
APPENDIX F

Air Quality and Greenhouse Gas Emissions
Technical Appendix

APPENDIX F-1

CalEEMod Operational Emissions Calculations

“Remarks” for the Vierra Dairy Expansion Project CalEEMod (v.2020.4.0) Model Run

“Remarks” are typically used in California Emissions Estimator Model (CalEEMod) to explain non-default inputs. For the current modeling, this document replaces the “remarks” section of the referenced CalEEMod model to provide more space to both identify non-default inputs and to explain how CalEEMod is used to calculate emissions for the current project. When defaults were retained and no further explanation was necessary, no “remarks” are recorded below. The proposed project construction emissions and increment of increase of operational emissions were estimated as set forth below.

Vierra Dairy Expansion Model Run

Land Use

- The General Heavy Industrial land use subtype was used to represent the dairy project, an industrial agriculture project. With implementation of the proposed dairy expansion, new structures would consist of approximately 481,360 square feet of construction.

Construction Phase

- The proposed structure construction would occur within one phase. Construction modeling was completed separately and can be found in EIR Appendix G, *Health Risk Assessment and Ambient Air Quality Analysis*.

Vehicle Trips

- Animal Confinement Facilities operate 7 days a week. The proposed expanded operations would generate an increase of approximately 31.3 average daily trips (ADTs) (or 0.065 trips per 1,000 square feet). Fleet mix modified to reflect project.

Operational Off-Road Equipment

- The increase in the number of hours for feed loading, bedding delivery, manure scraping, manure loading, and feed delivery was used based on estimates from the project applicant.

Area Sources, Energy, Water and Wastewater, Solid Waste

- These rates are not applicable to the Vierra Dairy, and were not included. Electricity use provided by project applicant and calculated for GHG separately. Solid waste based on information provided by the applicant.

Vierra Dairy Expansion - Merced County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

**Vierra Dairy Expansion
Merced County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	481.36	1000sqft	11.05	481,360.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	49
Climate Zone	3			Operational Year	2025
Utility Company	Turlock Irrigation District				
CO2 Intensity (lb/MWhr)	607.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

- Project Characteristics -
- Land Use -
- Construction Phase - Construction emissions not calculated
- Trips and VMT - Construction emissions not calculated.
- Vehicle Trips - See notes
- Energy Use - See notes
- Water And Wastewater - n/a
- Solid Waste - As provided by applicant
- Operational Off-Road Equipment - Provided by applicant for feed loader and feed delivery
- Fleet Mix - See notes
- Consumer Products - n/a
- Area Coating - n/a

Vierra Dairy Expansion - Merced County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Landscape Equipment - n/a

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	240680	0
tblAreaCoating	Area_Nonresidential_Interior	722040	0
tblConstructionPhase	NumDays	20.00	0.00
tblConsumerProducts	ROG_EF	2.14E-05	0
tblConsumerProducts	ROG_EF_Degreaser	3.542E-07	0
tblConsumerProducts	ROG_EF_PesticidesFertilizers	5.152E-08	0
tblEnergyUse	LightingElect	2.70	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	T24E	1.75	0.00
tblEnergyUse	T24NG	16.86	0.00
tblFleetMix	HHD	0.05	0.14
tblFleetMix	LDA	0.52	0.42
tblFleetMix	LDT1	0.05	0.21
tblFleetMix	LDT2	0.16	0.21
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD2	7.0250e-003	0.00
tblFleetMix	MCY	0.02	0.00
tblFleetMix	MDV	0.15	0.03
tblFleetMix	MH	2.8480e-003	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	OBUS	8.1600e-004	0.00
tblFleetMix	SBUS	2.1720e-003	0.00
tblFleetMix	UBUS	4.5800e-004	0.00
tblLandscapeEquipment	NumberSummerDays	180	0
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00

Vierra Dairy Expansion - Merced County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperHorsePower	97.00	110.00
tblOperationalOffRoadEquipment	OperHorsePower	97.00	200.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	3.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	3.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblSolidWaste	SolidWasteGenerationRate	596.89	1.52
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	6.42	0.07
tblVehicleTrips	SU_TR	5.09	0.07
tblVehicleTrips	WD_TR	3.93	0.07
tblWater	IndoorWaterUseRate	111,314,500.00	0.00

2.0 Emissions Summary

Vierra Dairy Expansion - Merced County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.0000				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	0.0000				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.0000				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	0.0000				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)

Vierra Dairy Expansion - Merced County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

