

Appendix B

Air Quality and GHG Technical Study

June 27, 2022

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Cc: Rory Baker, Sapphos Environmental, Inc.
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Subject: Air Quality and Greenhouse Gas Impacts Technical Study for the Proposed Atwood Multipurpose Trail in Placentia, CA

Dear Ms. Razo:

This Air Quality and Greenhouse Gas Impacts Technical Study has been prepared in support of the Atwood Multipurpose Trail Project (proposed project) located in the City of Placentia (City), Orange County, California. This Air Quality and Greenhouse Gas Impacts Technical Study will be used as supporting environmental documentation and as reference in the decision-making process to be undertaken by the Orange County Transportation Authority (OCTA), the project sponsor, and the California Department of Transportation (Caltrans), the administering agency for this proposed project. The City will act as the Lead Agency pursuant to the California Environmental Quality Act (CEQA). OCTA approved the City's request for federal funds as part of the Bicycle Corridor Improvement Program (BCIP) through the Federal-Aid Congestion Mitigation Air Quality Program. OCTA awarded funding to begin the preliminary engineering and environmental analysis phase to connect the Orange County Flood Control District (District) maintenance access roads to future installed City sidewalks.

PROJECT DESCRIPTION

The proposed project would involve the construction of a multiuse trail along the Atwood Channel, maintained by the District, within the community of Atwood in the City (Figure 1, *Regional Vicinity Map*). The proposed project site is comprised of portions of two gravel paved vacant access roads that are located along the northern and southern sides of the Atwood Channel, paved streets that cross over the channel, a gated intersection with the fenced pedestrian bridge to access Parque De Los Niños, and the southwestern edge of the existing Lakeview Loop roadway. The project site is generally bounded by Orangethorpe Avenue to the north, Lakeview Avenue to the east, Miraloma Avenue to the south, and Jefferson Street to the west. The proposed project would be centrally located and in close proximity to existing bikeways (Class I, Class II, and Class III), railroad tracks, and recreational facilities. The proposed trail would stretch east of the BNSF railroad tracks, approximately 600 feet east of Jefferson Street, to Lakeview Avenue and continue east adjacent to the Parque de Los Niños and the Placentia Veterans Village housing development along the Atwood Channel, alternating between north and south sides of the maintenance easement (Figure 2, *Local Vicinity Map*; Figure 3, *Project Footprint Map*).

The proposed project includes the construction of a 1.0-mile-long trail stretching from east of the BNSF railroad tracks to Lakeview Avenue. The proposed trail would include a paved multiuse path; new midblock crossings with ADA accessibility including modified sidewalks and curb ramps at Richfield Road, South Van Buren Street, and Fee Ana Street; a trailhead at Parque De Los Niños; new street signs and striping; wayfinding signage; and a staging area to the east of S. Van Buren Street between the channel and Vicente Avenue.

The City is considering three project elements:

1. Trail fencing along the edge of the channel;
2. A trail extension from Jefferson Street to the BNSF rail line; and
3. A bridge or grade separation crossing over the existing BNSF railroad tracks.

Of the three elements, the potential trail extension and the bridge or grade separation crossing, a 0.1-mile length, are considered “Optional To Be Determined” by the City and Caltrans (as labeled in Figure 3), and neither is a part of the project’s limits of work.

Crossing options at intersections, a connection on the eastern end from Lakeview Loop to the Class II bike lane on Lakeview Avenue, and local access points along the trail alignment have been identified to provide residents with connection to residential areas and parks.

DATA SOURCES AND ASSUMPTIONS

The following lists sources of information used in developing the emission estimates for the proposed Project using the California Emissions Estimator Model[®] (CalEEMod). Not all CalEEMod defaults are listed, but some defaults which have a particularly important impact on the project are listed.

- The Applicant defined:
 - Basic project design features including size of project footprint;
 - Construction equipment mix;
 - Project duration;
 - Construction phases will consist of Site Preparation, Grading, and Paving due to the scope and objective of the proposed project; and
 - During construction, any exposed soil will be watered three times a day, as required by the SCAQMD.
- CalEEMod defaults were used for:
 - Equipment loading and emission factors; and
 - Fleet mixes and trip rates.
- Assumptions:
 - Project phases (site preparation, grading, and paving) will occur in equal parts of the overall project duration; and

- Occurring over partitioned segments over the entire project length (1.15 miles), LSTs were assessed on a conservative average distance from nearby source receptors (50 meters, 164 feet).

LIST OF TABLES

The project analyses and results are summarized in the following tables:

- Table 1: Land Use Data for CalEEMod Input – Atwood Multipurpose Trail
- Table 2: SCAQMD CEQA Thresholds of Significance
- Table 3: Construction Emissions Summary and Significance Evaluation
- Table 4: Construction Localized Significance Threshold Evaluation
- Table 5: Construction GHG Emissions Summary and Significance Evaluation

AIR QUALITY AND GREENHOUSE GAS IMPACTS ANALYSES

In order to evaluate the potential for Air Quality and Greenhouse Gas impacts of a proposed project, quantitative significance criteria established by the local air quality agency, such as the SCAQMD, may be relied upon to make significance determinations based on mass emissions of criteria pollutants and GHGs, as presented in this report. As shown below, approval of the project would not result in any significant effects relating to air quality or greenhouse gases.

Project Emissions Estimation

The construction analysis was performed using CalEEMod version 2020.4.0, the official statewide land use computer model designed to provide a uniform platform for estimating potential criteria pollutant and GHG emissions associated with both construction and operations of land use projects under CEQA. The model quantifies direct emissions from construction and operations (including vehicle use), as well as indirect emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use. The mobile source emission factors used in the model – published by the California Air Resources Board (CARB) – include the Pavley standards and Low Carbon Fuel standards. The model also identifies project design features, regulatory measures, and mitigation (control) measures to reduce criteria pollutant and GHG emissions along with calculating the benefits achieved from the selected measures. CalEEMod was developed by the California Air Pollution Control Officers Association (CAPCOA) in collaboration with the SCAQMD, the Bay Area Air Quality Management District (BAAQMD), the San Joaquin Valley Air Pollution Control District (SJVAPCD), and other California air districts. Default land use data (e.g., emission factors, trip lengths, meteorology, source inventory, etc.) were provided by the various California air districts to account for local requirements and conditions. As the official assessment methodology for land use projects in California, CalEEMod is relied upon herein for construction emissions quantification, which forms the basis for the impact analysis.

