraldehyde	123728	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dioxane	123911	-	-	-	-	-	-	7.56E-04	-	7.56E-04	-	-	-	-	7.56E-04	0.10%
Perchloroethylene {Tetrachloroethene}	127184	-	2.34E-04	-	-	-	-	2.34E-04	-	2.34E-04	-	-	-	-	2.34E-04	0.03%
1,3-Dichlorobenzene	541731	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Dichloropropene	542756	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,4-Dichloro-2-butene	764410	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Xylenes (mixed)	1330207	-	2.19E-04	-	-	-	-	2.19E-04	-	2.19E-04	-	-	-	-	2.19E-04	0.03%
Crotonaldehyde	4170303	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Aluminum	7429905	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	7439921	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manganese	7439965	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	7439976	-	2.40E-05	-	-	-	2.40E-05	-	-	-	-	-	-	-	-	-

Table D-14. Mitigation Scenario 4: Acute Hazard by Substance

Correia Family Dairy
 Facility ID: N-6126
 Receptor ID: 1
 Location: 680483.7 UTM E, 4110392 UTM N

Chemical Name	CAS	CV	CNS	IMMUN	KIDN	GILV	REPRO	RESP	SKIN	EYE	BONE	ENDO	HEM	ODOR	Acute Risk @ Max Target Organ (EYE)	Contribution ¹
Nickel	7440020	-	-	1.26E-04	-	-	-	-	-	-	-	-	-	-	-	-
Antimony	7440360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic	7440382	2.88E-04	2.88E-04	-	-	-	2.88E-04	-	-	-	-	-	-	-	-	-
Barium	7440393	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	7440473	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	7440508	-	-	-	-	-	-	4.75E-06	-	-	-	-	-	-	-	-
Vanadium (fume or dust)	7440622	-	-	-	-	-	-	3.60E-06	-	3.60E-06	-	-	-	-	3.60E-06	0.00%
Zinc	7440666	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammonia	7664417	-	-	-	-	-	-	7.09E-01	-	7.09E-01	-	-	-	-	7.09E-01	96.27%
Phosphorus	7723140	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bromine	7726956	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	7782492	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium, hexavalent (& compounds)	18540299	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		2.88E-04	3.55E-03	3.50E-02	-	3.75E-05	3.69E-02	7.26E-01	-	7.37E-01	-	-	3.49E-02	-	7.37E-01	100.00%

1. Contribution by pollutant is based on the target organ with the maximum acute hazard.

APPENDIX E. HRA AND AAQA MODELING FILES

(Electronic Files)