		Highest	
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2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0113	0.0759	0.1548	6.5000e-004	0.0526	8.1000e-004	0.0534	0.0141	7.7000e-004	0.0148	0.0000	61.0343	61.0343	1.1400e-003	5.1600e-003	62.5991
Offroad	0.0240	0.2139	0.2754	6.8000e-004		8.4200e-003	8.4200e-003		7.7500e-003	7.7500e-003	0.0000	59.3991	59.3991	0.0192	0.0000	59.8793
Waste						0.0000	0.0000		0.0000	0.0000	0.3086	0.0000	0.3086	0.0182	0.0000	0.7644
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0353	0.2898	0.4302	1.3300e-003	0.0526	9.2300e-003	0.0618	0.0141	8.5200e-003	0.0226	0.3086	120.4334	120.7420	0.0386	5.1600e-003	123.2429

Vierra Dairy Expansion - Merced County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0113	0.0759	0.1548	6.5000e-004	0.0526	8.1000e-004	0.0534	0.0141	7.7000e-004	0.0148	0.0000	61.0343	61.0343	1.1400e-003	5.1600e-003	62.5991
Offroad	0.0240	0.2139	0.2754	6.8000e-004		8.4200e-003	8.4200e-003		7.7500e-003	7.7500e-003	0.0000	59.3991	59.3991	0.0192	0.0000	59.8793
Waste						0.0000	0.0000		0.0000	0.0000	0.3086	0.0000	0.3086	0.0182	0.0000	0.7644
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0353	0.2898	0.4302	1.3300e-003	0.0526	9.2300e-003	0.0618	0.0141	8.5200e-003	0.0226	0.3086	120.4334	120.7420	0.0386	5.1600e-003	123.2429

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	4/11/2023	4/10/2023	5	0	

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0113	0.0759	0.1548	6.5000e-004	0.0526	8.1000e-004	0.0534	0.0141	7.7000e-004	0.0148	0.0000	61.0343	61.0343	1.1400e-003	5.1600e-003	62.5991
Unmitigated	0.0113	0.0759	0.1548	6.5000e-004	0.0526	8.1000e-004	0.0534	0.0141	7.7000e-004	0.0148	0.0000	61.0343	61.0343	1.1400e-003	5.1600e-003	62.5991

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	33.70	33.70	33.70	139,564	139,564
Total	33.70	33.70	33.70	139,564	139,564

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	14.70	6.60	6.60	59.00	28.00	13.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Heavy Industry	0.415000	0.208000	0.208000	0.032000	0.000000	0.000000	0.000000	0.137000	0.000000	0.000000	0.000000	0.000000	0.000000

Vierra Dairy Expansion - Merced County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

Land Use	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

Land Use	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

Vierra Dairy Expansion - Merced County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

7.0 Water Detail

7.1 Mitigation Measures Water

Vierra Dairy Expansion - Merced County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Vierra Dairy Expansion - Merced County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Heavy Industry	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.3086	0.0182	0.0000	0.7644
Unmitigated	0.3086	0.0182	0.0000	0.7644

Vierra Dairy Expansion - Merced County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Unmitigated

Waste Disposed	Total CO2	CH4	N2O	CO2e	Land Use	tons	MT/yr		
General Heavy Industry	1.52	0.3086	0.0182	0.0000	0.7644				
Total	0.3086	0.0182	0.0000	0.7644					

Mitigated

Waste Disposed	Total CO2	CH4	N2O	CO2e	Land Use	tons	MT/yr		
General Heavy Industry	1.52	0.3086	0.0182	0.0000	0.7644				
Total	0.3086	0.0182	0.0000	0.7644					

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Tractors/Loaders/Backhoes	1	3.00	365	110	0.37	Diesel

Vierra Dairy Expansion - Merced County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Tractors/Loaders/Backhoes	1	3.00	365	200	0.37	Diesel
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UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Tractors/Loaders/Backhoes	0.0240	0.2139	0.2754	6.8000e-004		8.4200e-003	8.4200e-003		7.7500e-003	7.7500e-003	0.0000	59.3991	59.3991	0.0192	0.0000	59.8793
Total	0.0240	0.2139	0.2754	6.8000e-004		8.4200e-003	8.4200e-003		7.7500e-003	7.7500e-003	0.0000	59.3991	59.3991	0.0192	0.0000	59.8793

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Vierra Dairy Expansion - Merced County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