Based on information received from the Applicant, land use data for CalEEMod input is presented in Table 1. The SCAQMD quantitative significance thresholds shown in Table 2 were used to evaluate project emissions impacts (SCAQMD 2019). For this construction-only project, operational emissions estimates in CalEEMod do not apply.

Table 1: Land Use Data for CalEEMod Input – Atwood Multipurpose Trail							
Project Element	Land Use Type	Land Use Subtype	Unit Amount	Size Metric	Lot Acreage (footprint)	Square Feet (est.)	Population
Multipurpose Trail	Parking	Other Asphalt Surfaces	122	1,000 sq. ft.	2.8	122,000	0
Project Site					2.8	122,000	0

Source: Applicant 2021, CalEEMod version 2020.4.0

Notes:

Electric utility: Southern California Edison

Climate Zone 8

Table 2: SCAQMD CEQA Thresholds of Significance		
Pollutant	Project Construction	Project Operation
ROG (VOC)	75 lbs/day	55 lbs/day
NO _x	100 lbs/day	55 lbs/day
CO	550 lbs/day	550 lbs/day
SO _x	150 lbs/day	150 lbs/day
PM ₁₀	150 lbs/day	150 lbs/day
PM _{2.5}	55 lbs/day	55 lbs/day
24-hour PM _{2.5} Increment	10.4 µg/m ³	2.5 µg/m ³
24-hour PM ₁₀ Increment	10.4 µg/m ³	2.5 µg/m ³
Annual PM ₁₀ Increment	1.0 µg/m ³ annual average	
1-hour NO ₂ Increment	0.18 ppm (state)	
Annual NO ₂ Increment	0.03 ppm (state) & 0.0534 ppm (federal)	
1-hour SO ₂ Increment	0.25 ppm (state) & 0.075 ppm (federal – 99th percentile)	
24-hour SO ₂ Increment	0.04 ppm (state)	
24-hour Sulfate Increment	25 ug/m ³ (state)	
1-hour CO Increment	20 ppm (state) & 35 ppm (federal)	
8-hour CO Increment	9.0 ppm (state/federal)	
Toxic Air Contaminants (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥10 in 1 million	
	Cancer Burden >0.5 excess cancer cases (in areas ≥1 in 1 million)	
	Chronic & Acute Hazard Index ≥1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to Rule 402	
Greenhouse Gases	10,000 MT/yr CO ₂ e for industrial facilities	
	3,000 MT/yr CO ₂ e for land use projects (draft proposal)	

Source: SCAQMD 2019, 2008b

Criteria Pollutants from Project Construction

A project's construction phase produces many types of emissions, but PM₁₀ (including PM_{2.5}) in fugitive dust and diesel engine exhaust are the pollutants of greatest concern. Fugitive dust emissions can result from a variety of construction activities, including excavation, grading, demolition, vehicle travel on paved and unpaved surfaces, and vehicle exhaust. Construction-related emissions can cause substantial increases in localized concentrations of PM₁₀, as well as affecting PM₁₀ compliance with ambient air quality standards on a regional basis. Particulate emissions from construction activities can lead to adverse health effects as well as nuisance concerns such as reduced visibility and soiling of exposed surfaces. The use of diesel-powered construction equipment emits ozone precursors oxides of nitrogen (NO_x) and reactive organic gases (ROG), and diesel particulate matter (DPM), the latter being a composite of toxic air contaminants (TACs) containing a variety of hazardous substances. Large construction projects using multiple large earthmoving equipment are evaluated to determine if construction activities may exceed the District's daily threshold for NO_x emissions and could temporarily expose area residents to hazardous levels of DPM. Use of architectural coatings and other materials associated with finishing buildings may also emit ROG and TACs. CEQA significance thresholds address the impacts of construction activity emissions on local and regional air quality. Thresholds are also provided for other potential impacts related to project construction, such as odors and TACs.

The SCAQMD's approach to CEQA analyses of fugitive dust impacts is to require implementation of effective and comprehensive dust control measures rather than to require detailed quantification of emissions. PM₁₀ emitted during construction can vary greatly depending on the level of activity, the specific activities taking place, the equipment being operated, local soils, weather conditions, and other factors, making quantification difficult. Despite this variability in emissions, experience has shown that there are several feasible control measures that can be reasonably implemented to significantly reduce fugitive dust emissions from construction. For larger projects, the SCAQMD has determined that compliance with an approved fugitive dust control plan comprising Best Management Practices (BMPs), primarily through frequent water application, constitutes sufficient control to reduce PM₁₀ impacts to a level considered less than significant.

Results of Criteria Emissions Analyses

Table 3 shows unmitigated and mitigated criteria construction emissions and evaluates mitigated emissions against SCAQMD significance thresholds.

As shown in Table 3, mass emissions of criteria pollutants from construction are below applicable SCAQMD significance thresholds.

PROJECTED IMPACT: Less Than Significant (LTS)

Table 3: Construction Emissions Summary and Significance Evaluation

Criteria Pollutants	Unmitigated (lbs/day)	Mitigated (lbs/day)	Threshold (lbs/day)	Significance
ROG (VOC)	1.2	1.2	75	LTS
NO _x	12.4	12.4	100	LTS
CO	12.3	12.3	550	LTS
SO _x	0.02	0.02	150	LTS
Total PM ₁₀	6.8	3.1	150	LTS
Total PM _{2.5}	3.9	1.9	55	LTS

Sources: SCAQMD 2019, CalEEMod version 2020.4.0

Notes:

lbs/day are winter or summer maxima for planned land use

Total PM₁₀ / PM_{2.5} comprises fugitive dust plus engine exhaust

LTS - Less Than Significant

Localized Significance Threshold Analysis

The SCAQMD's Localized Significance Threshold (LST) methodology (2008a) was used to analyze the neighborhood scale impacts of NO_x, CO, PM₁₀, and PM_{2.5} associated with project-specific mass emissions. Introduced in 2003, the LST methodology was revised in 2008 to include the PM_{2.5} significance threshold methodology and update the LST mass rate lookup tables for the new 1-hour NO₂ standard.

For determining localized air quality impacts from small projects in a defined geographic source-receptor area (SRA), the LST methodology provides mass emission rate lookup tables for 1-acre, 2-acre, and 5-acre parcels by SRA. The tabulated LSTs represent the maximum mass emissions from a project that will not cause or contribute to an exceedance of state or national ambient air quality standards (CAAQS or NAAQS) for the above pollutants and were developed based on ambient concentrations of these pollutants for each SRA in the South Coast Air Basin. (SCAQMD 2008a)

For most land use projects, the highest daily emission rates occur during the site preparation and grading phases of construction; where applicable, these maximum daily emissions are used in the LST analysis.