**Vierra Dairy Expansion
Merced County, Summer**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	481.36	1000sqft	11.05	481,360.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	49
Climate Zone	3			Operational Year	2025
Utility Company	Turlock Irrigation District				
CO2 Intensity (lb/MW hr)	607.98	CH4 Intensity (lb/MW hr)	0.033	N2O Intensity (lb/MW hr)	0.004

1.3 User Entered Comments & Non-Default Data

- Project Characteristics -
- Land Use -
- Construction Phase - Construction emissions not calculated
- Trips and VMT - Construction emissions not calculated.
- Vehicle Trips - See notes
- Energy Use - See notes
- Water And Wastewater - n/a
- Solid Waste - As provided by applicant
- Operational Off-Road Equipment - Provided by applicant for feed loader and feed delivery
- Fleet Mix - See notes
- Consumer Products - n/a
- Area Coating - n/a

Vierra Dairy Expansion - Merced County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Landscape Equipment - n/a

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	240680	0
tblAreaCoating	Area_Nonresidential_Interior	722040	0
tblConstructionPhase	NumDays	20.00	0.00
tblConsumerProducts	ROG_EF	2.14E-05	0
tblConsumerProducts	ROG_EF_Degreaser	3.542E-07	0
tblConsumerProducts	ROG_EF_PesticidesFertilizers	5.152E-08	0
tblEnergyUse	LightingElect	2.70	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	T24E	1.75	0.00
tblEnergyUse	T24NG	16.86	0.00
tblFleetMix	HHD	0.05	0.14
tblFleetMix	LDA	0.52	0.42
tblFleetMix	LDT1	0.05	0.21
tblFleetMix	LDT2	0.16	0.21
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD2	7.0250e-003	0.00
tblFleetMix	MCY	0.02	0.00
tblFleetMix	MDV	0.15	0.03
tblFleetMix	MH	2.8480e-003	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	OBUS	8.1600e-004	0.00
tblFleetMix	SBUS	2.1720e-003	0.00
tblFleetMix	UBUS	4.5800e-004	0.00
tblLandscapeEquipment	NumberSummerDays	180	0
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00

Vierra Dairy Expansion - Merced County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperHorsePower	97.00	110.00
tblOperationalOffRoadEquipment	OperHorsePower	97.00	200.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	3.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	3.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblSolidWaste	SolidWasteGenerationRate	596.89	1.52
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	6.42	0.07
tblVehicleTrips	SU_TR	5.09	0.07
tblVehicleTrips	WD_TR	3.93	0.07
tblWater	IndoorWaterUseRate	111,314,500.00	0.00

2.0 Emissions Summary

Vierra Dairy Expansion - Merced County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.5100e-003	4.4000e-004	0.0490	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.1054	0.1054	2.7000e-004		0.1122
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0775	0.3979	0.9673	3.7600e-003	0.2974	4.4500e-003	0.3019	0.0793	4.2100e-003	0.0835		387.5203	387.5203	6.7300e-003	0.0310	396.9124
Offroad	0.1316	1.1720	1.5088	3.7100e-003		0.0462	0.0462		0.0425	0.0425	0.0000	358.7744	358.7744	0.1160		361.6753
Total	0.2136	1.5703	2.5252	7.4700e-003	0.2974	0.0508	0.3482	0.0793	0.0469	0.1261	0.0000	746.4001	746.4001	0.1230	0.0310	758.6999

Vierra Dairy Expansion - Merced County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.5100e-003	4.4000e-004	0.0490	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.1054	0.1054	2.7000e-004		0.1122
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0775	0.3979	0.9673	3.7600e-003	0.2974	4.4500e-003	0.3019	0.0793	4.2100e-003	0.0835		387.5203	387.5203	6.7300e-003	0.0310	396.9124
Offroad	0.1316	1.1720	1.5088	3.7100e-003		0.0462	0.0462		0.0425	0.0425	0.0000	358.7744	358.7744	0.1160		361.6753
Total	0.2136	1.5703	2.5252	7.4700e-003	0.2974	0.0508	0.3482	0.0793	0.0469	0.1261	0.0000	746.4001	746.4001	0.1230	0.0310	758.6999

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	4/11/2023	4/10/2023	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Vierra Dairy Expansion - Merced County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0775	0.3979	0.9673	3.7600e-003	0.2974	4.4500e-003	0.3019	0.0793	4.2100e-003	0.0835		387.5203	387.5203	6.7300e-003	0.0310	396.9124
Unmitigated	0.0775	0.3979	0.9673	3.7600e-003	0.2974	4.4500e-003	0.3019	0.0793	4.2100e-003	0.0835		387.5203	387.5203	6.7300e-003	0.0310	396.9124

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	33.70	33.70	33.70	139,564	139,564
Total	33.70	33.70	33.70	139,564	139,564

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	14.70	6.60	6.60	59.00	28.00	13.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Heavy Industry	0.415000	0.208000	0.208000	0.032000	0.000000	0.000000	0.000000	0.137000	0.000000	0.000000	0.000000	0.000000	0.000000

Vierra Dairy Expansion - Merced County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Vierra Dairy Expansion - Merced County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - Natural Gas

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.5100e-003	4.4000e-004	0.0490	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.1054	0.1054	2.7000e-004		0.1122
Unmitigated	4.5100e-003	4.4000e-004	0.0490	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.1054	0.1054	2.7000e-004		0.1122

Vierra Dairy Expansion - Merced County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.5100e-003	4.4000e-004	0.0490	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.1054	0.1054	2.7000e-004		0.1122
Total	4.5100e-003	4.4000e-004	0.0490	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.1054	0.1054	2.7000e-004		0.1122

Vierra Dairy Expansion - Merced County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.5100e-003	4.4000e-004	0.0490	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.1054	0.1054	2.7000e-004		0.1122
Total	4.5100e-003	4.4000e-004	0.0490	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.1054	0.1054	2.7000e-004		0.1122

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Tractors/Loaders/Backhoes	1	3.00	365	110	0.37	Diesel
Tractors/Loaders/Backhoes	1	3.00	365	200	0.37	Diesel

Vierra Dairy Expansion - Merced County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Tractors/Loaders/Backhoes	0.1316	1.1720	1.5088	3.7100e-003		0.0462	0.0462		0.0425	0.0425	0.0000	358.7744	358.7744	0.1160		361.6753
Total	0.1316	1.1720	1.5088	3.7100e-003		0.0462	0.0462		0.0425	0.0425	0.0000	358.7744	358.7744	0.1160		361.6753

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Vierra Dairy Expansion - Merced County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

**Vierra Dairy Expansion
Merced County, Winter**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Heavy Industry	481.36	1000sqft	11.05	481,360.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	49
Climate Zone	3			Operational Year	2025
Utility Company	Turlock Irrigation District				
CO2 Intensity (lb/MWhr)	607.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

- Project Characteristics -
- Land Use -
- Construction Phase - Construction emissions not calculated
- Trips and VMT - Construction emissions not calculated.
- Vehicle Trips - See notes
- Energy Use - See notes
- Water And Wastewater - n/a
- Solid Waste - As provided by applicant
- Operational Off-Road Equipment - Provided by applicant for feed loader and feed delivery
- Fleet Mix - See notes
- Consumer Products - n/a
- Area Coating - n/a

Vierra Dairy Expansion - Merced County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Landscape Equipment - n/a

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Exterior	240680	0
tblAreaCoating	Area_Nonresidential_Interior	722040	0
tblConstructionPhase	NumDays	20.00	0.00
tblConsumerProducts	ROG_EF	2.14E-05	0
tblConsumerProducts	ROG_EF_Degreaser	3.542E-07	0
tblConsumerProducts	ROG_EF_PesticidesFertilizers	5.152E-08	0
tblEnergyUse	LightingElect	2.70	0.00
tblEnergyUse	NT24E	4.16	0.00
tblEnergyUse	NT24NG	3.84	0.00
tblEnergyUse	T24E	1.75	0.00
tblEnergyUse	T24NG	16.86	0.00
tblFleetMix	HHD	0.05	0.14
tblFleetMix	LDA	0.52	0.42
tblFleetMix	LDT1	0.05	0.21
tblFleetMix	LDT2	0.16	0.21
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD2	7.0250e-003	0.00
tblFleetMix	MCY	0.02	0.00
tblFleetMix	MDV	0.15	0.03
tblFleetMix	MH	2.8480e-003	0.00
tblFleetMix	MHD	0.01	0.00
tblFleetMix	OBUS	8.1600e-004	0.00
tblFleetMix	SBUS	2.1720e-003	0.00
tblFleetMix	UBUS	4.5800e-004	0.00
tblLandscapeEquipment	NumberSummerDays	180	0
tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00