The proposed Project site is 2.8 acres in source-receptor area Zone 16 – North Orange County. The 2-acre screening lookup tables were used to evaluate NO_x, CO, PM₁₀, and PM_{2.5} impacts on nearby receptors. The average distance of the nearest receptors are approximately 70 meters (230 feet) away from the site. Therefore, the impact evaluation was performed using the second closest distance within SCAQMD LST tables of 50 meters for construction. (SCAQMD 2008a)

Results of Localized Significance Threshold Analysis

The LST results provided in Table 4 shows that on-site emissions from construction would meet the LST passing criteria at the nearest receptors (50 meters average distance). Thus, impacts would be less than significant.

PROJECTED IMPACT: Less Than Significant (LTS)

Table 4: Construction Localized Significance Threshold Evaluation				
Criteria Pollutants	Mitigated (lbs/day)	Threshold (lbs/day)	Percent of Threshold	Result
NO _x	12.4	143	9%	Pass
CO	12.3	1,010	1%	Pass
PM ₁₀	3.11	17	18%	Pass
PM _{2.5}	1.89	6	32%	Pass

Sources: SCAQMD 2008a, CalEEMod version 2020.4.0

Notes:

Source-receptor area - Placentia - Zone 16 North Orange County

For 2-acre area, 50 meters to receptor

Receptor distance is a conservative average of the nearest sensitive receptors along the proposed project length.

Greenhouse Gas Emissions from Construction

Greenhouse gases – primarily carbon dioxide (CO₂), methane (CH₄), and nitrous (N₂O) oxide, collectively reported as carbon dioxide equivalents (CO₂e) – are directly emitted from stationary source combustion of natural gas in equipment such as water heaters, boilers, process heaters, and furnaces. GHGs are also emitted from mobile sources such as on-road vehicles and off-road construction equipment burning fuels such as gasoline, diesel, biodiesel, propane, or natural gas (compressed or liquefied). Indirect GHG emissions result from electric power generated elsewhere (i.e., power plants) used to operate process equipment, lighting, and utilities at a facility. Also, included in GHG quantification is electric power used to pump the water supply (e.g., aqueducts, wells, pipelines) and disposal and decomposition of municipal waste in landfills. (CARB 2017)

California's Building Energy Efficiency Standards are updated on an approximately three-year cycle. The 2019 standards improved upon the 2016 standards for new construction of, and additions and alterations to, residential, commercial, and industrial buildings. The 2019 standards went into effect on January 1, 2020 (CEC 2019).

Since the Title 24 standards require energy conservation features in new construction (e.g., high-efficiency lighting, high-efficiency heating, ventilating, and air-conditioning (HVAC) systems, thermal insulation, double-glazed windows, water conserving plumbing fixtures, etc.), they indirectly regulate and reduce GHG emissions.

Using CalEEMod, direct onsite and offsite GHG emissions were estimated for construction only.

Results of Greenhouse Gas Emissions Analyses

The SCAQMD officially adopted an industrial facility mass emissions threshold of 10,000 metric tons (MT) CO₂e per year (SCAQMD 2019) and has proposed a residential/commercial mass emissions threshold of 3,000 metric tons (MT) CO₂e per year. (SCAQMD 2008b)

Table 5 shows unmitigated and mitigated construction GHG emissions and evaluates mitigated emissions against the SCAQMD significance threshold for land use projects. Off-site construction traffic impacts are included in these emissions estimates, along with on-site construction emissions, all amortized over 30 years per SCAQMD policy.

PROJECTED IMPACT: Less Than Significant (LTS)

Greenhouse Gases	Unmitigated (MT/yr)	Mitigated (MT/yr)	Threshold (MT/yr)	Significance
CO ₂	4.2	4.2	—	—
CH ₄	0.001	0.001	—	—
N ₂ O	0.000	0.000	—	—
CO ₂ e	4.2	4.2	3,000	LTS

Sources: SCAQMD 2008b, CalEEMod version 2020.4.0

Notes:

Comprises construction emissions amortized over 30 years

LTS - Less Than Significant

CLOSING

Thank you very much for the opportunity to be of assistance to Sapphos Environmental, Inc. Should you have any questions, please contact me at (805) 293-7867 (office) or (805) 217-4947 (mobile).

Sincerely,



Bradford L. Boyes, BSEnvE, MBA, QEP | Ventura Office
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Enclosures/Attachments:

1. CalEEMod Outputs

AIR QUALITY AND GHG REFERENCES

California Air Resources Board (CARB). 2017. California’s 2017 Climate Change Scoping Plan. Website (<https://ww3.arb.ca.gov/cc/scopingplan/scopingplan.htm>) accessed June 24, 2022.

California Department of Resources Recycling and Recovery (CalRecycle). 2016. Solid Waste Cleanup Program Weights and Volumes for Project Estimates. Website (<https://www.calrecycle.ca.gov/swfacilities/cdi/Tools/Calculations>) accessed June 24, 2022.

California Emissions Estimation Model[®] (CalEEMod). 2021. Version 2020.4.0. Website (<http://www.caleemod.com/>) accessed June 24, 2022.

California Energy Commission (CEC). 2019. Building Energy Efficiency Program. Website (<https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards>) accessed June 24, 2022.

South Coast Air Quality Management District (SCAQMD). 2019. Air Quality Significance Thresholds. Website (<http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2>) accessed June 24, 2022.

South Coast Air Quality Management District (SCAQMD). 2008a. Localized Significance Threshold Methodology. Website (<http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf?sfvrsn=2>) accessed June 24, 2022.

South Coast Air Quality Management District (SCAQMD). 2008b. Interim CEQA GHG Significance Threshold for Stationary Sources, Rules, and Plans. Website ([http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-\(ghg\)-ceqa-significance-thresholds/ghgboardsynopsis.pdf?sfvrsn=2](http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgboardsynopsis.pdf?sfvrsn=2)) accessed June 24, 2022.

ATTACHMENT 1 – CALEEMOD OUTPUTS

Atwood Multipurpose Trail - Placentia 92870 - South Coast AQMD Air District, Winter

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

Atwood Multipurpose Trail - Placentia 92870

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	122.00	1000sqft	2.80	122,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	8			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	390.98	CH4 Intensity (lb/MW hr)	0.033	N2O Intensity (lb/MW hr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - 180 Days of construction.

Land Use - Assuming 1.15 miles (6100 ft) x 20 ft

Construction Phase - 180 Days, assuming even amounts of site prep, grading, and paving.

Off-road Equipment - Defined by client

Off-road Equipment - Defined by client. Skid Steer used periodically throughout project (4 hours/day for site prep and grading)

Off-road Equipment - Default

Grading - Corrected to 2.8 acres.

Construction Off-road Equipment Mitigation - Water exposed areas 3x/day

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	6.00	60.00

Atwood Multipurpose Trail - Placentia 92870 - South Coast AQMD Air District, Winter

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

tblConstructionPhase	NumDays	10.00	60.00
tblConstructionPhase	NumDays	3.00	60.00
tblConstructionPhase	PhaseEndDate	8/10/2022	10/7/2022
tblConstructionPhase	PhaseEndDate	6/28/2023	12/30/2022
tblConstructionPhase	PhaseEndDate	8/2/2022	7/15/2022
tblConstructionPhase	PhaseStartDate	8/3/2022	7/18/2022
tblConstructionPhase	PhaseStartDate	6/15/2023	10/10/2022
tblConstructionPhase	PhaseStartDate	7/29/2022	4/25/2022
tblGrading	AcresOfGrading	30.00	2.80
tblGrading	AcresOfGrading	26.25	2.80
tblOffRoadEquipment	LoadFactor	0.40	0.40
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Dozers
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors

2.0 Emissions Summary

Atwood Multipurpose Trail - Placentia 92870 - South Coast AQMD Air District, 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	0.0537	1.1000e-004	0.0125	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0267	0.0267	7.0000e-005		0.0285
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	0.0000	0.0000	0.0000	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	0.0537	1.1000e-004	0.0125	0.0000	0.0000	4.0000e-005	4.0000e-005	0.0000	4.0000e-005	4.0000e-005		0.0267	0.0267	7.0000e-005	0.0000	0.0285

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	0.0537	1.1000e-004	0.0125	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0267	0.0267	7.0000e-005		0.0285
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	0.0000	0.0000	0.0000	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	0.0537	1.1000e-004	0.0125	0.0000	0.0000	4.0000e-005	4.0000e-005	0.0000	4.0000e-005	4.0000e-005		0.0267	0.0267	7.0000e-005	0.0000	0.0285

Atwood Multipurpose Trail - Placentia 92870 - South Coast AQMD Air District, Winter

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

	ROG	NOx	CO	SO2	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	Site Preparation	Site Preparation	4/25/2022	7/15/2022	5	60	
2	Grading	Grading	7/18/2022	10/7/2022	5	60	
3	Paving	Paving	10/10/2022	12/30/2022	5	60	

Acres of Grading (Site Preparation Phase): 2.8

Acres of Grading (Grading Phase): 2.8

Acres of Paving: 2.8

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Skid Steer Loaders	1	4.00	65	0.37
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Grading	Skid Steer Loaders	1	4.00	65	0.37
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Grading	Plate Compactors	1	7.00	8	0.43
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

Atwood Multipurpose Trail - Placentia 92870 - South Coast AQMD Air District, Winter

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

Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.3188	0.0000	5.3188	2.9018	0.0000	2.9018			0.0000			0.0000
Off-Road	0.9028	9.5345	5.7492	0.0111		0.4570	0.4570		0.4205	0.4205		1,078.9327	1,078.9327	0.3490		1,087.6564
Total	0.9028	9.5345	5.7492	0.0111	5.3188	0.4570	5.7758	2.9018	0.4205	3.3222		1,078.9327	1,078.9327	0.3490		1,087.6564

Atwood Multipurpose Trail - Placentia 92870 - South Coast AQMD Air District, Winter

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

3.2 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0290	0.0212	0.2757	7.6000e-004	0.0894	5.3000e-004	0.0900	0.0237	4.9000e-004	0.0242		77.0462	77.0462	2.1600e-003	2.0800e-003	77.7191
Total	0.0290	0.0212	0.2757	7.6000e-004	0.0894	5.3000e-004	0.0900	0.0237	4.9000e-004	0.0242		77.0462	77.0462	2.1600e-003	2.0800e-003	77.7191

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.0743	0.0000	2.0743	1.1317	0.0000	1.1317			0.0000			0.0000
Off-Road	0.9028	9.5345	5.7492	0.0111		0.4570	0.4570		0.4205	0.4205	0.0000	1,078.9327	1,078.9327	0.3490		1,087.6564
Total	0.9028	9.5345	5.7492	0.0111	2.0743	0.4570	2.5314	1.1317	0.4205	1.5522	0.0000	1,078.9327	1,078.9327	0.3490		1,087.6564

Atwood Multipurpose Trail - Placentia 92870 - South Coast AQMD Air District, Winter

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

3.2 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0290	0.0212	0.2757	7.6000e-004	0.0894	5.3000e-004	0.0900	0.0237	4.9000e-004	0.0242		77.0462	77.0462	2.1600e-003	2.0800e-003	77.7191
Total	0.0290	0.0212	0.2757	7.6000e-004	0.0894	5.3000e-004	0.0900	0.0237	4.9000e-004	0.0242		77.0462	77.0462	2.1600e-003	2.0800e-003	77.7191

3.3 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0716	0.0000	6.0716	3.3156	0.0000	3.3156			0.0000			0.0000
Off-Road	1.1951	12.4083	8.3733	0.0154		0.6008	0.6008		0.5534	0.5534		1,484.1624	1,484.1624	0.4734		1,495.9970
Total	1.1951	12.4083	8.3733	0.0154	6.0716	0.6008	6.6724	3.3156	0.5534	3.8690		1,484.1624	1,484.1624	0.4734		1,495.9970

Atwood Multipurpose Trail - Placentia 92870 - South Coast AQMD Air District, Winter

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

3.3 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0471	0.0344	0.4480	1.2400e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		125.2000	125.2000	3.5200e-003	3.3700e-003	126.2936
Total	0.0471	0.0344	0.4480	1.2400e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		125.2000	125.2000	3.5200e-003	3.3700e-003	126.2936

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.3679	0.0000	2.3679	1.2931	0.0000	1.2931			0.0000			0.0000
Off-Road	1.1951	12.4083	8.3733	0.0154		0.6008	0.6008		0.5534	0.5534	0.0000	1,484.1624	1,484.1624	0.4734		1,495.9970
Total	1.1951	12.4083	8.3733	0.0154	2.3679	0.6008	2.9687	1.2931	0.5534	1.8465	0.0000	1,484.1624	1,484.1624	0.4734		1,495.9970

Atwood Multipurpose Trail - Placentia 92870 - South Coast AQMD Air District, Winter

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

3.3 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0471	0.0344	0.4480	1.2400e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		125.2000	125.2000	3.5200e-003	3.3700e-003	126.2936
Total	0.0471	0.0344	0.4480	1.2400e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		125.2000	125.2000	3.5200e-003	3.3700e-003	126.2936

3.4 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9412	9.3322	11.6970	0.0179		0.4879	0.4879		0.4500	0.4500		1,709.6892	1,709.6892	0.5419		1,723.2356
Paving	0.1223					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0634	9.3322	11.6970	0.0179		0.4879	0.4879		0.4500	0.4500		1,709.6892	1,709.6892	0.5419		1,723.2356

Atwood Multipurpose Trail - Placentia 92870 - South Coast AQMD Air District, Winter

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

3.4 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0543	0.0397	0.5169	1.4300e-003	0.1677	1.0000e-003	0.1687	0.0445	9.2000e-004	0.0454		144.4616	144.4616	4.0600e-003	3.8900e-003	145.7233
Total	0.0543	0.0397	0.5169	1.4300e-003	0.1677	1.0000e-003	0.1687	0.0445	9.2000e-004	0.0454		144.4616	144.4616	4.0600e-003	3.8900e-003	145.7233

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9412	9.3322	11.6970	0.0179		0.4879	0.4879		0.4500	0.4500	0.0000	1,709.6892	1,709.6892	0.5419		1,723.2356
Paving	0.1223					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0634	9.3322	11.6970	0.0179		0.4879	0.4879		0.4500	0.4500	0.0000	1,709.6892	1,709.6892	0.5419		1,723.2356

Atwood Multipurpose Trail - Placentia 92870 - South Coast AQMD Air District, Winter

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

3.4 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0543	0.0397	0.5169	1.4300e-003	0.1677	1.0000e-003	0.1687	0.0445	9.2000e-004	0.0454		144.4616	144.4616	4.0600e-003	3.8900e-003	145.7233
Total	0.0543	0.0397	0.5169	1.4300e-003	0.1677	1.0000e-003	0.1687	0.0445	9.2000e-004	0.0454		144.4616	144.4616	4.0600e-003	3.8900e-003	145.7233

Atwood Multipurpose Trail - Placentia 92870 - South Coast AQMD Air District, 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
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	0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.543139	0.060749	0.184760	0.130258	0.023830	0.006353	0.011718	0.009137	0.000812	0.000509	0.024193	0.000750	0.003791

Atwood Multipurpose Trail - Placentia 92870 - South Coast AQMD Air District, 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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
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

Atwood Multipurpose Trail - Placentia 92870 - South Coast AQMD Air District, 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 - 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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
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

No Hearths Installed

	ROG	NOx	CO	SO2	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	0.0537	1.1000e-004	0.0125	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0267	0.0267	7.0000e-005		0.0285
Unmitigated	0.0537	1.1000e-004	0.0125	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0267	0.0267	7.0000e-005		0.0285

Atwood Multipurpose Trail - Placentia 92870 - South Coast AQMD Air District, 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	9.3000e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0432					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.1500e-003	1.1000e-004	0.0125	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0267	0.0267	7.0000e-005		0.0285
Total	0.0537	1.1000e-004	0.0125	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0267	0.0267	7.0000e-005		0.0285

Atwood Multipurpose Trail - Placentia 92870 - South Coast AQMD Air District, 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	9.3000e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0432					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.1500e-003	1.1000e-004	0.0125	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0267	0.0267	7.0000e-005		0.0285
Total	0.0537	1.1000e-004	0.0125	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0267	0.0267	7.0000e-005		0.0285

7.0 Water Detail

7.1 Mitigation Measures Water

Atwood Multipurpose Trail - Placentia 92870 - South Coast AQMD Air District, Winter

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

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
----------------	--------	-----------	-----------	-------------	-------------	-----------

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number
----------------	--------

11.0 Vegetation

Atwood Multipurpose Trail - Placentia 92870 - South Coast AQMD Air District, Summer

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

Atwood Multipurpose Trail - Placentia 92870

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	122.00	1000sqft	2.80	122,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	8			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	390.98	CH4 Intensity (lb/MW hr)	0.033	N2O Intensity (lb/MW hr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - 180 Days of construction.

Land Use - Assuming 1.15 miles (6100 ft) x 20 ft

Construction Phase - 180 Days, assuming even amounts of site prep, grading, and paving.

Off-road Equipment - Defined by client

Off-road Equipment - Defined by client. Skid Steer used periodically throughout project (4 hours/day for site prep and grading)

Off-road Equipment - Default

Grading - Corrected to 2.8 acres.

Construction Off-road Equipment Mitigation - Water exposed areas 3x/day

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	6.00	60.00

Atwood Multipurpose Trail - Placentia 92870 - South Coast AQMD Air District, Summer

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

tblConstructionPhase	NumDays	10.00	60.00
tblConstructionPhase	NumDays	3.00	60.00
tblConstructionPhase	PhaseEndDate	8/10/2022	10/7/2022
tblConstructionPhase	PhaseEndDate	6/28/2023	12/30/2022
tblConstructionPhase	PhaseEndDate	8/2/2022	7/15/2022
tblConstructionPhase	PhaseStartDate	8/3/2022	7/18/2022
tblConstructionPhase	PhaseStartDate	6/15/2023	10/10/2022
tblConstructionPhase	PhaseStartDate	7/29/2022	4/25/2022
tblGrading	AcresOfGrading	30.00	2.80
tblGrading	AcresOfGrading	26.25	2.80
tblOffRoadEquipment	LoadFactor	0.40	0.40
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Dozers
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors

2.0 Emissions Summary

Atwood Multipurpose Trail - Placentia 92870 - South Coast AQMD Air District, 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	0.0537	1.1000e-004	0.0125	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0267	0.0267	7.0000e-005		0.0285
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	0.0000	0.0000	0.0000	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	0.0537	1.1000e-004	0.0125	0.0000	0.0000	4.0000e-005	4.0000e-005	0.0000	4.0000e-005	4.0000e-005		0.0267	0.0267	7.0000e-005	0.0000	0.0285

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	0.0537	1.1000e-004	0.0125	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0267	0.0267	7.0000e-005		0.0285
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	0.0000	0.0000	0.0000	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	0.0537	1.1000e-004	0.0125	0.0000	0.0000	4.0000e-005	4.0000e-005	0.0000	4.0000e-005	4.0000e-005		0.0267	0.0267	7.0000e-005	0.0000	0.0285

Atwood Multipurpose Trail - Placentia 92870 - South Coast AQMD Air District, Summer

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

	ROG	NOx	CO	SO2	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	Site Preparation	Site Preparation	4/25/2022	7/15/2022	5	60	
2	Grading	Grading	7/18/2022	10/7/2022	5	60	
3	Paving	Paving	10/10/2022	12/30/2022	5	60	

Acres of Grading (Site Preparation Phase): 2.8

Acres of Grading (Grading Phase): 2.8

Acres of Paving: 2.8

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Skid Steer Loaders	1	4.00	65	0.37
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Grading	Skid Steer Loaders	1	4.00	65	0.37
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Grading	Plate Compactors	1	7.00	8	0.43
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

Atwood Multipurpose Trail - Placentia 92870 - South Coast AQMD Air District, Summer

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

Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.3188	0.0000	5.3188	2.9018	0.0000	2.9018			0.0000			0.0000
Off-Road	0.9028	9.5345	5.7492	0.0111		0.4570	0.4570		0.4205	0.4205		1,078.9327	1,078.9327	0.3490		1,087.6564
Total	0.9028	9.5345	5.7492	0.0111	5.3188	0.4570	5.7758	2.9018	0.4205	3.3222		1,078.9327	1,078.9327	0.3490		1,087.6564

Atwood Multipurpose Trail - Placentia 92870 - South Coast AQMD Air District, Summer

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

3.2 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0275	0.0194	0.3049	8.1000e-004	0.0894	5.3000e-004	0.0900	0.0237	4.9000e-004	0.0242		81.8026	81.8026	2.1400e-003	1.9600e-003	82.4393
Total	0.0275	0.0194	0.3049	8.1000e-004	0.0894	5.3000e-004	0.0900	0.0237	4.9000e-004	0.0242		81.8026	81.8026	2.1400e-003	1.9600e-003	82.4393

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.0743	0.0000	2.0743	1.1317	0.0000	1.1317			0.0000			0.0000
Off-Road	0.9028	9.5345	5.7492	0.0111		0.4570	0.4570		0.4205	0.4205	0.0000	1,078.9327	1,078.9327	0.3490		1,087.6564
Total	0.9028	9.5345	5.7492	0.0111	2.0743	0.4570	2.5314	1.1317	0.4205	1.5522	0.0000	1,078.9327	1,078.9327	0.3490		1,087.6564

Atwood Multipurpose Trail - Placentia 92870 - South Coast AQMD Air District, Summer

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

3.2 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0275	0.0194	0.3049	8.1000e-004	0.0894	5.3000e-004	0.0900	0.0237	4.9000e-004	0.0242		81.8026	81.8026	2.1400e-003	1.9600e-003	82.4393
Total	0.0275	0.0194	0.3049	8.1000e-004	0.0894	5.3000e-004	0.0900	0.0237	4.9000e-004	0.0242		81.8026	81.8026	2.1400e-003	1.9600e-003	82.4393

3.3 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0716	0.0000	6.0716	3.3156	0.0000	3.3156			0.0000			0.0000
Off-Road	1.1951	12.4083	8.3733	0.0154		0.6008	0.6008		0.5534	0.5534		1,484.1624	1,484.1624	0.4734		1,495.9970
Total	1.1951	12.4083	8.3733	0.0154	6.0716	0.6008	6.6724	3.3156	0.5534	3.8690		1,484.1624	1,484.1624	0.4734		1,495.9970

Atwood Multipurpose Trail - Placentia 92870 - South Coast AQMD Air District, Summer

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

3.3 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0448	0.0315	0.4955	1.3200e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		132.9292	132.9292	3.4800e-003	3.1800e-003	133.9638
Total	0.0448	0.0315	0.4955	1.3200e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		132.9292	132.9292	3.4800e-003	3.1800e-003	133.9638

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.3679	0.0000	2.3679	1.2931	0.0000	1.2931			0.0000			0.0000
Off-Road	1.1951	12.4083	8.3733	0.0154		0.6008	0.6008		0.5534	0.5534	0.0000	1,484.1624	1,484.1624	0.4734		1,495.9970
Total	1.1951	12.4083	8.3733	0.0154	2.3679	0.6008	2.9687	1.2931	0.5534	1.8465	0.0000	1,484.1624	1,484.1624	0.4734		1,495.9970

Atwood Multipurpose Trail - Placentia 92870 - South Coast AQMD Air District, Summer

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

3.3 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0448	0.0315	0.4955	1.3200e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		132.9292	132.9292	3.4800e-003	3.1800e-003	133.9638
Total	0.0448	0.0315	0.4955	1.3200e-003	0.1453	8.7000e-004	0.1462	0.0385	8.0000e-004	0.0393		132.9292	132.9292	3.4800e-003	3.1800e-003	133.9638

3.4 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9412	9.3322	11.6970	0.0179		0.4879	0.4879		0.4500	0.4500		1,709.6892	1,709.6892	0.5419		1,723.2356
Paving	0.1223					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0634	9.3322	11.6970	0.0179		0.4879	0.4879		0.4500	0.4500		1,709.6892	1,709.6892	0.5419		1,723.2356

Atwood Multipurpose Trail - Placentia 92870 - South Coast AQMD Air District, Summer

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

3.4 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0516	0.0363	0.5718	1.5200e-003	0.1677	1.0000e-003	0.1687	0.0445	9.2000e-004	0.0454		153.3798	153.3798	4.0100e-003	3.6700e-003	154.5736
Total	0.0516	0.0363	0.5718	1.5200e-003	0.1677	1.0000e-003	0.1687	0.0445	9.2000e-004	0.0454		153.3798	153.3798	4.0100e-003	3.6700e-003	154.5736

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9412	9.3322	11.6970	0.0179		0.4879	0.4879		0.4500	0.4500	0.0000	1,709.6892	1,709.6892	0.5419		1,723.2356
Paving	0.1223					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0634	9.3322	11.6970	0.0179		0.4879	0.4879		0.4500	0.4500	0.0000	1,709.6892	1,709.6892	0.5419		1,723.2356

Atwood Multipurpose Trail - Placentia 92870 - South Coast AQMD Air District, Summer

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

3.4 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0516	0.0363	0.5718	1.5200e-003	0.1677	1.0000e-003	0.1687	0.0445	9.2000e-004	0.0454		153.3798	153.3798	4.0100e-003	3.6700e-003	154.5736
Total	0.0516	0.0363	0.5718	1.5200e-003	0.1677	1.0000e-003	0.1687	0.0445	9.2000e-004	0.0454		153.3798	153.3798	4.0100e-003	3.6700e-003	154.5736

Atwood Multipurpose Trail - Placentia 92870 - South Coast AQMD Air District, 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
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	0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.543139	0.060749	0.184760	0.130258	0.023830	0.006353	0.011718	0.009137	0.000812	0.000509	0.024193	0.000750	0.003791

Atwood Multipurpose Trail - Placentia 92870 - South Coast AQMD Air District, 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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
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

Atwood Multipurpose Trail - Placentia 92870 - South Coast AQMD Air District, 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 - 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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
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

No Hearths Installed

	ROG	NOx	CO	SO2	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	0.0537	1.1000e-004	0.0125	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0267	0.0267	7.0000e-005		0.0285
Unmitigated	0.0537	1.1000e-004	0.0125	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0267	0.0267	7.0000e-005		0.0285

Atwood Multipurpose Trail - Placentia 92870 - South Coast AQMD Air District, 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	9.3000e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0432					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.1500e-003	1.1000e-004	0.0125	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0267	0.0267	7.0000e-005		0.0285
Total	0.0537	1.1000e-004	0.0125	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0267	0.0267	7.0000e-005		0.0285

Atwood Multipurpose Trail - Placentia 92870 - South Coast AQMD Air District, 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	9.3000e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0432					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.1500e-003	1.1000e-004	0.0125	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0267	0.0267	7.0000e-005		0.0285
Total	0.0537	1.1000e-004	0.0125	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005		0.0267	0.0267	7.0000e-005		0.0285

7.0 Water Detail

7.1 Mitigation Measures Water

Atwood Multipurpose Trail - Placentia 92870 - South Coast AQMD Air District, Summer

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

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
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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

Atwood Multipurpose Trail - Placentia 92870 - South Coast AQMD Air District, Annual

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

**Atwood Multipurpose Trail - Placentia 92870
South Coast AQMD Air District, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	122.00	1000sqft	2.80	122,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	8			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	390.98	CH4 Intensity (lb/MW hr)	0.033	N2O Intensity (lb/MW hr)	0.004

1.3 User Entered Comments & Non-Default Data

- Project Characteristics - 180 Days of construction.
- Land Use - Assuming 1.15 miles (6100 ft) x 20 ft
- Construction Phase - 180 Days, assuming even amounts of site prep, grading, and paving.
- Off-road Equipment - Defined by client
- Off-road Equipment - Defined by client. Skid Steer used periodically throughout project (4 hours/day for site prep and grading)
- Off-road Equipment - Default
- Grading - Corrected to 2.8 acres.
- Construction Off-road Equipment Mitigation - Water exposed areas 3x/day
- Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	6.00	60.00

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

tblConstructionPhase	NumDays	10.00	60.00
tblConstructionPhase	NumDays	3.00	60.00
tblConstructionPhase	PhaseEndDate	8/10/2022	10/7/2022
tblConstructionPhase	PhaseEndDate	6/28/2023	12/30/2022
tblConstructionPhase	PhaseEndDate	8/2/2022	7/15/2022
tblConstructionPhase	PhaseStartDate	8/3/2022	7/18/2022
tblConstructionPhase	PhaseStartDate	6/15/2023	10/10/2022
tblConstructionPhase	PhaseStartDate	7/29/2022	4/25/2022
tblGrading	AcresOfGrading	30.00	2.80
tblGrading	AcresOfGrading	26.25	2.80
tblOffRoadEquipment	LoadFactor	0.40	0.40
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Dozers
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Plate Compactors

2.0 Emissions Summary

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	7-1-2022	9-30-2022	0.4226	0.4226
		Highest	0.4226	0.4226

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	9.7300e-003	1.0000e-005	1.5600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.0300e-003	3.0300e-003	1.0000e-005	0.0000	3.2300e-003
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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	9.7300e-003	1.0000e-005	1.5600e-003	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	1.0000e-005	1.0000e-005	0.0000	3.0300e-003	3.0300e-003	1.0000e-005	0.0000	3.2300e-003

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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	9.7300e-003	1.0000e-005	1.5600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.0300e-003	3.0300e-003	1.0000e-005	0.0000	3.2300e-003
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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	9.7300e-003	1.0000e-005	1.5600e-003	0.0000	0.0000	1.0000e-005	1.0000e-005	0.0000	1.0000e-005	1.0000e-005	0.0000	3.0300e-003	3.0300e-003	1.0000e-005	0.0000	3.2300e-003

	ROG	NOx	CO	SO2	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	Site Preparation	Site Preparation	4/25/2022	7/15/2022	5	60	
2	Grading	Grading	7/18/2022	10/7/2022	5	60	
3	Paving	Paving	10/10/2022	12/30/2022	5	60	

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

Acres of Grading (Site Preparation Phase): 2.8

Acres of Grading (Grading Phase): 2.8

Acres of Paving: 2.8

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Skid Steer Loaders	1	4.00	65	0.37
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Grading	Skid Steer Loaders	1	4.00	65	0.37
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Grading	Plate Compactors	1	7.00	8	0.43
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

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

Water Exposed Area

3.2 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1596	0.0000	0.1596	0.0871	0.0000	0.0871	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0271	0.2860	0.1725	3.3000e-004		0.0137	0.0137		0.0126	0.0126	0.0000	29.3637	29.3637	9.5000e-003	0.0000	29.6012
Total	0.0271	0.2860	0.1725	3.3000e-004	0.1596	0.0137	0.1733	0.0871	0.0126	0.0997	0.0000	29.3637	29.3637	9.5000e-003	0.0000	29.6012

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

3.2 Site Preparation - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.1000e-004	6.5000e-004	8.5000e-003	2.0000e-005	2.6300e-003	2.0000e-005	2.6500e-003	7.0000e-004	1.0000e-005	7.1000e-004	0.0000	2.1290	2.1290	6.0000e-005	6.0000e-005	2.1476
Total	8.1000e-004	6.5000e-004	8.5000e-003	2.0000e-005	2.6300e-003	2.0000e-005	2.6500e-003	7.0000e-004	1.0000e-005	7.1000e-004	0.0000	2.1290	2.1290	6.0000e-005	6.0000e-005	2.1476

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0622	0.0000	0.0622	0.0340	0.0000	0.0340	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0271	0.2860	0.1725	3.3000e-004		0.0137	0.0137		0.0126	0.0126	0.0000	29.3637	29.3637	9.5000e-003	0.0000	29.6011
Total	0.0271	0.2860	0.1725	3.3000e-004	0.0622	0.0137	0.0759	0.0340	0.0126	0.0466	0.0000	29.3637	29.3637	9.5000e-003	0.0000	29.6011

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

3.2 Site Preparation - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.1000e-004	6.5000e-004	8.5000e-003	2.0000e-005	2.6300e-003	2.0000e-005	2.6500e-003	7.0000e-004	1.0000e-005	7.1000e-004	0.0000	2.1290	2.1290	6.0000e-005	6.0000e-005	2.1476
Total	8.1000e-004	6.5000e-004	8.5000e-003	2.0000e-005	2.6300e-003	2.0000e-005	2.6500e-003	7.0000e-004	1.0000e-005	7.1000e-004	0.0000	2.1290	2.1290	6.0000e-005	6.0000e-005	2.1476

3.3 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1822	0.0000	0.1822	0.0995	0.0000	0.0995	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0359	0.3723	0.2512	4.6000e-004		0.0180	0.0180		0.0166	0.0166	0.0000	40.3923	40.3923	0.0129	0.0000	40.7144
Total	0.0359	0.3723	0.2512	4.6000e-004	0.1822	0.0180	0.2002	0.0995	0.0166	0.1161	0.0000	40.3923	40.3923	0.0129	0.0000	40.7144

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

3.3 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3100e-003	1.0600e-003	0.0138	4.0000e-005	4.2800e-003	3.0000e-005	4.3000e-003	1.1400e-003	2.0000e-005	1.1600e-003	0.0000	3.4597	3.4597	1.0000e-004	9.0000e-005	3.4899
Total	1.3100e-003	1.0600e-003	0.0138	4.0000e-005	4.2800e-003	3.0000e-005	4.3000e-003	1.1400e-003	2.0000e-005	1.1600e-003	0.0000	3.4597	3.4597	1.0000e-004	9.0000e-005	3.4899

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0710	0.0000	0.0710	0.0388	0.0000	0.0388	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0359	0.3723	0.2512	4.6000e-004		0.0180	0.0180		0.0166	0.0166	0.0000	40.3922	40.3922	0.0129	0.0000	40.7143
Total	0.0359	0.3723	0.2512	4.6000e-004	0.0710	0.0180	0.0891	0.0388	0.0166	0.0554	0.0000	40.3922	40.3922	0.0129	0.0000	40.7143

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

3.3 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3100e-003	1.0600e-003	0.0138	4.0000e-005	4.2800e-003	3.0000e-005	4.3000e-003	1.1400e-003	2.0000e-005	1.1600e-003	0.0000	3.4597	3.4597	1.0000e-004	9.0000e-005	3.4899
Total	1.3100e-003	1.0600e-003	0.0138	4.0000e-005	4.2800e-003	3.0000e-005	4.3000e-003	1.1400e-003	2.0000e-005	1.1600e-003	0.0000	3.4597	3.4597	1.0000e-004	9.0000e-005	3.4899

3.4 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0282	0.2800	0.3509	5.4000e-004		0.0146	0.0146		0.0135	0.0135	0.0000	46.5301	46.5301	0.0148	0.0000	46.8988
Paving	3.6700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0319	0.2800	0.3509	5.4000e-004		0.0146	0.0146		0.0135	0.0135	0.0000	46.5301	46.5301	0.0148	0.0000	46.8988

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

3.4 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5100e-003	1.2200e-003	0.0159	4.0000e-005	4.9400e-003	3.0000e-005	4.9700e-003	1.3100e-003	3.0000e-005	1.3400e-003	0.0000	3.9919	3.9919	1.1000e-004	1.1000e-004	4.0268
Total	1.5100e-003	1.2200e-003	0.0159	4.0000e-005	4.9400e-003	3.0000e-005	4.9700e-003	1.3100e-003	3.0000e-005	1.3400e-003	0.0000	3.9919	3.9919	1.1000e-004	1.1000e-004	4.0268

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0282	0.2800	0.3509	5.4000e-004		0.0146	0.0146		0.0135	0.0135	0.0000	46.5301	46.5301	0.0148	0.0000	46.8987
Paving	3.6700e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0319	0.2800	0.3509	5.4000e-004		0.0146	0.0146		0.0135	0.0135	0.0000	46.5301	46.5301	0.0148	0.0000	46.8987

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3.4 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5100e-003	1.2200e-003	0.0159	4.0000e-005	4.9400e-003	3.0000e-005	4.9700e-003	1.3100e-003	3.0000e-005	1.3400e-003	0.0000	3.9919	3.9919	1.1000e-004	1.1000e-004	4.0268
Total	1.5100e-003	1.2200e-003	0.0159	4.0000e-005	4.9400e-003	3.0000e-005	4.9700e-003	1.3100e-003	3.0000e-005	1.3400e-003	0.0000	3.9919	3.9919	1.1000e-004	1.1000e-004	4.0268

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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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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	0.0000	0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

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
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.543139	0.060749	0.184760	0.130258	0.023830	0.006353	0.011718	0.009137	0.000812	0.000509	0.024193	0.000750	0.003791

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	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

No Hearths Installed

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	ROG	NOx	CO	SO2	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	9.7300e-003	1.0000e-005	1.5600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.0300e-003	3.0300e-003	1.0000e-005	0.0000	3.2300e-003
Unmitigated	9.7300e-003	1.0000e-005	1.5600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.0300e-003	3.0300e-003	1.0000e-005	0.0000	3.2300e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.7000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	7.8900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.4000e-004	1.0000e-005	1.5600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.0300e-003	3.0300e-003	1.0000e-005	0.0000	3.2300e-003
Total	9.7300e-003	1.0000e-005	1.5600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.0300e-003	3.0300e-003	1.0000e-005	0.0000	3.2300e-003

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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	1.7000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	7.8900e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.4000e-004	1.0000e-005	1.5600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.0300e-003	3.0300e-003	1.0000e-005	0.0000	3.2300e-003
Total	9.7300e-003	1.0000e-005	1.5600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.0300e-003	3.0300e-003	1.0000e-005	0.0000	3.2300e-003

7.0 Water Detail

7.1 Mitigation Measures Water

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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			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

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7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	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	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

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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			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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