Vierra Dairy Expansion - Merced County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOperationalOffRoadEquipment	OperDaysPerYear	260.00	365.00
tblOperationalOffRoadEquipment	OperHorsePower	97.00	110.00
tblOperationalOffRoadEquipment	OperHorsePower	97.00	200.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	3.00
tblOperationalOffRoadEquipment	OperHoursPerDay	8.00	3.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	1.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblSolidWaste	SolidWasteGenerationRate	596.89	1.52
tblVehicleTrips	DV_TP	5.00	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	92.00	100.00
tblVehicleTrips	ST_TR	6.42	0.07
tblVehicleTrips	SU_TR	5.09	0.07
tblVehicleTrips	WD_TR	3.93	0.07
tblWater	IndoorWaterUseRate	111,314,500.00	0.00

2.0 Emissions Summary

Vierra Dairy Expansion - Merced County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.5100e-003	4.4000e-004	0.0490	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.1054	0.1054	2.7000e-004		0.1122
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0571	0.4330	0.8447	3.5300e-003	0.2974	4.4600e-003	0.3019	0.0793	4.2200e-003	0.0835		364.0827	364.0827	7.3100e-003	0.0317	373.7139
Offroad	0.1316	1.1720	1.5088	3.7100e-003		0.0462	0.0462		0.0425	0.0425	0.0000	358.7744	358.7744	0.1160		361.6753
Total	0.1933	1.6054	2.4026	7.2400e-003	0.2974	0.0508	0.3482	0.0793	0.0469	0.1261	0.0000	722.9624	722.9624	0.1236	0.0317	735.5014

Vierra Dairy Expansion - Merced County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	4.5100e-003	4.4000e-004	0.0490	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.1054	0.1054	2.7000e-004		0.1122
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0571	0.4330	0.8447	3.5300e-003	0.2974	4.4600e-003	0.3019	0.0793	4.2200e-003	0.0835		364.0827	364.0827	7.3100e-003	0.0317	373.7139
Offroad	0.1316	1.1720	1.5088	3.7100e-003		0.0462	0.0462		0.0425	0.0425	0.0000	358.7744	358.7744	0.1160		361.6753
Total	0.1933	1.6054	2.4026	7.2400e-003	0.2974	0.0508	0.3482	0.0793	0.0469	0.1261	0.0000	722.9624	722.9624	0.1236	0.0317	735.5014

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	4/11/2023	4/10/2023	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Vierra Dairy Expansion - Merced County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0571	0.4330	0.8447	3.5300e-003	0.2974	4.4600e-003	0.3019	0.0793	4.2200e-003	0.0835		364.0827	364.0827	7.3100e-003	0.0317	373.7139
Unmitigated	0.0571	0.4330	0.8447	3.5300e-003	0.2974	4.4600e-003	0.3019	0.0793	4.2200e-003	0.0835		364.0827	364.0827	7.3100e-003	0.0317	373.7139

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Heavy Industry	33.70	33.70	33.70	139,564	139,564
Total	33.70	33.70	33.70	139,564	139,564

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	14.70	6.60	6.60	59.00	28.00	13.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Heavy Industry	0.415000	0.208000	0.208000	0.032000	0.000000	0.000000	0.000000	0.137000	0.000000	0.000000	0.000000	0.000000	0.000000

Vierra Dairy Expansion - Merced County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Vierra Dairy Expansion - Merced County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Heavy Industry	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.5100e-003	4.4000e-004	0.0490	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.1054	0.1054	2.7000e-004		0.1122
Unmitigated	4.5100e-003	4.4000e-004	0.0490	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.1054	0.1054	2.7000e-004		0.1122

Vierra Dairy Expansion - Merced County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.5100e-003	4.4000e-004	0.0490	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.1054	0.1054	2.7000e-004		0.1122
Total	4.5100e-003	4.4000e-004	0.0490	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.1054	0.1054	2.7000e-004		0.1122

Vierra Dairy Expansion - Merced County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.5100e-003	4.4000e-004	0.0490	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.1054	0.1054	2.7000e-004		0.1122
Total	4.5100e-003	4.4000e-004	0.0490	0.0000		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004		0.1054	0.1054	2.7000e-004		0.1122

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Tractors/Loaders/Backhoes	1	3.00	365	110	0.37	Diesel
Tractors/Loaders/Backhoes	1	3.00	365	200	0.37	Diesel

Vierra Dairy Expansion - Merced County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

UnMitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Tractors/Loaders/Backhoes	0.1316	1.1720	1.5088	3.7100e-003		0.0462	0.0462		0.0425	0.0425	0.0000	358.7744	358.7744	0.1160		361.6753
Total	0.1316	1.1720	1.5088	3.7100e-003		0.0462	0.0462		0.0425	0.0425	0.0000	358.7744	358.7744	0.1160		361.6753

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation