

TECHNICAL MEMORANDUM

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TO Huntington Beach City School District

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SUBJECT Isaac L. Sowers Middle School Project Air Quality Technical Memorandum

PROJECT LOCATION 9300 Indianapolis Avenue Huntington Beach, CA 92646

PROJECT NUMBER HBCS-01

This Air Quality Emissions Technical Memorandum evaluates the potential air quality emissions impacts from re-development of the proposed Isaac L. Sowers Middle School campus (proposed project) in accordance with the California Environmental Quality Act (CEQA). The analysis evaluates the impacts from project-related construction activities compared to the significance criteria adopted by the South Coast Air Quality Management District (South Coast AQMD) for projects in the South Coast Air Basin (SoCAB). Additionally, a qualitative evaluation is provided of operational impacts associated with the proposed school bus parking lot.

Methodology

Projected construction-related air pollutant emissions are calculated using the California Emissions Estimator Model (CalEEMod), version 2020.4. CalEEMod compiles an emissions inventory of construction (fugitive dust, off-gas emissions, on-road emissions, and off-road emissions); area sources; mobile sources; and indirect emissions from energy use, waste disposal (annual only), and water/wastewater (annual only) use. The calculated emissions of the project are compared to thresholds of significance for individual projects using the South Coast AQMD's *CEQA Air Quality Handbook* (1993).

THRESHOLDS OF SIGNIFICANCE

The analysis of the proposed project's air quality impacts follows the guidance and methodologies recommended in the *CEQA Air Quality Handbook* and the significance thresholds on South Coast AQMD's website. CEQA allows the significance criteria established by the applicable air quality management or air pollution control district to be used to assess a project's impacts on air quality. South Coast AQMD has established thresholds of significance for regional air quality emissions for construction activities and project

operation. In addition to the daily thresholds, projects are also subject to the ambient air quality standards (AAQS). These are addressed through an analysis of localized carbon monoxide (CO) impacts and localized significance thresholds (LSTs).

Regional Significance Thresholds

South Coast AQMD has adopted regional construction and operational emissions thresholds to determine a project's cumulative impact on air quality in the SoCAB. Table 1, *South Coast AQMD Regional Significance Thresholds*, lists thresholds that are applicable for all projects uniformly, regardless of size or scope. There is growing evidence that although ultrafine particulates (PM_{1.0}) contribute a very small portion of the overall atmospheric mass concentration, they represent a greater proportion of the health risk from particulate matter (PM). However, the United States Environmental Protection Agency (EPA) and California Air Resources Board (CARB) have not yet adopted AAQS to regulate ultrafine particulates; therefore, South Coast AQMD has not developed thresholds for them.

Table 1 South Coast AQMD Regional Significance Thresholds

Air Pollutant	Construction Phase	Operational Phase
Reactive Organic Gases (ROGs)/ Volatile Organic Compounds (VOCs)	75 lbs/day	55 lbs/day
Nitrogen Oxides (NO _x)	100 lbs/day	55 lbs/day
Carbon Monoxide (CO)	550 lbs/day	550 lbs/day
Sulfur Oxides (SO _x)	150 lbs/day	150 lbs/day
Coarse Particulates (PM ₁₀)	150 lbs/day	150 lbs/day
Fine Particulates (PM _{2.5})	55 lbs/day	55 lbs/day

Source: South Coast AQMD 2019.

Projects that exceed the regional significance threshold contribute to the nonattainment designation of the SoCAB. The attainment designations are based on the AAQS, which are set at levels of exposure that are determined to not result in adverse health. Exposure to fine particulate pollution and ozone causes myriad health impacts, particularly to the respiratory and cardiovascular systems:

- » Linked to increased cancer risk (PM_{2.5}, toxic air contaminants [TACs])
- » Aggravates respiratory disease (O₃, PM_{2.5})
- » Increases bronchitis (O₃, PM_{2.5})
- » Causes chest discomfort, throat irritation, and increased effort to take a deep breath (O₃)
- » Reduces resistance to infections and increases fatigue (O₃)
- » Reduces lung growth in children (PM_{2.5})
- » Contributes to heart disease and heart attacks (PM_{2.5})
- » Contributes to premature death (O₃, PM_{2.5})
- » Linked to lower birth weight in newborns (PM_{2.5}) (South Coast AQMD 2011a)

Exposure to fine particulates and ozone aggravates asthma attacks and can amplify other lung ailments such as emphysema and chronic obstructive pulmonary disease. Exposure to current levels of PM_{2.5} is responsible for an estimated 4,300 cardiopulmonary-related deaths per year in the SoCAB. In addition, University of

Southern California scientists responsible for a landmark children’s health study found that lung growth improved as air pollution declined for children aged 11 to 15 in five communities in the SoCAB (South Coast AQMD 2015).

Mass emissions in Table 1 are not correlated with concentrations of air pollutants but contribute to the cumulative air quality impacts in the SoCAB. Therefore, regional emissions from a single project do not usually trigger a regional health impact. South Coast AQMD is the primary agency responsible for ensuring the health and welfare of individuals sensitive to elevated concentrations of air quality in the SoCAB. To achieve the health-based standards established by the EPA, South Coast AQMD prepares an air quality management plan (AQMP) that details regional programs to attain the AAQS.

CO HOTSPOTS

Areas of vehicle congestion have the potential to create pockets of CO called hot spots. These pockets have the potential to exceed the state one-hour standard of 20 parts per million (ppm) or the eight-hour standard of 9 ppm. Because CO is produced in greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to ambient air quality standards is typically demonstrated through an analysis of localized CO concentrations. Hot spots are typically produced at intersections where traffic congestion is highest because vehicles queue for longer periods and are subject to reduced speeds. With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology on industrial facilities, CO concentrations in the SoCAB and in the state have steadily declined.

In 2007, the SoCAB was designated in attainment for CO under both the California AAQS and National AAQS. The CO hotspot analysis conducted for attainment by South Coast AQMD did not predict a violation of CO standards at the busiest intersections in Los Angeles during the peak morning and afternoon periods.¹ As identified in South Coast AQMD’s 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan), peak carbon monoxide concentrations in the SoCAB in previous years were a result of unusual meteorological and topographical conditions and not a result of congestion at a particular intersection (South Coast AQMD 2003). To generate a significant CO impact under existing and future vehicle emission rates, a project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal air does not mix (BAAQMD 2017).

LOCALIZED SIGNIFICANCE THRESHOLDS

South Coast AQMD developed LSTs for emissions of NO₂, CO, PM₁₀, and PM_{2.5} generated at the project site (off-site mobile-source emissions are not included in the LST analysis). LSTs represent the maximum emissions at a project site that are not expected to cause or contribute to an exceedance of the most stringent federal or state AAQS and are shown in Table 2, *South Coast AQMD Localized Significance Thresholds*.

¹ The four intersections were: Long Beach Boulevard and Imperial Highway; Wilshire Boulevard and Veteran Avenue; Sunset Boulevard and Highland Avenue; and La Cienega Boulevard and Century Boulevard. The busiest intersection evaluated (Wilshire and Veteran) had a daily traffic volume of approximately 100,000 vehicles per day, with LOS E in the morning peak hour and LOS F in the evening peak hour.

Table 2 South Coast AQMD Localized Significance Thresholds

Air Pollutant (Relevant AAQS)	Concentration
1-Hour CO Standard (CAAQS)	20 ppm
8-Hour CO Standard (CAAQS)	9.0 ppm
1-Hour NO ₂ Standard (CAAQS)	0.18 ppm
Annual NO ₂ Standard (CAAQS)	0.03 ppm
24-Hour PM ₁₀ Standard – Construction (South Coast AQMD) ¹	10.4 µg/m ³
24-Hour PM _{2.5} Standard – Construction (South Coast AQMD) ¹	10.4 µg/m ³
24-Hour PM ₁₀ Standard – Operation (South Coast AQMD) ¹	2.5 µg/m ³
24-Hour PM _{2.5} Standard – Operation (South Coast AQMD) ¹	2.5 µg/m ³

Source: South Coast AQMD 2019.

ppm – parts per million; µg/m³ – micrograms per cubic meter

¹ Threshold is based on South Coast AQMD Rule 403. Since the SoCAB is in nonattainment for PM₁₀ and PM_{2.5}, the threshold is established as an allowable change in concentration. Therefore, background concentration is irrelevant.

To assist lead agencies, South Coast AQMD developed screening-level LSTs to back-calculate the mass amount (lbs. per day) of emissions generated on-site that would trigger the levels shown in Table 2 for projects under 5 acres. These “screening-level” LSTs are the localized significance thresholds for all projects of 5 acres and less; however, they can be used as screening criteria for larger projects to determine whether dispersion modeling may be required in order to compare concentrations of air pollutants generated by the project to the localized concentrations shown in Table 2. In accordance with South Coast AQMD’s LST methodology, the screening-level construction LSTs are based on the acreage disturbed per day by equipment use. The screening-level construction LSTs for the project site in Source Receptor Area 18 (SRA 18), North Coastal Orange County, are shown in Table 3, *South Coast AQMD Screening-Level Construction Localized Significance Thresholds*.

Table 3 South Coast AQMD Screening-Level Construction Localized Significance Thresholds

Acreage Disturbed	Threshold (lbs/day)			
	Nitrogen Oxides (NO _x) ¹	Carbon Monoxide (CO) ¹	Coarse Particulates (PM ₁₀) ²	Fine Particulates (PM _{2.5}) ²
Phase 1				
≤ 1.00 Acres Disturbed Per Day	92	647	4.00	3.00
1.31 Acres Disturbed Per Day	104	745	4.93	3.62
2.00 Acres Disturbed Per Day	131	962	7.00	5.00
2.50 Acres Disturbed Per Day	142	1,087	8.16	5.67
3.50 Acres Disturbed Per Day	164	1,336	10.49	7.00

Table 3 South Coast AQMD Screening-Level Construction Localized Significance Thresholds

Acreage Disturbed	Threshold (lbs/day)			
	Nitrogen Oxides (NO _x) ¹	Carbon Monoxide (CO) ¹	Coarse Particulates (PM ₁₀) ²	Fine Particulates (PM _{2.5}) ²
Phase 2				
≤ 1.00 Acres Disturbed Per Day	92	647	4.00	3.00
1.31 Acres Disturbed Per Day	104	745	4.93	3.62
2.00 Acres Disturbed Per Day	131	962	7.00	5.00
2.50 Acres Disturbed Per Day	142	1,087	8.16	5.67
3.50 Acres Disturbed Per Day	164	1,336	10.49	7.00

Source: South Coast AQMD 2008; South Coast AQMD 2011, Based on receptors in SRA 18 – North Coastal Orange County.

Note: The LST Methodology uses lookup tables based on site acreage to determine emissions for CEQA purposes. The acreage disturbed is the maximum daily disturbed acreage determined using the equipment mix for the different construction activities for this project.

¹ Screening level LSTs are based on receptors within 82 feet (25 meters) of the project site in Source Receptor Area (SRA) 18 for NO_x, CO, PM₁₀ and PM_{2.5}.

Health Risk

Whenever a project would require use of chemical compounds that have been identified in South Coast AQMD Rule 1401, placed on CARB’s air toxics list pursuant to Assembly Bill 1807, or placed on the EPA’s National Emissions Standards for Hazardous Air Pollutants, a health risk assessment is required by the South Coast AQMD. Table 4, *South Coast AQMD Toxic Air Contaminants Incremental Risk Thresholds*, lists the South Coast AQMD’s toxic air contaminant (TAC) incremental risk thresholds for operation of a project. The purpose of this environmental evaluation is to identify the significant effects of the proposed project on the environment, not the significant effects of the environment on the proposed project. (*California Building Industry Association v. Bay Area Air Quality Management District (2015) 62 Cal.4th 369 (Case No. S213478)*). CEQA does not require CEQA-level environmental document to analyze the environmental effects of attracting development and people to an area. However, the environmental document must analyze the impacts of environmental hazards on future users when a proposed project exacerbates an existing environmental hazard or condition. Residential, commercial, and office uses do not emit substantial quantities of TACs, and these thresholds typically apply to new industrial projects.

Table 4 South Coast AQMD Toxic Air Contaminants Incremental Risk Thresholds

Maximum Incremental Cancer Risk	≥ 10 in 1 million
Cancer Burden (in areas ≥ 1 in 1 million)	> 0.5 excess cancer cases
Hazard Index (project increment)	≥ 1.0

Source: South Coast AQMD 2019.

Environmental Impacts

a) Conflict with or obstruct implementation of the applicable air quality plan?

South Coast AQMD adopted the 2016 Air Quality Management Plan on March 3, 2017. Regional growth projections are used by South Coast AQMD to forecast future emission levels in the SoCAB. For southern California, these regional growth projections are provided by the Southern California Association of

Governments (SCAG) and are partially based on land use designations included in city/county general plans. Typically, only large, regionally significant projects have the potential to affect the regional growth projections.

The proposed project involves the construction and operation of re-developed Isaac L. Sowers Middle School. The project is not considered a project of statewide, regional, or area-wide significance that would require intergovernmental review under Section 15206 of the CEQA Guidelines. Because the proposed use would be consistent with the land use and zoning designation, it would not substantially affect the regional growth projections. Furthermore, the new structures will be located on the same site as the structures being replaced and will have the same purpose and capacity as the structure replaced. Therefore, the proposed project would not affect the regional emissions inventory or conflict with strategies in the AQMP. Thus, implementation of the proposed project would not interfere with or obstruct implementation of the AQMP.

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

The following describes project-related impacts from short-term construction activities and long-term operation of the proposed project.

Regional Construction Emissions

Construction activities would result in the generation of air pollutants. These emissions would primarily be 1) exhaust from off-road diesel-powered construction equipment; 2) dust generated by construction activities; 3) exhaust from on-road vehicles; and 4) off-gassing of volatile organic compounds (VOCs) from paints and asphalt.

Construction activities for the re-development of the middle is anticipated to disturb 4.30 acres during Phase 1 and 4.73 acres for Phase 2 on the project site. The project would involve building and asphalt demolition as well as debris haul and reprocessing, site preparation, grading, building construction, paving, and architectural coating. Construction of Phase 1 is anticipated to take approximately 12 months from fall 2022 to summer 2022. Phase 2 would commence after Phase 1 is complete and would take approximately 12 months from fall 2023 to summer 2024. Construction emissions were estimated using CalEEMod 2020.4 and based on the preliminary construction duration provided by the District. Construction emissions modeling is shown in Table 5, *Maximum Daily Regional Construction Emissions (Phase 1)*, and Table 6, *Maximum Daily Regional Construction Emissions (Phase 2)*. Maximum daily emissions for VOC, NO_x, CO, SO₂, PM₁₀, and PM_{2.5} from construction-related activities would be less than their respective South Coast AQMD regional significance threshold values. Therefore, construction of the proposed project would not generate a cumulatively considerable net increase in criteria air pollutant emissions.

Table 5 Maximum Daily Regional Construction Emissions (Phase 1)

Construction Phase	Pollutants (lb/day) ^{1, 2}					
	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Year 2022						
Demolition & Demo Debris Haul	3	26	21	<1	2	1
Site Preparation	3	33	20	<1	10	6
Grading	2	21	16	<1	4	2
Building Construction	2	17	20	<1	2	1
Year 2023						
Building Construction	2	16	19	<1	2	1
Building Construction, Paving and Coating	24	26	34	<1	3	2
Maximum Daily Construction Emissions						
Maximum Daily Emissions	24	33	34	<1	10	6
South Coast AQMD Regional Construction Threshold	75	100	550	150	150	55
Significant?	No	No	No	No	No	No

Source: CalEEMod Version 2020.4

¹ Based on the preliminary information provided by the applicant. Where specific information regarding project-related construction activities was not available, construction assumptions were based on CalEEMod defaults, which are based on construction surveys conducted by South Coast AQMD of construction equipment.

² Includes implementation of fugitive dust control measures required by South Coast AQMD under Rule 403, including watering disturbed areas a minimum of two times per day, reducing speed limit to 15 miles per hour on unpaved surfaces, replacing ground cover quickly, and street sweeping with Rule 1186-compliant sweepers.

Table 6 Maximum Daily Regional Construction Emissions (Phase 2)

Construction Phase	Pollutants (lb/day) ^{1, 2}					
	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Year 2023						
Demolition & Demo Debris Haul	2	24	21	<1	3	1
Site Preparation	3	28	19	<1	10	6
Grading	2	18	15	<1	4	2
Building Construction	2	16	19	<1	2	1
Year 2024						
Building Construction	2	15	19	<1	2	1
Building Construction, Paving and Coating	14	24	34	<1	3	1
Maximum Daily Construction Emissions						
Maximum Daily Emissions	14	28	34	<1	10	6
South Coast AQMD Regional Construction Threshold	75	100	550	150	150	55
Significant?	No	No	No	No	No	No

Source: CalEEMod Version 2020.4

¹ Based on the preliminary information provided by the applicant. Where specific information regarding project-related construction activities was not available, construction assumptions were based on CalEEMod defaults, which are based on construction surveys conducted by South Coast AQMD of construction equipment.

² Includes implementation of fugitive dust control measures required by South Coast AQMD under Rule 403, including watering disturbed areas a minimum of two times per day, reducing speed limit to 15 miles per hour on unpaved surfaces, replacing ground cover quickly, and street sweeping with Rule 1186-compliant sweepers.

Regional Operational Emissions

Long-term air pollutant emissions associated with the proposed project include area sources (e.g., landscape fuel use, aerosols, architectural coatings, and asphalt pavement), energy use (i.e., natural gas use from cooling, heating, and cooking), and mobile sources (i.e., on-road vehicles). The proposed project would demolish the existing classroom spaces and construct thirty teaching spaces as well as circulation improvements to the existing parking lots and other educational buildings. The primary source of long-term criteria air pollutant emissions generated by the proposed project would be emissions from project-generated vehicle trips. However, since student capacity will not increase the proposed project would not generate an increase in daily weekday trips. The proposed project would also replace older classroom buildings with newer buildings that are constructed to meet the latest California Building and Energy Efficiency Standards. The proposed project also includes a new parking lot at the north side of the campus for District school bus parking and a lounge for District staff. The bus fleet consists of seven diesel-fueled, five compressed-natural gas (CNG) fueled, and three gasoline-fueled buses, which are currently parked offsite. The relocation of the bus parking lot to the project site would not result in an increase in regional VMT or associated vehicle emissions. Therefore, proposed project operations would not generate a cumulatively considerable net increase in criteria air pollutant emissions.

c) Expose sensitive receptors to substantial pollutant concentrations?

The proposed project could expose sensitive receptors to elevated pollutant concentrations if it causes or significantly contributes to elevated pollutant concentration levels. Unlike regional emissions, localized emissions are typically evaluated in terms of air concentration rather than mass so they can be more readily correlated to potential health effects.

Localized Construction Emissions

CONSTRUCTION LSTS

Localized significance thresholds are based on the California AAQS, which are the most stringent AAQS to provide a margin of safety in the protection of public health and welfare. They are designated to protect sensitive receptors most susceptible to further respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and people engaged in strenuous work or exercise. The screening-level construction LSTs are based on the size of the project site, distance to the nearest sensitive receptor, and SRA. The nearest off-site residential sensitive receptor are the residents on the east side of the campus along Cohasset Lane, Lantern Lane, and Brooklyn Lane. Other receptors include the students who will be attending school during operation of Phase 1 and Phase 2 on campus.

Air pollutant emissions generated by construction activities would cause temporary increases in air pollutant concentrations. Table 7, *Localized Construction Emissions (Phase 1)*, and Table 8, *Localized Construction Emissions (Phase 2)*, show that the maximum daily on-site construction emissions (pounds per day) for NO_x, CO, PM₁₀, and PM_{2.5} would be less than their respective South Coast AQMD screening-level LSTs. Therefore, project-related construction activities would not expose sensitive receptors to substantial criteria air pollutant concentrations.

Table 7 Localized Construction Emissions (Phase 1)

Construction Activity	Pollutants(lbs/day) ¹			
	NO _x	CO	PM ₁₀ ²	PM _{2.5} ²
South Coast AQMD ≤1.00 Acre LST	92	647	4.00	3.00
Asphalt Demolition & Demo Debris Haul	26	21	1.48	1.19
Exceeds LST?	No	No	No	No
South Coast AQMD 1.31 Acre LST	104	745	4.93	3.62
Building Construction 2022	16	16	0.81	0.76
Building Construction 2023	14	16	0.70	0.66
Exceeds LST?	No	No	No	No
South Coast AQMD 2.00 Acre LST	131	962	7.00	5.00
Building Construction 2023, Paving and Architectural Coating	24	30	1.21	1.13
Exceeds LST?	No	No	No	No
South Coast AQMD 2.50 Acre LST	142	1,087	8.16	5.67
Grading	21	15	3.97	2.33
Exceeds LST?	No	No	No	No
South Coast AQMD 3.50 Acre LST	164	1,336	10.49	7.00
Site Preparation	33	20	10.02	5.80
Exceeds LST?	No	No	No	No

Source: CalEEMod Version 2020.4. South Coast AQMD 2008 and 2011.

Notes: In accordance with South Coast AQMD methodology, only onsite stationary sources and mobile equipment are included in the analysis. Screening level LSTs are based on receptors within 82 feet (25 meters) of the project site in Source Receptor Area (SRA) 18 for NO_x, CO, PM₁₀ and PM_{2.5}.

¹ Based on the preliminary information provided by the applicant. Where specific information for project-related construction activities or processes was not available, modeling was based on CalEEMod defaults. These defaults are based on construction surveys conducted by the South Coast AQMD.

² Includes fugitive dust control measures required by South Coast AQMD under Rule 403, such as watering disturbed areas a minimum of two times per day, reducing speed limit to 15 miles per hour on unpaved surfaces, replacing ground cover quickly, and street sweeping with Rule 1186-compliant sweepers.

Table 8 Localized Construction Emissions (Phase 2)

Construction Activity	Pollutants(lbs/day) ¹			
	NO _x	CO	PM ₁₀ ²	PM _{2.5} ²
South Coast AQMD ≤1.00 Acre LST	92	647	4.00	3.00
Asphalt Demolition & Demo Debris Haul	21	20	2.81	1.20
Exceeds LST?	No	No	No	No
South Coast AQMD 1.31 Acre LST	104	745	4.93	3.62
Building Construction 2023	14	16	0.70	0.66
Building Construction 2024	13	16	0.61	0.58
Exceeds LST?	No	No	No	No
South Coast AQMD 2.00 Acre LST	131	962	7.00	5.00
Building Construction 2024, Paving and Architectural Coating	23	30	1.07	1.01
Exceeds LST?	No	No	No	No
South Coast AQMD 2.50 Acre LST	142	1,087	8.16	5.67
Building and Asphalt Demolition & Demo Debris Haul ³	46	50	4.02	2.33
Grading	18	15	3.80	2.18
Exceeds LST?	No	No	No	No
South Coast AQMD 3.50 Acre LST	164	1,336	10.49	7.00
Site Preparation	28	18	9.67	5.48
Exceeds LST?	No	No	No	No

Source: CalEEMod Version 2020.4. South Coast AQMD 2008 and 2011.

Notes: In accordance with South Coast AQMD methodology, only onsite stationary sources and mobile equipment are included in the analysis. Screening level LSTs are based on receptors within 82 feet (25 meters) of the project site in Source Receptor Area (SRA) 18 for NO_x, CO, PM₁₀ and PM_{2.5}.

¹ Based on the preliminary information provided by the applicant. Where specific information for project-related construction activities or processes was not available, modeling was based on CalEEMod defaults. These defaults are based on construction surveys conducted by the South Coast AQMD.

² Includes fugitive dust control measures required by South Coast AQMD under Rule 403, such as watering disturbed areas a minimum of two times per day, reducing speed limit to 15 miles per hour on unpaved surfaces, replacing ground cover quickly, and street sweeping with Rule 1186-compliant sweepers.

CONSTRUCTION HEALTH RISK

South Coast AQMD currently does not require health risk assessments for short-term emissions from construction equipment. Emissions from construction equipment primarily consist of diesel particulate matter (DPM). The Office of Environmental Health Hazard Assessment (OEHHA) adopted new guidance for the preparation of health risk assessments in March 2015 (OEHHA 2015). OEHHA has developed a cancer risk factor and noncancer chronic reference exposure level for DPM, but these factors are based on continuous exposure over a 30-year time frame. No short-term acute exposure levels have been developed for DPM. South Coast AQMD currently does not require the evaluation of long-term excess cancer risk or chronic health impacts for a short-term project. The proposed project site would be developed in approximately twelve months during Phase 1 and during Phase 2. The relatively short duration when compared to a 30-year time frame would limit exposures of on-site and off-site receptors. In addition, exhaust emissions from off-road vehicles associated with overall project-related construction activities would not exceed the screening-level LSTs. Therefore, project-related construction activities would not expose sensitive receptors to substantial TAC concentrations.

Localized Operational Emissions

OPERATIONAL LSTS

The proposed project includes a new parking lot at the north side of the campus for District school bus parking and a lounge for District staff. No bus maintenance nor fueling is proposed for the bus parking lot. However, diesel buses idling in the proposed bus parking lot could temporarily increase PM₁₀ and PM_{2.5} emissions in proximate to existing residences. To reduce school bus idling emissions, CARB has promulgated the Airborne Toxic Control Measure to Limit School Bus Idling and Idling at Schools (13 CCR Chapter 10 § 2480), which would limit TAC emissions onsite. The Rule generally restricts a school bus or transit bus from non-essential idling for more than five minutes when within 100 feet of a school. Essential idling would include the morning pre-check, which occurs between 5:45 to 7:00 AM weekdays. Buses idle approximately 30 to 35 minutes depending on what needs to be checked out on the bus (air brakes, wheelchair lift, reverse alarms, horn, air horn, air brakes etc.). To reduce diesel particulate matter (DPM), the District was awarded the grant to replace two diesel buses with two LNG buses. As a result, there would be five diesel buses onsite with implementation of the proposed project.

Though operation of the proposed project could result in an increase in emissions from school bus idling, air pollutant emissions generated from these activities compared to the existing land use would be nominal overall because it would only occur for up to 35 minutes a day during the precheck (see Table 8, *Operational LSTs from Bus Idling*). As shown in this table, localized air quality impacts from proposed project-related operations would not exceed the South Coast AQMD’s screening-level thresholds for on-site operational emissions and impacts would be less than significant.

Table 8 Operational LSTs from Bus Idling

Construction Activity	Pollutants (lbs/day)	
	PM ₁₀	PM _{2.5}
South Coast AQMD 0.64 Acre LST	1.00	1.00
Bus Idling ¹	0.003	0.002
Exceeds LST?	No	No

Source: South Coast AQMD 2008 and 2011.

Notes: In accordance with South Coast AQMD methodology, only onsite stationary sources and mobile equipment are included in the analysis. Screening level LSTs are based on receptors within 82 feet (25 meters) of the project site in Source Receptor Area (SRA) 18.

¹ Bus idling emissions determined using emission factors from EMFAC2021 for SBUS category, year 2022 in Orange County (CARB 2022).

OPERATIONAL HEALTH RISK

CARB, the California Air Pollution Control Officer’s Association (CAPCOA), and South Coast AQMD have identified exposure to elevated concentrations of vehicle generated TACs as a potential air quality hazard for sensitive land uses by. Typically, new major sources of TACs are more commonly associated with industrial manufacturing or warehousing facilities. For instance, CARB only recommends quantitative health risk evaluations for trucking distribution facilities if the number of diesel-fueled trucks per day exceeds 100.

School sites are not typically considered a major source of TACs. The proposed project includes a new parking lot at the north side of the campus for District school bus parking and a lounge for District staff. The size of the existing bus fleet, which consists of seven diesel-fueled, five CNG-fueled, and three gasoline-fueled buses, would not be affected the proposed project. As identified above, the District received a grant to replace two of the diesel buses with two CNG buses, which will reduce future TAC emissions associated with the District bus fleet. No bus maintenance nor fueling is proposed for the bus parking lot, and bus idling would be restricted per the requirements of Title 13 CCR 2480.

Overall, the relocation of the bus parking lot to the project site would not result in a substantial increase in bus trips per day nor TAC emissions, and localized health risk impacts at nearby sensitive receptors (i.e., residences to the east and north; existing students at Sowers Middle School) would be less than significant.

CO HOTSPOTS

Areas of vehicle congestion have the potential to create pockets of CO called hot spots. These pockets have the potential to exceed the state one-hour standard of 20 parts per million (ppm) or the eight-hour standard of 9.0 ppm. Because CO is produced in greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to AAQS is typically demonstrated through an analysis of localized CO concentrations, typically produced at intersections where vehicles queue for longer periods and are subject to reduced speeds. The SoCAB has been designated as attainment under both the national and California AAQS for CO. Under existing and future vehicle emission rates, a project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited—in order to generate a significant CO impact (BAAQMD 2017).

Operation of the proposed project would not generate an increase in peak hour vehicle trips during the weekday. Therefore, development and operation of the proposed project would not produce the volume of traffic required (i.e., 24,000 to 44,000 peak hour vehicle trips) to generate a CO hotspot at intersections or the proposed student drop-off zone.

d) Create objectionable odors affecting a substantial number of people?

The threshold for odor is if a project creates an odor nuisance pursuant to South Coast AQMD Rule 402, Nuisance, which states:

A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. The provisions of this rule shall not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

Operational Phase Odors

The type of facilities that are considered to have objectionable odors include wastewater treatments plants, compost facilities, landfills, solid waste transfer stations, fiberglass manufacturing facilities, paint/coating operations (e.g., auto body shops), dairy farms, petroleum refineries, asphalt batch plants, chemical manufacturing, and food manufacturing facilities. The proposed project does not include any of these uses and school uses typically are not associated with foul odors that constitute a public nuisance. Odors associated with the bus parking lot are not expected to generate substantial odors as bus idling would be restricted per Title 13 CCR 2480 and due to the relatively low number of District buses overall (15 total). Odor impacts would be less than significant.

Construction Phase Odors

Emissions from construction equipment, such as diesel exhaust and volatile organic compounds from architectural coatings and paving activities may generate odors. However, these odors would be low in concentration, temporary, and would not affect a substantial number of people. Odor impacts would be less than significant.

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Assumptions Worksheet

CalEEMod Inputs- Isaac L. Sowers Middle School Redevelopment Project (Phase 1), Construction

Name: Isaac L. Sowers Middle School Redevelopment Project P1
Project Number: HBCS-01.0
Project Location: 9300 Indianapolis Avenue in Huntington Beach
County/Air Basin: Orange
Climate Zone: 8
Land Use Setting: Urban
Operational Year: 2023
Utility Company: Southern California Edison
Air Basin: South Coast Air Basin
Air District: South Coast AQMD
SRA: 18- North Coastal Orange County

Project Site Acreage	4.30
Disturbed Site Acreage	4.30

Project Components	SQFT	Tons	
Demolition			
Asphalt Demolition	35,577	527	
New Construction	SQFT	Building Footprint	ACRES
Teaching Spaces	26,973	30,500	0.70
Administration Building	8,368	8,368	0.19
Stem Building	4,244	4,244	0.10
TOTAL BUILDING SQFT	39,585		0.99
Parking Lot	27,876	NA	0.64
Total Other Asphalt Surfaces	19,715	NA	0.45
Landscape	42,890	NA	0.98
Hardscape	53,715	NA	1.23
Other non-asphalt surfaces	96,605	NA	2.22
Total	183,781		4.30

CalEEMod Land Use Inputs

Land Use Type	Land Use Subtype	Unit Amount	Size Metric	Lot Acreage	Land Use Square Feet
Educational	Junior High School	39.59	1000 sqft	0.99	39,585
Parking	Parking Lot	27.88	1000 sqft	0.64	27,876
Parking	Other Asphalt Surfaces	19.72	1000 sqft	0.45	19,715
Parking	Other Non-asphalt Surfaces	96.61	1000 sqft	2.22	96,605
				4.30	

Demolition

Component	Amount to be Demolished (Tons)	Haul Truck Capacity (Tons) ¹	Haul Distance (miles) ¹	Total Trip Ends	Duration (days)	Trip Ends/Day
Asphalt demo haul	527	20	20	53	20	3
Total	527			53		

Notes:

¹ CalEEMod defaults used for haul truck capacity and haul distance.

Architectural Coating

	Percent Painted
% Interior Painted	100%
% Exterior Painted:	100%

Rule 1113 < 50 flat / ≤ 100 nonflat

	VOC Content (grams/liter)
Interior	50
Exterior	50

Structures	Land Use Square Feet	CalEEMod Factor ¹	Total Paintable Surface		
			Area	Paintable Interior Area ²	Paintable Exterior Area ²
Non-Residential Structures					
Junior High School	39,585	2.0	79,170	59,378	19,793
			79,170	59,378	19,793
Parking³					
Parking Lot	27,876	6%	1,673	-	1,673
			1,673		1,673

Notes

¹ The program assumes the total surface for painting equals 2.7 times the floor square footage for residential and 2 times that for nonresidential square footage defined by the user.

² CalEEMod methodology calculates the paintable interior and exterior areas by multiplying the total paintable surface area by 75 and 25 percent, respectively.

³ Architectural coatings for the parking lot is based on CalEEMod methodology applied to a surface parking lot (i.e., striping), in which 6% of surface area is painted. This parking lot will remain and only be re-striped.

Construction Mitigation

South Coast AQMD Rule 403

Replace Ground Cover	PM10:	5	% Reduction
	PM25:	5	% Reduction

Water Exposed Area	Frequency:	2	per day
	PM10:	55	% Reduction
	PM25:	55	% Reduction

Unpaved Roads	Vehicle Speed:	15	mph
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South Coast AQMD Rule 1186

Clean Paved Road		9	% PM Reduction
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Southern California Edison Carbon Intensity Factors

	lbs/MWH
CO ₂ : ^{1,2}	509.98
CH ₄ : ³	0.033
N ₂ O: ³	0.004

Notes:

¹ Based on CO₂e intensity factor of 512 pounds per megawatt hour; Southern California Edison. 2021. 2020 Sustainability Report. <https://www.edison.com/home/sustainability/sustainability-report.html>

² Based on Intergovernmental Panel on Climate Change Fourth Assessment Report global warming potentials for CH₄ and N₂O; Intergovernmental Panel on Climate Change (IPCC). 2007. Fourth Assessment Report: Climate Change 2007.

³ CalEEMod default values.

Global Warming Potentials (GWP)		
	AR4	AR5
CO ₂	1	1
CH ₄	25	28
N ₂ O	298	265

Based on Intergovernmental Panel on Climate Change Fourth Assessment Report global warming potentials for CH₄ and N₂O; Intergovernmental Panel on Climate Change (IPCC).

Phase 1 Hardscape/Landscape Calculation

	SQFT	Building Footprint	ACRES
Parking Lot	27,876	NA	0.64
hardcourt (Total Other Asphalt Surfaces)	19,715	NA	0.45
Landscape	42,890	NA	0.98
Hardscape (sidewalks)	53,715	NA	1.23
Other non-asphalt surfaces	96,605	NA	2.22
TOTAL	144,196		3.31

Construction Activities and Schedule Assumptions: Isaac L. Sowers Middle School Redevelopment Project (Phase 1)

* based on information provided by the District

		CalEEMod Default Construction Schedule		
Construction Activities	Phase Type	Start Date	End Date	CalEEMod Duration (Workday)
Demolition	Demolition	9/1/2022	9/28/2022	20
Site Preparation	Site Preparation	9/29/2022	10/5/2022	5
Grading	Grading	10/6/2022	10/17/2022	8
Building Construction	Building Construction	10/18/2022	9/4/2023	230
Paving	Paving	8/10/2023	9/4/2023	18
Architectural Coating	Architectural Coating	8/10/2023	9/4/2023	18

Normalization Calculations

CalEEMod Defaults Construction Duration	
368	days of construction
1.01	years of construction
12.10	months of construction

Assumed Construction Duration	
9/1/2022	8/31/2023
364	days
11.97	months

Norm Factor: 0.99

		Construction Schedule		
Construction Activities	Phase Type	Start Date	End Date	CalEEMod Duration (Workday)
Asphalt Demolition	Demolition	9/1/2022	9/28/2022	20
Asphalt Demolition Debris Haul	Demolition	9/1/2022	9/28/2022	20
Site Preparation	Site Preparation	9/29/2022	10/5/2022	5
Grading	Grading	10/6/2022	10/17/2022	8
Building Construction	Building Construction	10/18/2022	8/31/2023	228
Paving	Paving	8/8/2023	8/31/2023	18
Architectural Coating	Architectural Coating	8/8/2023	8/31/2023	18

Overlapping Construction Schedule

Asphalt Demolition & Demo Debris Haul	9/1/2022	9/28/2022	20
Site Preparation	9/29/2022	10/5/2022	5
Grading	10/6/2022	10/17/2022	8
Building Construction 2022	10/18/2022	12/31/2022	54
Building Construction 2023	1/1/2023	8/7/2023	156
Building Construction 2023, Paving and Architectural Coating	8/8/2023	8/31/2023	18

CalEEMod Construction Off-Road Equipment Inputs

**Based on CalEEMod defaults, assumed equipment would not be shared for most conservative results*

General Construction Hours: 8 hours

btwn 7:00 AM to 4:00 PM (with 1 hr break), Mon-Fri

Construction Equipment Details						
Equipment	model	# of Equipment	hr/day	hp	load factor*	total trips
Asphalt Demolition						
Concrete/Industrial Saws		1	8	81	0.73	
Excavators		3	8	158	0.38	
Rubber Tired Dozers		2	8	247	0.4	
Worker Trips						15
Vendor Trips						0
Hauling Trips						0
Water Trucks (Added to Vendor Trips)						2
Asphalt Demolition Debris Haul						
NO EQUIPMENT NEEDED						
Hauling Trips						53
Site Preparation						
Rubber Tired Dozers		3	8	247	0.4	
Tractors/Loaders/Backhoes		4	8	97	0.37	
Worker Trips						18
Vendor Trips						0
Hauling Trips						
Water Trucks (Added to Vendor Trips)						2
Grading						
Excavators		1	8	158	0.38	
Graders		1	8	187	0.41	
Rubber Tired Dozers		1	8	247	0.4	
Tractors/Loaders/Backhoes		3	8	97	0.37	
Worker Trips						15
Vendor Trips						0
Hauling Trips						0
Water Trucks (Added to Vendor Trips)						2

Building Construction						
Cranes		1	7	231	0.29	
Forklifts		3	8	89	0.2	
Generator Sets		1	8	84	0.74	
Tractors/Loaders/Backhoes		3	7	97	0.37	
Welders		1	8	46	0.45	
Worker Trips						91
Vendor Trips						36
Hauling Trips						0
Water Trucks (Added to Vendor Trips)						0
Paving						
Cement and Mortar Mixes		2	6	9	0.56	
Pavers		1	8	130	0.42	
Paving equipment		2	6	132	0.36	
Rollers		2	6	80	0.38	
Tractors/Loaders/Backhoes		1	8	97	0.37	
Worker Trips						20
Vendor Trips						0
Hauling Trips						0
Water Trucks (Added to Vendor Trips)						0
Architectural Coating						
Air Compressors		1	6	78	0.48	
Worker Trips						18
Vendor Trips						0
Hauling Trips						0
Water Trucks (Added to Vendor Trips)						0

Pavement Volume to Weight Conversion

Component	Total SF of Area ¹	Assumed Thickness (foot) ²	Debris Volume (cu. ft)	Weight of Crushed Asphalt (lbs/cf) ³	AC Mass (lbs)	AC Mass (tons)
Asphalt Demo	35,577	0.333	11,859	89	1,054,133	527.07
Total	35,577					527

Notes:

¹ Provided by Applicant.

Pavements and Surface Materials. Nonpoint Education for Municipal Officials, Technical Paper Number 8. University of Connecticut

² Cooperative Extension System, 1999.

³ <https://www.calrecycle.ca.gov/swfacilities/cdi/Tools/Calculations>

CalEEMod Inputs- Isaac L. Sowers Middle School Redevelopment Project (Phase 2), Construction

Name: Isaac L. Sowers Middle School Redevelopment Project P2
Project Number: HBCS-01.0
Project Location: 9300 Indianapolis Avenue in Huntington Beach
County/Air Basin: Orange
Climate Zone: 8
Land Use Setting: Urban
Operational Year: 2024
Utility Company: Southern California Edison
Air Basin: South Coast Air Basin
Air District: South Coast AQMD
SRA: 18- North Coastal Orange County

Project Site Acreage	4.73
Disturbed Site Acreage	4.73

Project Components	SQFT	Tons
Demolition		
Building Demolition	80,781	3,716
Asphalt Demolition	16,694	247
New Construction		
	SQFT	ACRES
Gym Building	13,278	0.30
Locker Room Building	3,090	0.07
Lounge Building	966	0.02
TOTAL BUILDING SQFT	17,334	0.40
Parking Lot	79,983	1.84
Total Other Asphalt Surfaces	78,960	1.81
Landscape	341	0.01
Hardscape	29,421	0.68
Other non-asphalt surfaces	29,762	0.68
Total	206,039	4.73

CalEEMod Land Use Inputs

Land Use Type	Land Use Subtype	Unit Amount	Size Metric	Lot Acreage	Land Use Square Feet
Educational	Junior High School	17.33	1000 sqft	0.40	17,334
Parking	Parking Lot	79.98	1000 sqft	1.84	79,983
Parking	Other Asphalt Surfaces	78.96	1000 sqft	1.81	78,960
Parking	Other Non-asphalt Surfaces	29.76	1000 sqft	0.68	29,762
				4.73	

Demolition

Component	Amount to be Demolished (Tons)	Haul Truck Capacity (Tons) ¹	Haul Distance (miles) ¹	Total Trip Ends	Duration (days)	Trip Ends/Day
Building demo haul	3,716	20	20	372	20	19
Asphalt demo haul	247	20	20	25	20	1
Total	3,963			397		20

Notes:

¹ CalEEMod defaults used for haul truck capacity and haul distance.

Architectural Coating

	Percent Painted
% Interior Painted	100%
% Exterior Painted:	100%

Rule 1113 < 50 flat / ≤ 100 nonflat

	VOC Content (grams/liter)
Interior	50
Exterior	50

Structures	Land Use Square Feet	CalEEMod Factor ¹	Total Paintable Surface Area	Paintable Interior Area ²	Paintable Exterior Area ²
Non-Residential Structures					
Junior High School	17,334	2.0	34,668	26,001	8,667
			34,668	26,001	8,667
Parking³					
Parking Lot	79,983	6%	4,799	-	4,799
			4,799		4,799

Notes

- ¹ The program assumes the total surface for painting equals 2.7 times the floor square footage for residential and 2 times that for nonresidential square footage defined by the user.
- ² CalEEMod methodology calculates the paintable interior and exterior areas by multiplying the total paintable surface area by 75 and 25 percent, respectively.
- ³ Architectural coatings for the parking lot is based on CalEEMod methodology applied to a surface parking lot (i.e., striping), in which 6% of surface area is painted. This parking lot will remain and only be re-striped.

Construction Mitigation

South Coast AQMD Rule 403

Replace Ground Cover

PM10:	5	% Reduction
PM25:	5	% Reduction

Water Exposed Area

Frequency:	2	per day
PM10:	55	% Reduction
PM25:	55	% Reduction

Unpaved Roads

Vehicle Speed:	15	mph
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South Coast AQMD Rule 1186

Clean Paved Road	9	% PM Reduction
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Southern California Edison Carbon Intensity Factors

	lbs/MWH
CO ₂ : ^{1,2}	509.98
CH ₄ : ³	0.033
N ₂ O: ³	0.004

Notes:

¹

Based on CO₂e intensity factor of 512 pounds per megawatt hour; Southern California Edison. 2021. 2020 Sustainability Report. <https://www.edison.com/home/sustainability/sustainability-report.html>

²

Based on Intergovernmental Panel on Climate Change Fourth Assessment Report global warming potentials for CH₄ and N₂O; Intergovernmental Panel on Climate Change (IPCC). 2007. Fourth Assessment Report: Climate Change 2007.

³

CalEEMod default values.

Global Warming Potentials (GWP)		
	AR4	AR5
CO ₂	1	1
CH ₄	25	28
N ₂ O	298	265

Based on Intergovernmental Panel on Climate Change Fourth Assessment Report global warming potentials for CH₄ and N₂O; Intergovernmental Panel on Climate Change (IPCC).

Phase 2 Hardscape/Landscape Calculation

	SQFT	Building Footprint	ACRES
Parking Lot	79,983	NA	1.84
hardcourt (Total Other Asphalt Surfaces)	78,960	NA	1.81
Landscape	341	NA	0.01
Hardscape (sidewalks)	29,421	NA	0.68
Other non-asphalt surfaces	29,762	NA	0.68
TOTAL	188,705		4.33

Construction Activities and Schedule Assumptions: Isaac L. Sowers Middle School Redevelopment Project (Phase 2)

* based on information provided by the District

		CalEEMod Default Construction Schedule		
Construction Activities	Phase Type	Start Date	End Date	CalEEMod Duration (Workday)
Demolition	Demolition	9/1/2023	9/28/2023	20
Site Preparation	Site Preparation	9/29/2023	10/5/2023	5
Grading	Grading	10/6/2023	10/17/2023	8
Building Construction	Building Construction	10/18/2023	9/3/2024	230
Paving	Paving	8/9/2024	9/3/2024	18
Architectural Coating	Architectural Coating	8/9/2024	9/3/2024	18

Normalization Calculations

CalEEMod Defaults Construction Duration	
368	days of construction
1.01	years of construction
12.10	months of construction

Assumed Construction Duration	
9/1/2023	8/31/2024
365	days
12.00	months

Norm Factor: 0.99

Normalized Construction Schedule

Building and Asphalt Demolition	9/1/2023	9/28/2023	20
Building and Asphalt Demolition Debris Haul	9/1/2023	9/28/2023	20
Site Preparation	9/29/2023	10/5/2023	5
Grading	10/6/2023	10/17/2023	8
Building Construction	10/18/2023	8/30/2024	228
Paving	8/7/2024	8/30/2024	18
Architectural Coating	8/7/2024	8/30/2024	18

Overlapping Construction Schedule

Building and Asphalt Demolition & Demo Debris Haul	9/1/2023	9/28/2023	20
Site Preparation	9/29/2023	10/5/2023	5
Grading	10/6/2023	10/17/2023	8
Building Construction 2023	10/18/2023	12/31/2023	53
Building Construction 2024	1/1/2024	8/6/2024	157
Building Construction 2024, Paving and Architectural Coating	8/7/2024	8/30/2024	18

CalEEMod Construction Off-Road Equipment Inputs

**Based on CalEEMod defaults, assumed equipment would not be shared for most conservative results*

General Construction Hours: 8 hours

btwn 7:00 AM to 4:00 PM (with 1 hr break), Mon-Fri

Construction Equipment Details						
Equipment	model	# of Equipment	hr/day	hp	load factor*	total trips
Demolition (Building and Asphalt)						
Concrete/Industrial Saws		1	8	81	0.73	
Excavators		3	8	158	0.38	
Rubber Tired Dozers		2	8	247	0.4	
Worker Trips						15
Vendor Trips						0
Hauling Trips						0
Water Trucks (Added to Vendor Trips)						2
Demolition Debris Haul						
NO EQUIPMENT NEEDED						
Hauling Trips						397
Site Preparation						
Rubber Tired Dozers		3	8	247	0.4	
Tractors/Loaders/Backhoes		4	8	97	0.37	
Worker Trips						18
Vendor Trips						0
Hauling Trips						
Water Trucks (Added to Vendor Trips)						2
Grading						
Excavators		1	8	158	0.38	
Graders		1	8	187	0.41	
Rubber Tired Dozers		1	8	247	0.4	
Tractors/Loaders/Backhoes		3	8	97	0.37	
Worker Trips						15
Vendor Trips						0
Hauling Trips						0
Water Trucks (Added to Vendor Trips)						2

Building Construction						
Cranes		1	7	231	0.29	
Forklifts		3	8	89	0.2	
Generator Sets		1	8	84	0.74	
Tractors/Loaders/Backhoes		3	7	97	0.37	
Welders		1	8	46	0.45	
Worker Trips						87
Vendor Trips						34
Hauling Trips						0
Water Trucks (Added to Vendor Trips)						0
Paving						
Cement and Mortar Mixes		2	6	9	0.56	
Pavers		1	8	130	0.42	
Paving equipment		2	6	132	0.36	
Rollers		2	6	80	0.38	
Tractors/Loaders/Backhoes		1	8	97	0.37	
Worker Trips						20
Vendor Trips						0
Hauling Trips						0
Water Trucks (Added to Vendor Trips)						0
Architectural Coating						
Air Compressors		1	6	78	0.48	
Worker Trips						17
Vendor Trips						0
Hauling Trips						0
Water Trucks (Added to Vendor Trips)						0

Demo Haul Trip Calculation

Conversion factors*

0.046 ton/SF
 1.2641662 tons/cy
 20 tons
 15.82070459 CY
 0.791035229 CY/ton

Building	BSF Demo ¹	Tons/SF	Tons	Haul Truck (CY) ²	Haul Truck (Ton) ²	Round Trips	Total Trip Ends
Combined Building Demo	80,781	0.046	3715.926	15.82	20.00	186	372

Notes:

¹ Square-foot of building demolition debris to be hauled offsite provided by Applicant

² CalEEMod default used.

Pavement Volume to Weight Conversion

Component	Total SF of Area ¹	Assumed Thickness (foot) ²	Debris Volume (cu. ft)	Weight of Crushed Asphalt (lbs/cf) ³	AC Mass (lbs)	AC Mass (tons)
Asphalt Demo	16,694	0.333	5,565	89	494,637	247.32
Total	16,694					247

Notes:

¹ Provided by Applicant.

Pavements and Surface Materials. Nonpoint Education for Municipal Officials, Technical Paper Number 8. University of Connecticut

² Cooperative Extension System, 1999.

CalRecycle. Solid Waste Cleanup Program Weights and Volumes for Project Estimates.

³ <https://www.calrecycle.ca.gov/swfacilities/cdi/Tools/Calculations>

Emissions Worksheet

Regional Construction Emissions Worksheet (Phase 1):

Asphalt Demolition			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		2022 Winter						
	Off-Road		2.64	25.72	20.59	0.04	1.24	1.16
	Total		2.64	25.72	20.59	0.04	1.24	1.16
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.09	0.03	0.00	0.01	0.00
	Worker		0.05	0.03	0.46	0.00	0.16	0.04
	Total		0.05	0.13	0.49	0.00	0.17	0.05
TOTAL			2.69	25.85	21.09	0.04	1.41	1.20
Onsite		2022						
	Off-Road		2.64	25.72	20.59	0.04	1.24	1.16
	Total		2.64	25.72	20.59	0.04	1.24	1.16
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.09	0.03	0.00	0.01	0.00
	Worker		0.05	0.03	0.46	0.00	0.16	0.04
	Total		0.05	0.13	0.49	0.00	0.17	0.05
TOTAL			2.69	25.85	21.09	0.04	1.41	1.20

Asphalt Demolition Debris Haul

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		2022 Winter						
	Fugitive Dust						0.24	0.04
	Off-Road		0.00	0.00	0.00	0.00	0.00	0.00
	Total		0.00	0.00	0.00	0.00	0.24	0.04
Offsite								
	Hauling		0.01	0.42	0.12	0.00	0.05	0.01
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.00	0.00	0.00	0.00	0.00	0.00
	Total		0.01	0.42	0.12	0.00	0.05	0.01
TOTAL			0.01	0.42	0.12	0.00	0.29	0.05
Onsite		2022						
	Fugitive Dust		0.00	0.00	0.00	0.00	0.24	0.04
	Off-Road		0.00	0.00	0.00	0.00	0.00	0.00
	Total		0.00	0.00	0.00	0.00	0.24	0.04
Offsite								
	Hauling		0.01	0.42	0.12	0.00	0.05	0.01
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.00	0.00	0.00	0.00	0.00	0.00
	Total		0.01	0.42	0.12	0.00	0.05	0.01
TOTAL			0.01	0.42	0.12	0.00	0.29	0.05

Site Preparation							
		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	2022 Winter						
	Fugitive Dust					8.40	4.32
	Off-Road	3.17	33.08	19.70	0.04	1.61	1.48
	Total	3.17	33.08	19.70	0.04	10.02	5.80
Offsite	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.00	0.09	0.03	0.00	0.01	0.00
	Worker	0.06	0.04	0.55	0.00	0.19	0.05
	Total	0.06	0.13	0.58	0.00	0.20	0.05
TOTAL		3.23	33.22	20.28	0.04	10.22	5.86
Onsite	2022						
	Fugitive Dust	0.00	0.00	0.00	0.00	8.40	4.32
	Off-Road	3.17	33.08	19.70	0.04	1.61	1.48
	Total	3.17	33.08	19.70	0.04	10.02	5.80
Offsite	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.00	0.09	0.03	0.00	0.01	0.00
	Worker	0.06	0.04	0.55	0.00	0.19	0.05
	Total	0.06	0.13	0.58	0.00	0.20	0.05
TOTAL		3.23	33.22	20.28	0.04	10.22	5.86

Grading							
		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	2022 Winter						
	Fugitive Dust					3.03	1.46
	Off-Road	1.95	20.86	15.27	0.03	0.94	0.87
	Total	1.95	20.86	15.27	0.03	3.97	2.33
Offsite	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.00	0.09	0.03	0.00	0.01	0.00
	Worker	0.05	0.03	0.46	0.00	0.16	0.04
	Total	0.05	0.13	0.49	0.00	0.17	0.05
TOTAL		2.00	20.98	15.76	0.03	4.14	2.38
Onsite	2022						
	Fugitive Dust	0.00	0.00	0.00	0.00	3.03	1.46
	Off-Road	1.95	20.86	15.27	0.03	0.94	0.87
	Total	1.95	20.86	15.27	0.03	3.97	2.33
Offsite	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.00	0.09	0.03	0.00	0.01	0.00
	Worker	0.05	0.03	0.46	0.00	0.16	0.04
	Total	0.05	0.13	0.49	0.00	0.17	0.05
TOTAL		2.00	20.98	15.76	0.03	4.14	2.38

Building Construction							
		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	2022 Winter						
	Off-Road	1.71	15.62	16.36	0.03	0.81	0.76
	Total	1.71	15.62	16.36	0.03	0.81	0.76
Offsite	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.06	1.68	0.59	0.01	0.23	0.08
	Worker	0.30	0.20	2.78	0.01	0.94	0.26
	Total	0.36	1.88	3.38	0.02	1.17	0.33
TOTAL		2.06	17.50	19.74	0.04	1.98	1.09
Onsite	2022						
	Off-Road	1.71	15.62	16.36	0.03	0.81	0.76
	Total	1.71	15.62	16.36	0.03	0.81	0.76
Offsite	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.06	1.68	0.59	0.01	0.23	0.08
	Worker	0.30	0.20	2.78	0.01	0.94	0.26
	Total	0.36	1.88	3.38	0.02	1.17	0.33
TOTAL		2.06	17.50	19.74	0.04	1.98	1.09

Building Construction

		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		2023 Winter					
	Off-Road	1.57	14.38	16.24	0.03	0.70	0.66
	Total	1.57	14.38	16.24	0.03	0.70	0.66
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.04	1.32	0.54	0.01	0.22	0.07
	Worker	0.28	0.18	2.59	0.01	0.94	0.26
	Total	0.32	1.50	3.13	0.01	1.16	0.32
TOTAL		1.89	15.88	19.37	0.04	1.86	0.98
Onsite		2023					
	Off-Road	1.57	14.38	16.24	0.03	0.70	0.66
	Total	1.57	14.38	16.24	0.03	0.70	0.66
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.04	1.32	0.54	0.01	0.22	0.07
	Worker	0.28	0.18	2.59	0.01	0.94	0.26
	Total	0.32	1.50	3.13	0.01	1.16	0.32
TOTAL		1.89	15.88	19.37	0.04	1.86	0.98

Paving							
		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		2023 Winter					
	Off-Road	0.92	8.79	12.19	0.02	0.44	0.40
	Paving	0.16				0.00	0.00
	Total	1.08	8.79	12.19	0.02	0.44	0.40
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.00	0.00	0.00	0.00	0.00	0.00
	Worker	0.06	0.04	0.57	0.00	0.21	0.06
	Total	0.06	0.04	0.57	0.00	0.21	0.06
TOTAL		1.14	8.83	12.76	0.02	0.64	0.46
Onsite		2023					
	Off-Road	0.92	8.79	12.19	0.02	0.44	0.40
	Paving	0.16	0.00	0.00	0.00	0.00	0.00
	Total	1.08	8.79	12.19	0.02	0.44	0.40
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.00	0.00	0.00	0.00	0.00	0.00
	Worker	0.06	0.04	0.57	0.00	0.21	0.06
	Total	0.06	0.04	0.57	0.00	0.21	0.06
TOTAL		1.14	8.83	12.76	0.02	0.64	0.46

Architectural Coating							
		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		2023 Winter					
	Archit. Coating	20.82				0.00	0.00
	Off-Road	0.19	1.30	1.81	0.00	0.07	0.07
	Total	21.01	1.30	1.81	0.00	0.07	0.07
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.00	0.00	0.00	0.00	0.00	0.00
	Worker	0.06	0.04	0.51	0.00	0.19	0.05
	Total	0.06	0.04	0.51	0.00	0.19	0.05
TOTAL		21.06	1.34	2.32	0.00	0.26	0.12
Onsite		2023					
	Archit. Coating	20.82	0.00	0.00	0.00	0.00	0.00
	Off-Road	0.19	1.30	1.81	0.00	0.07	0.07
	Total	21.01	1.30	1.81	0.00	0.07	0.07
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.00	0.00	0.00	0.00	0.00	0.00
	Worker	0.06	0.04	0.51	0.00	0.19	0.05
	Total	0.06	0.04	0.51	0.00	0.19	0.05
TOTAL		21.06	1.34	2.32	0.00	0.26	0.12

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
<i>Asphalt Demolition & Demo Debris Haul</i>	3	26	21	0	2	1
<i>Site Preparation</i>	3	33	20	0	10	6
<i>Grading</i>	2	21	16	0	4	2
<i>Building Construction 2022</i>	2	17	20	0	2	1
<i>Building Construction 2023</i>	2	16	19	0	2	1
<i>Building Construction 2023, Paving and Architectural Coating</i>	24	26	34	0	3	2
MAX DAILY	24	33	34	0	10	6
Regional Thresholds	75	100	550	150	150	55
Exceeds Thresholds?	No	No	No	No	No	No

Construction LST Worksheet (Phase 1):

Asphalt Demolition			NOx	CO	PM10 Total	PM2.5 Total
Onsite		2022				
	Off-Road		25.72	20.59	1.24	1.16
	Total		25.72	20.59	1.24	1.16
Onsite		2022				
	Off-Road		25.72	20.59	1.24	1.16
	Total		25.72	20.59	1.24	1.16
TOTAL			25.72	20.59	1.24	1.16

Asphalt Demolition Debris Haul			NOx	CO	PM10 Total	PM2.5 Total
Onsite		2022				
	Fugitive Dust				0.24	0.04
	Off-Road		0.00	0.00	0.00	0.00
	Total		0.00	0.00	0.24	0.04
Onsite		2022				
	Fugitive Dust		0.00	0.00	0.24	0.04
	Off-Road		0.00	0.00	0.00	0.00
	Total		0.00	0.00	0.24	0.04
	Total		0.00	0.00	0.00	0.00
TOTAL			0.00	0.00	0.24	0.04

Site Preparation			NOx	CO	PM10 Total	PM2.5 Total
Onsite		2022				
	Fugitive Dust				8.40	4.32
	Off-Road		33.08	19.70	1.61	1.48
	Total		33.08	19.70	10.02	5.80
TOTAL			33.08	19.70	10.02	5.80
Onsite		2022				
	Fugitive Dust		0.00	0.00	8.40	4.32
	Off-Road		33.08	19.70	1.61	1.48
	Total		33.08	19.70	10.02	5.80
TOTAL			33.08	19.70	10.02	5.80

Grading			NOx	CO	PM10 Total	PM2.5 Total
Onsite		2022				
	Fugitive Dust				3.03	1.46
	Off-Road		20.86	15.27	0.94	0.87
	Total		20.86	15.27	3.97	2.33
TOTAL			20.86	15.27	3.97	2.33
Onsite		2022				
	Fugitive Dust		0.00	0.00	3.03	1.46
	Off-Road		20.86	15.27	0.94	0.87
	Total		20.86	15.27	3.97	2.33

TOTAL			20.86	15.27	3.97	2.33
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Building Construction

			NOx	CO	PM10 Total	PM2.5 Total
Onsite		2022				
	Off-Road		15.62	16.36	0.81	0.76
	Total		15.62	16.36	0.81	0.76
TOTAL			15.62	16.36	0.81	0.76

Onsite		2022				
	Off-Road		15.62	16.36	0.81	0.76
	Total		15.62	16.36	0.81	0.76
TOTAL			15.62	16.36	0.81	0.76

Building Construction

			NOx	CO	PM10 Total	PM2.5 Total
Onsite		2023				
	Off-Road		14.38	16.24	0.70	0.66
	Total		14.38	16.24	0.70	0.66
TOTAL			14.38	16.24	0.70	0.66

Onsite		2023				
	Off-Road		14.38	16.24	0.70	0.66
	Total		14.38	16.24	0.70	0.66
TOTAL			14.38	16.24	0.70	0.66

Paving

			NOx	CO	PM10 Total	PM2.5 Total
Onsite		2023				
	Off-Road		8.79	12.19	0.44	0.40
	Paving				0.00	0.00
	Total		8.79	12.19	0.44	0.40
TOTAL			8.79	12.19	0.44	0.40

Onsite		2023				
	Off-Road		8.79	12.19	0.44	0.40
	Paving		0.00	0.00	0.00	0.00
	Total		8.79	12.19	0.44	0.40
TOTAL			8.79	12.19	0.44	0.40

Architectural Coating

			NOx	CO	PM10 Total	PM2.5 Total
TOTAL			0.00	0.00	0.00	0.00

Onsite		2023				
	Archit. Coating				0.00	0.00
	Off-Road		1.30	1.81	0.07	0.07
	Total		1.30	1.81	0.07	0.07
TOTAL			1.30	1.81	0.07	0.07

Onsite		2023				
	Archit. Coating		0.00	0.00	0.00	0.00
	Off-Road		1.30	1.81	0.07	0.07
	Total		1.30	1.81	0.07	0.07
TOTAL			1.30	1.81	0.07	0.07

			NOx	CO	PM10 Total	PM2.5 Total
Asphalt Demolition & Demo Debris Haul			26	21	1.48	1.19

	≤ 1.00 Acre LST		92	647	4.00	3.00
	Exceeds LST?		no	no	no	no

Site Preparation			33	20	10.02	5.80
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3.50 Acre LST	164	1,336	10.49	7.00
<i>Exceeds LST?</i>	<i>no</i>	<i>no</i>	<i>no</i>	<i>no</i>
Grading	21	15	3.97	2.33
2.50 Acre LST	142	1,087	8.16	5.67
<i>Exceeds LST?</i>	<i>no</i>	<i>no</i>	<i>no</i>	<i>no</i>
Building Construction 2022	16	16	0.81	0.76
1.31 Acre LST	104	745	4.93	3.62
<i>Exceeds LST?</i>	<i>no</i>	<i>no</i>	<i>no</i>	<i>no</i>
Building Construction 2023	14	16	0.70	0.66
1.31 Acre LST	104	745	4.93	3.62
<i>Exceeds LST?</i>	<i>no</i>	<i>no</i>	<i>no</i>	<i>no</i>
Building Construction 2023, Paving and Architectural Coating	24	30	1.21	1.13
2.00 Acre LST	131	962	7.00	5.00
<i>Exceeds LST?</i>	<i>no</i>	<i>no</i>	<i>no</i>	<i>no</i>

Regional Construction Emissions Worksheet (Phase 2):

Building and Asphalt Demolition			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		2023 Winter						
	Off-Road		2.27	21.48	19.64	0.04	1.00	0.93
	Total		2.27	21.48	19.64	0.04	1.00	0.93
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.07	0.03	0.00	0.01	0.00
	Worker		0.05	0.03	0.43	0.00	0.16	0.04
	Total		0.05	0.10	0.46	0.00	0.17	0.05
TOTAL			2.32	21.59	20.10	0.04	1.17	0.97
Onsite		2023						
	Off-Road		2.27	21.48	19.64	0.04	1.00	0.93
	Total		2.27	21.48	19.64	0.04	1.00	0.93
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.07	0.03	0.00	0.01	0.00
	Worker		0.05	0.03	0.43	0.00	0.16	0.04
	Total		0.05	0.10	0.46	0.00	0.17	0.05
TOTAL			2.32	21.59	20.10	0.04	1.17	0.97

Demolition Debris Haul

			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		2023 Winter						
	Fugitive Dust						1.81	0.27
	Off-Road		0.00	0.00	0.00	0.00	0.00	0.00
	Total		0.00	0.00	0.00	0.00	1.81	0.27
Offsite								
	Hauling		0.04	2.47	0.82	0.01	0.34	0.10
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.00	0.00	0.00	0.00	0.00	0.00
	Total		0.04	2.47	0.82	0.01	0.34	0.10
TOTAL			0.04	2.47	0.82	0.01	2.15	0.38
Onsite		2023						
	Fugitive Dust		0.00	0.00	0.00	0.00	1.81	0.27
	Off-Road		0.00	0.00	0.00	0.00	0.00	0.00
	Total		0.00	0.00	0.00	0.00	1.81	0.27
Offsite								
	Hauling		0.04	2.47	0.82	0.01	0.34	0.10
	Vendor		0.00	0.00	0.00	0.00	0.00	0.00
	Worker		0.00	0.00	0.00	0.00	0.00	0.00
	Total		0.04	2.47	0.82	0.01	0.34	0.10
TOTAL			0.04	2.47	0.82	0.01	2.15	0.38

Site Preparation			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		2023 Winter						
	Fugitive Dust						8.40	4.32
	Off-Road		2.66	27.52	18.24	0.04	1.27	1.16
	Total		2.66	27.52	18.24	0.04	9.67	5.48
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.07	0.03	0.00	0.01	0.00
	Worker		0.06	0.04	0.51	0.00	0.19	0.05
	Total		0.06	0.11	0.54	0.00	0.20	0.05
TOTAL			2.72	27.63	18.79	0.04	9.87	5.54
Onsite		2023						
	Fugitive Dust		0.00	0.00	0.00	0.00	8.40	4.32
	Off-Road		2.66	27.52	18.24	0.04	1.27	1.16
	Total		2.66	27.52	18.24	0.04	9.67	5.48
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.07	0.03	0.00	0.01	0.00
	Worker		0.06	0.04	0.51	0.00	0.19	0.05
	Total		0.06	0.11	0.54	0.00	0.20	0.05
TOTAL			2.72	27.63	18.79	0.04	9.87	5.54

Grading			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		2023 Winter						
	Fugitive Dust						3.03	1.46
	Off-Road		1.71	17.94	14.75	0.03	0.77	0.71
	Total		1.71	17.94	14.75	0.03	3.80	2.18
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.07	0.03	0.00	0.01	0.00
	Worker		0.05	0.03	0.43	0.00	0.16	0.04
	Total		0.05	0.10	0.46	0.00	0.17	0.05
TOTAL			1.76	18.04	15.21	0.03	3.97	2.22
Onsite		2023						
	Fugitive Dust		0.00	0.00	0.00	0.00	3.03	1.46
	Off-Road		1.71	17.94	14.75	0.03	0.77	0.71
	Total		1.71	17.94	14.75	0.03	3.80	2.18
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.00	0.07	0.03	0.00	0.01	0.00
	Worker		0.05	0.03	0.43	0.00	0.16	0.04
	Total		0.05	0.10	0.46	0.00	0.17	0.05
TOTAL			1.76	18.04	15.21	0.03	3.97	2.22

Building Construction			ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		2023 Winter						
	Off-Road		1.57	14.38	16.24	0.03	0.70	0.66
	Total		1.57	14.38	16.24	0.03	0.70	0.66
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.03	1.24	0.51	0.01	0.21	0.07
	Worker		0.27	0.17	2.48	0.01	0.90	0.24
	Total		0.30	1.42	2.98	0.01	1.11	0.31
TOTAL			1.87	15.80	19.23	0.04	1.81	0.97
Onsite		2023						
	Off-Road		1.57	14.38	16.24	0.03	0.70	0.66
	Total		1.57	14.38	16.24	0.03	0.70	0.66
Offsite								
	Hauling		0.00	0.00	0.00	0.00	0.00	0.00
	Vendor		0.03	1.24	0.51	0.01	0.21	0.07
	Worker		0.27	0.17	2.48	0.01	0.90	0.24
	Total		0.30	1.42	2.98	0.01	1.11	0.31
TOTAL			1.87	15.80	19.23	0.04	1.81	0.97

Building Construction

		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		2024 Winter					
	Off-Road	1.47	13.44	16.17	0.03	0.61	0.58
	Total	1.47	13.44	16.17	0.03	0.61	0.58
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.03	1.24	0.51	0.01	0.21	0.07
	Worker	0.25	0.15	2.31	0.01	0.90	0.24
	Total	0.29	1.40	2.81	0.01	1.11	0.31
TOTAL		1.76	14.84	18.98	0.04	1.72	0.89
Onsite		2024					
	Off-Road	1.47	13.44	16.17	0.03	0.61	0.58
	Total	1.47	13.44	16.17	0.03	0.61	0.58
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.03	1.24	0.51	0.01	0.21	0.07
	Worker	0.25	0.15	2.31	0.01	0.90	0.24
	Total	0.29	1.40	2.81	0.01	1.11	0.31
TOTAL		1.76	14.84	18.98	0.04	1.72	0.89

Paving							
		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		2024 Winter					
	Off-Road	0.88	8.27	12.22	0.02	0.40	0.37
	Paving	0.53				0.00	0.00
	Total	1.41	8.27	12.22	0.02	0.40	0.37
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.00	0.00	0.00	0.00	0.00	0.00
	Worker	0.06	0.04	0.53	0.00	0.21	0.06
	Total	0.06	0.04	0.53	0.00	0.21	0.06
TOTAL		1.47	8.31	12.75	0.02	0.61	0.42
Onsite		2024					
	Off-Road	0.88	8.27	12.22	0.02	0.40	0.37
	Paving	0.53	0.00	0.00	0.00	0.00	0.00
	Total	1.41	8.27	12.22	0.02	0.40	0.37
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.00	0.00	0.00	0.00	0.00	0.00
	Worker	0.06	0.04	0.53	0.00	0.21	0.06
	Total	0.06	0.04	0.53	0.00	0.21	0.06
TOTAL		1.47	8.31	12.75	0.02	0.61	0.42

Architectural Coating							
		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite		2024 Winter					
	Archit. Coating	10.16				0.00	0.00
	Off-Road	0.18	1.22	1.81	0.00	0.06	0.06
	Total	10.34	1.22	1.81	0.00	0.06	0.06
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.00	0.00	0.00	0.00	0.00	0.00
	Worker	0.05	0.03	0.45	0.00	0.18	0.05
	Total	0.05	0.03	0.45	0.00	0.18	0.05
TOTAL		10.39	1.25	2.26	0.00	0.24	0.11
Onsite		2024					
	Archit. Coating	10.16	0.00	0.00	0.00	0.00	0.00
	Off-Road	0.18	1.22	1.81	0.00	0.06	0.06
	Total	10.34	1.22	1.81	0.00	0.06	0.06
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.00	0.00	0.00	0.00	0.00	0.00
	Worker	0.05	0.03	0.45	0.00	0.18	0.05
	Total	0.05	0.03	0.45	0.00	0.18	0.05
TOTAL		10.39	1.25	2.26	0.00	0.24	0.11

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
<i>Building and Asphalt Demolition & Demo Debris Haul</i>	2	24	21	0	3	1
<i>Site Preparation</i>	3	28	19	0	10	6
<i>Grading</i>	2	18	15	0	4	2
<i>Building Construction 2023</i>	2	16	19	0	2	1
<i>Building Construction 2024</i>	2	15	19	0	2	1
<i>Building Construction 2024, Paving and Architectural Coating</i>	14	24	34	0	3	1
MAX DAILY	14	28	34	0	10	6
Regional Thresholds	75	100	550	150	150	55
Exceeds Thresholds?	No	No	No	No	No	No

Construction LST Worksheet (Phase 2):

Building and Asphalt Demolition			NOx	CO	PM10 Total	PM2.5 Total
Onsite		2023				
	Off-Road		21.48	19.64	1.00	0.93
	Total		21.48	19.64	1.00	0.93
TOTAL			21.48	19.64	1.00	0.93
Onsite		2023				
	Off-Road		21.48	19.64	1.00	0.93
	Total		21.48	19.64	1.00	0.93
TOTAL			21.48	19.64	1.00	0.93

Demolition Debris Haul			NOx	CO	PM10 Total	PM2.5 Total
Onsite		2023				
	Fugitive Dust				1.81	0.27
	Off-Road		0.00	0.00	0.00	0.00
	Total		0.00	0.00	1.81	0.27
Onsite		2023				
	Fugitive Dust		0.00	0.00	1.81	0.27
	Off-Road		0.00	0.00	0.00	0.00
	Total		0.00	0.00	1.81	0.27
TOTAL			0.00	0.00	1.81	0.27

Site Preparation			NOx	CO	PM10 Total	PM2.5 Total
Onsite		2023				
	Fugitive Dust				8.40	4.32
	Off-Road		27.52	18.24	1.27	1.16
	Total		27.52	18.24	9.67	5.48
Onsite		2023				
	Fugitive Dust		0.00	0.00	8.40	4.32
	Off-Road		27.52	18.24	1.27	1.16
	Total		27.52	18.24	9.67	5.48
TOTAL			27.52	18.24	9.67	5.48

Grading			NOx	CO	PM10 Total	PM2.5 Total
Onsite		2023				
	Fugitive Dust				3.03	1.46
	Off-Road		17.94	14.75	0.77	0.71
	Total		17.94	14.75	3.80	2.18
Onsite		2023				
	Fugitive Dust		0.00	0.00	3.03	1.46
	Off-Road		17.94	14.75	0.77	0.71
	Total		17.94	14.75	3.80	2.18

TOTAL			17.94	14.75	3.80	2.18
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Building Construction

			NOx	CO	PM10 Total	PM2.5 Total
Onsite		2023				
	Off-Road		14.38	16.24	0.70	0.66
	Total		14.38	16.24	0.70	0.66
Onsite		2023				
	Off-Road		14.38	16.24	0.70	0.66
	Total		14.38	16.24	0.70	0.66
TOTAL			14.38	16.24	0.70	0.66

Building Construction

			NOx	CO	PM10 Total	PM2.5 Total
Onsite		2024				
	Off-Road		13.44	16.17	0.61	0.58
	Total		13.44	16.17	0.61	0.58
Onsite		2024				
	Off-Road		13.44	16.17	0.61	0.58
	Total		13.44	16.17	0.61	0.58
TOTAL			13.44	16.17	0.61	0.58

Paving

			NOx	CO	PM10 Total	PM2.5 Total
Onsite		2024				
	Off-Road		8.27	12.22	0.40	0.37
	Paving				0.00	0.00
	Total		8.27	12.22	0.40	0.37
TOTAL			8.27	12.22	0.40	0.37
Onsite		2024				
	Off-Road		8.27	12.22	0.40	0.37
	Paving		0.00	0.00	0.00	0.00
	Total		8.27	12.22	0.40	0.37
TOTAL			8.27	12.22	0.40	0.37

Architectural Coating

			NOx	CO	PM10 Total	PM2.5 Total
Onsite		2024				
	Archit. Coating				0.00	0.00
	Off-Road		1.22	1.81	0.06	0.06
	Total		1.22	1.81	0.06	0.06
Onsite		2024				
	Archit. Coating		0.00	0.00	0.00	0.00
	Off-Road		1.22	1.81	0.06	0.06
	Total		1.22	1.81	0.06	0.06
TOTAL			1.22	1.81	0.06	0.06

		NOx	CO	PM10 Total	PM2.5 Total
Building and Asphalt Demolition & Demo Debris Haul		21	20	2.81	1.20

≤ 1 Acre LST	92	647	4.00	3.00
Exceeds LST?	no	no	no	no

Site Preparation	28	18	9.67	5.48
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3.50 Acre LST	164	1,336	10.49	7.00
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<i>Exceeds LST?</i>	<i>no</i>	<i>no</i>	<i>no</i>	<i>no</i>
Grading	18	15	3.80	2.18
2.50 Acre LST	142	1,087	8.16	5.67
<i>Exceeds LST?</i>	<i>no</i>	<i>no</i>	<i>no</i>	<i>no</i>
Building Construction 2023	14	16	0.70	0.66
1.31 Acre LST	104	745	4.93	3.62
<i>Exceeds LST?</i>	<i>no</i>	<i>no</i>	<i>no</i>	<i>no</i>
Building Construction 2024	13	16	0.61	0.58
1.31 Acre LST	104	745	4.93	3.62
<i>Exceeds LST?</i>	<i>no</i>	<i>no</i>	<i>no</i>	<i>no</i>
Building Construction 2024, Paving and Architectural Coating	23	30	1.07	1.01
2.00 Acre LST	131	962	7.00	5.00
<i>Exceeds LST?</i>	<i>no</i>	<i>no</i>	<i>no</i>	<i>no</i>

CalEEMod Construction Model

Phase 1

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Annual

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

**Isaac L. Sowers Middle School Redevelopment Project P1
Orange County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Junior High School	39.59	1000sqft	0.99	39,585.00	0
Other Asphalt Surfaces	19.72	1000sqft	0.45	19,715.00	0
Other Non-Asphalt Surfaces	96.61	1000sqft	2.22	96,605.00	0
Parking Lot	27.88	1000sqft	0.64	27,876.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	30
Climate Zone	8			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	509.98	CH4 Intensity (lb/MW hr)	0.033	N2O Intensity (lb/MW hr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Based on 2020 SCE Sustainability Report, see assumptions file

Land Use - Based on District info., see assumptions file

Construction Phase - Based on District info, see assumptions file

Off-road Equipment - No extra equipment required for hauling phase

Trips and VMT - Assume 2 vt/day/water truck, see assumptions file

Demolition -

Architectural Coating - See assumptions file

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Annual

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

Construction Off-road Equipment Mitigation - SCAQMD rule 403, SCAQMD rule 1186

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Parking	8,652.00	1,673.00
tblAreaCoating	Area_Parking	8652	10692
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	230.00	228.00
tblLandUse	LandUseSquareFeet	39,590.00	39,585.00
tblLandUse	LandUseSquareFeet	19,720.00	19,715.00
tblLandUse	LandUseSquareFeet	96,610.00	96,605.00
tblLandUse	LandUseSquareFeet	27,880.00	27,876.00
tblLandUse	LotAcreage	0.91	0.99
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	390.98	509.98
tblTripsAndVMT	HaulingTripNumber	52.00	53.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	30.00	36.00
tblTripsAndVMT	WorkerTripNumber	77.00	91.00
tblTripsAndVMT	WorkerTripNumber	15.00	18.00

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Annual

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

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0981	0.9027	0.8604	1.7900e-003	0.1197	0.0427	0.1624	0.0497	0.0399	0.0895	0.0000	159.2497	159.2497	0.0324	3.5600e-003	161.1213
2023	0.3620	1.4740	1.8257	3.8600e-003	0.1104	0.0665	0.1769	0.0298	0.0625	0.0923	0.0000	343.7814	343.7814	0.0577	9.7300e-003	348.1218
Maximum	0.3620	1.4740	1.8257	3.8600e-003	0.1197	0.0665	0.1769	0.0497	0.0625	0.0923	0.0000	343.7814	343.7814	0.0577	9.7300e-003	348.1218

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					
2022	0.0981	0.9027	0.8604	1.7900e-003	0.0693	0.0427	0.1120	0.0262	0.0399	0.0661	0.0000	159.2495	159.2495	0.0324	3.5600e-003	161.1211
2023	0.3620	1.4740	1.8257	3.8600e-003	0.1021	0.0665	0.1685	0.0277	0.0625	0.0902	0.0000	343.7811	343.7811	0.0577	9.7300e-003	348.1215
Maximum	0.3620	1.4740	1.8257	3.8600e-003	0.1021	0.0665	0.1685	0.0277	0.0625	0.0902	0.0000	343.7811	343.7811	0.0577	9.7300e-003	348.1215

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Annual

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

Percent Reduction	0.00	0.00	0.00	0.00	25.50	0.00	17.29	32.12	0.00	14.04	0.00	0.00	0.00	0.00	0.00	0.00
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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	9-1-2022	11-30-2022	0.7907	0.7907
2	12-1-2022	2-28-2023	0.5910	0.5910
3	3-1-2023	5-31-2023	0.5818	0.5818
4	6-1-2023	8-31-2023	0.8581	0.8581
		Highest	0.8581	0.8581

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Asphalt Demolition	Demolition	9/1/2022	9/28/2022	5	20	a
2	Asphalt Demolition Debris Haul	Demolition	9/1/2022	9/28/2022	5	20	b
3	Site Preparation	Site Preparation	9/29/2022	10/5/2022	5	5	c
4	Grading	Grading	10/6/2022	10/17/2022	5	8	d
5	Building Construction	Building Construction	10/18/2022	8/31/2023	5	228	e
6	Paving	Paving	8/8/2023	8/31/2023	5	18	f
7	Architectural Coating	Architectural Coating	8/8/2023	8/31/2023	5	18	g

Acres of Grading (Site Preparation Phase): 7.5

Acres of Grading (Grading Phase): 8

Acres of Paving: 3.31

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 59,378; Non-Residential Outdoor: 19,793; Striped Parking Area: 1,673

OffRoad Equipment

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Annual

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

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Asphalt Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Asphalt Demolition	Excavators	3	8.00	158	0.38
Asphalt Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Asphalt Demolition Debris Haul	Concrete/Industrial Saws	0	8.00	81	0.73
Asphalt Demolition Debris Haul	Excavators	0	8.00	158	0.38
Asphalt Demolition Debris Haul	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Annual

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

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
Asphalt Demolition	6	15.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Asphalt Demolition	0	0.00	0.00	53.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Debris Haul Site Preparation	7	18.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	91.00	36.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Replace Ground Cover
- Water Exposed Area
- Reduce Vehicle Speed on Unpaved Roads
- Clean Paved Roads

3.2 Asphalt Demolition - 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	0.0264	0.2572	0.2059	3.9000e-004		0.0124	0.0124		0.0116	0.0116	0.0000	33.9902	33.9902	9.5500e-003	0.0000	34.2289
Total	0.0264	0.2572	0.2059	3.9000e-004		0.0124	0.0124		0.0116	0.0116	0.0000	33.9902	33.9902	9.5500e-003	0.0000	34.2289

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Annual

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

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	3.0000e-005	9.4000e-004	3.2000e-004	0.0000	1.3000e-004	1.0000e-005	1.3000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.3763	0.3763	2.0000e-005	5.0000e-005	0.3929
Worker	4.5000e-004	3.4000e-004	4.6900e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.2931	1.2931	3.0000e-005	3.0000e-005	1.3036
Total	4.8000e-004	1.2800e-003	5.0100e-003	1.0000e-005	1.7800e-003	2.0000e-005	1.7900e-003	4.8000e-004	2.0000e-005	4.9000e-004	0.0000	1.6693	1.6693	5.0000e-005	8.0000e-005	1.6965

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	0.0264	0.2572	0.2059	3.9000e-004		0.0124	0.0124		0.0116	0.0116	0.0000	33.9902	33.9902	9.5500e-003	0.0000	34.2289
Total	0.0264	0.2572	0.2059	3.9000e-004		0.0124	0.0124		0.0116	0.0116	0.0000	33.9902	33.9902	9.5500e-003	0.0000	34.2289

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

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	3.0000e-005	9.4000e-004	3.2000e-004	0.0000	1.2000e-004	1.0000e-005	1.3000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.3763	0.3763	2.0000e-005	5.0000e-005	0.3929
Worker	4.5000e-004	3.4000e-004	4.6900e-003	1.0000e-005	1.5200e-003	1.0000e-005	1.5300e-003	4.1000e-004	1.0000e-005	4.1000e-004	0.0000	1.2931	1.2931	3.0000e-005	3.0000e-005	1.3036
Total	4.8000e-004	1.2800e-003	5.0100e-003	1.0000e-005	1.6400e-003	2.0000e-005	1.6600e-003	4.4000e-004	2.0000e-005	4.5000e-004	0.0000	1.6693	1.6693	5.0000e-005	8.0000e-005	1.6965

3.3 Asphalt Demolition Debris Haul - 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					5.6400e-003	0.0000	5.6400e-003	8.5000e-004	0.0000	8.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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	5.6400e-003	0.0000	5.6400e-003	8.5000e-004	0.0000	8.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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

Category	tons/yr										MT/yr					
	Hauling	1.1000e-004	4.3400e-003	1.1700e-003	2.0000e-005	4.5000e-004	3.0000e-005	4.9000e-004	1.2000e-004	3.0000e-005	1.5000e-004	0.0000	1.6255	1.6255	1.5000e-004	2.6000e-004
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	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	1.1000e-004	4.3400e-003	1.1700e-003	2.0000e-005	4.5000e-004	3.0000e-005	4.9000e-004	1.2000e-004	3.0000e-005	1.5000e-004	0.0000	1.6255	1.6255	1.5000e-004	2.6000e-004	1.7070

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					2.4100e-003	0.0000	2.4100e-003	3.6000e-004	0.0000	3.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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	2.4100e-003	0.0000	2.4100e-003	3.6000e-004	0.0000	3.6000e-004	0.0000	0.0000	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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.1000e-004	4.3400e-003	1.1700e-003	2.0000e-005	4.2000e-004	3.0000e-005	4.6000e-004	1.2000e-004	3.0000e-005	1.5000e-004	0.0000	1.6255	1.6255	1.5000e-004	2.6000e-004	1.7070
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	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	1.1000e-004	4.3400e-003	1.1700e-003	2.0000e-005	4.2000e-004	3.0000e-005	4.6000e-004	1.2000e-004	3.0000e-005	1.5000e-004	0.0000	1.6255	1.6255	1.5000e-004	2.6000e-004	1.7070

3.4 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					0.0491	0.0000	0.0491	0.0253	0.0000	0.0253	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.9300e-003	0.0827	0.0492	1.0000e-004		4.0300e-003	4.0300e-003		3.7100e-003	3.7100e-003	0.0000	8.3599	8.3599	2.7000e-003	0.0000	8.4274
Total	7.9300e-003	0.0827	0.0492	1.0000e-004	0.0491	4.0300e-003	0.0532	0.0253	3.7100e-003	0.0290	0.0000	8.3599	8.3599	2.7000e-003	0.0000	8.4274

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

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	2.4000e-004	8.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0941	0.0941	1.0000e-005	1.0000e-005	0.0982
Worker	1.4000e-004	1.0000e-004	1.4100e-003	0.0000	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3879	0.3879	1.0000e-005	1.0000e-005	0.3911
Total	1.5000e-004	3.4000e-004	1.4900e-003	0.0000	5.2000e-004	0.0000	5.3000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4820	0.4820	2.0000e-005	2.0000e-005	0.4893

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					0.0210	0.0000	0.0210	0.0108	0.0000	0.0108	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.9300e-003	0.0827	0.0492	1.0000e-004		4.0300e-003	4.0300e-003		3.7100e-003	3.7100e-003	0.0000	8.3598	8.3598	2.7000e-003	0.0000	8.4274
Total	7.9300e-003	0.0827	0.0492	1.0000e-004	0.0210	4.0300e-003	0.0250	0.0108	3.7100e-003	0.0145	0.0000	8.3598	8.3598	2.7000e-003	0.0000	8.4274

Mitigated Construction Off-Site

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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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	2.4000e-004	8.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0941	0.0941	1.0000e-005	1.0000e-005	0.0982
Worker	1.4000e-004	1.0000e-004	1.4100e-003	0.0000	4.6000e-004	0.0000	4.6000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.3879	0.3879	1.0000e-005	1.0000e-005	0.3911
Total	1.5000e-004	3.4000e-004	1.4900e-003	0.0000	4.9000e-004	0.0000	4.9000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4820	0.4820	2.0000e-005	2.0000e-005	0.4893

3.5 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					0.0283	0.0000	0.0283	0.0137	0.0000	0.0137	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.7900e-003	0.0834	0.0611	1.2000e-004		3.7600e-003	3.7600e-003		3.4600e-003	3.4600e-003	0.0000	10.4219	10.4219	3.3700e-003	0.0000	10.5062
Total	7.7900e-003	0.0834	0.0611	1.2000e-004	0.0283	3.7600e-003	0.0321	0.0137	3.4600e-003	0.0172	0.0000	10.4219	10.4219	3.3700e-003	0.0000	10.5062

Unmitigated Construction Off-Site

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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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	3.8000e-004	1.3000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.1505	0.1505	1.0000e-005	2.0000e-005	0.1572
Worker	1.8000e-004	1.4000e-004	1.8800e-003	1.0000e-005	6.6000e-004	0.0000	6.6000e-004	1.7000e-004	0.0000	1.8000e-004	0.0000	0.5172	0.5172	1.0000e-005	1.0000e-005	0.5214
Total	1.9000e-004	5.2000e-004	2.0100e-003	1.0000e-005	7.1000e-004	0.0000	7.1000e-004	1.8000e-004	0.0000	2.0000e-004	0.0000	0.6677	0.6677	2.0000e-005	3.0000e-005	0.6786

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					0.0121	0.0000	0.0121	5.8600e-003	0.0000	5.8600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.7900e-003	0.0834	0.0611	1.2000e-004		3.7600e-003	3.7600e-003		3.4600e-003	3.4600e-003	0.0000	10.4219	10.4219	3.3700e-003	0.0000	10.5062
Total	7.7900e-003	0.0834	0.0611	1.2000e-004	0.0121	3.7600e-003	0.0159	5.8600e-003	3.4600e-003	9.3200e-003	0.0000	10.4219	10.4219	3.3700e-003	0.0000	10.5062

Mitigated Construction Off-Site

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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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	3.8000e-004	1.3000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.1505	0.1505	1.0000e-005	2.0000e-005	0.1572
Worker	1.8000e-004	1.4000e-004	1.8800e-003	1.0000e-005	6.1000e-004	0.0000	6.1000e-004	1.6000e-004	0.0000	1.7000e-004	0.0000	0.5172	0.5172	1.0000e-005	1.0000e-005	0.5214
Total	1.9000e-004	5.2000e-004	2.0100e-003	1.0000e-005	6.6000e-004	0.0000	6.6000e-004	1.7000e-004	0.0000	1.9000e-004	0.0000	0.6677	0.6677	2.0000e-005	3.0000e-005	0.6786

3.6 Building Construction - 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	0.0461	0.4216	0.4418	7.3000e-004		0.0218	0.0218		0.0206	0.0206	0.0000	62.5658	62.5658	0.0150	0.0000	62.9405
Total	0.0461	0.4216	0.4418	7.3000e-004		0.0218	0.0218		0.0206	0.0206	0.0000	62.5658	62.5658	0.0150	0.0000	62.9405

Unmitigated Construction Off-Site

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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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6000e-003	0.0457	0.0157	1.8000e-004	6.1200e-003	4.2000e-004	6.5500e-003	1.7700e-003	4.1000e-004	2.1700e-003	0.0000	18.2869	18.2869	1.0500e-003	2.6200e-003	19.0946
Worker	7.4000e-003	5.5700e-003	0.0769	2.3000e-004	0.0270	1.5000e-004	0.0271	7.1600e-003	1.4000e-004	7.3000e-003	0.0000	21.1804	21.1804	5.3000e-004	5.3000e-004	21.3523
Total	9.0000e-003	0.0513	0.0926	4.1000e-004	0.0331	5.7000e-004	0.0337	8.9300e-003	5.5000e-004	9.4700e-003	0.0000	39.4673	39.4673	1.5800e-003	3.1500e-003	40.4469

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	0.0461	0.4216	0.4418	7.3000e-004		0.0218	0.0218		0.0206	0.0206	0.0000	62.5657	62.5657	0.0150	0.0000	62.9405
Total	0.0461	0.4216	0.4418	7.3000e-004		0.0218	0.0218		0.0206	0.0206	0.0000	62.5657	62.5657	0.0150	0.0000	62.9405

Mitigated Construction Off-Site

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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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6000e-003	0.0457	0.0157	1.8000e-004	5.7300e-003	4.2000e-004	6.1600e-003	1.6700e-003	4.1000e-004	2.0800e-003	0.0000	18.2869	18.2869	1.0500e-003	2.6200e-003	19.0946
Worker	7.4000e-003	5.5700e-003	0.0769	2.3000e-004	0.0249	1.5000e-004	0.0250	6.6500e-003	1.4000e-004	6.7800e-003	0.0000	21.1804	21.1804	5.3000e-004	5.3000e-004	21.3523
Total	9.0000e-003	0.0513	0.0926	4.1000e-004	0.0306	5.7000e-004	0.0312	8.3200e-003	5.5000e-004	8.8600e-003	0.0000	39.4673	39.4673	1.5800e-003	3.1500e-003	40.4469

3.6 Building Construction - 2023

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	0.1368	1.2515	1.4132	2.3400e-003		0.0609	0.0609		0.0573	0.0573	0.0000	201.6701	201.6701	0.0480	0.0000	202.8695
Total	0.1368	1.2515	1.4132	2.3400e-003		0.0609	0.0609		0.0573	0.0573	0.0000	201.6701	201.6701	0.0480	0.0000	202.8695

Unmitigated Construction Off-Site

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Annual

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
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	3.1100e-003	0.1150	0.0462	5.6000e-004	0.0197	5.6000e-004	0.0203	5.6900e-003	5.4000e-004	6.2300e-003	0.0000	56.1361	56.1361	3.3300e-003	8.0600e-003	58.6216
Worker	0.0224	0.0160	0.2303	7.2000e-004	0.0869	4.5000e-004	0.0874	0.0231	4.2000e-004	0.0235	0.0000	66.0819	66.0819	1.5400e-003	1.6000e-003	66.5960
Total	0.0255	0.1310	0.2765	1.2800e-003	0.1066	1.0100e-003	0.1077	0.0288	9.6000e-004	0.0297	0.0000	122.2180	122.2180	4.8700e-003	9.6600e-003	125.2176

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	0.1368	1.2515	1.4132	2.3400e-003		0.0609	0.0609		0.0573	0.0573	0.0000	201.6699	201.6699	0.0480	0.0000	202.8692
Total	0.1368	1.2515	1.4132	2.3400e-003		0.0609	0.0609		0.0573	0.0573	0.0000	201.6699	201.6699	0.0480	0.0000	202.8692

Mitigated Construction Off-Site

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Annual

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
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	3.1100e-003	0.1150	0.0462	5.6000e-004	0.0185	5.6000e-004	0.0190	5.3800e-003	5.4000e-004	5.9200e-003	0.0000	56.1361	56.1361	3.3300e-003	8.0600e-003	58.6216
Worker	0.0224	0.0160	0.2303	7.2000e-004	0.0801	4.5000e-004	0.0806	0.0214	4.2000e-004	0.0218	0.0000	66.0819	66.0819	1.5400e-003	1.6000e-003	66.5960
Total	0.0255	0.1310	0.2765	1.2800e-003	0.0986	1.0100e-003	0.0996	0.0268	9.6000e-004	0.0278	0.0000	122.2180	122.2180	4.8700e-003	9.6600e-003	125.2176

3.7 Paving - 2023

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	8.2600e-003	0.0791	0.1097	1.7000e-004		3.9200e-003	3.9200e-003		3.6200e-003	3.6200e-003	0.0000	14.7407	14.7407	4.6300e-003	0.0000	14.8565
Paving	1.4300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	9.6900e-003	0.0791	0.1097	1.7000e-004		3.9200e-003	3.9200e-003		3.6200e-003	3.6200e-003	0.0000	14.7407	14.7407	4.6300e-003	0.0000	14.8565

Unmitigated Construction Off-Site

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Annual

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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.1000e-004	3.6000e-004	5.2400e-003	2.0000e-005	1.9800e-003	1.0000e-005	1.9900e-003	5.2000e-004	1.0000e-005	5.3000e-004	0.0000	1.5024	1.5024	3.0000e-005	4.0000e-005	1.5141
Total	5.1000e-004	3.6000e-004	5.2400e-003	2.0000e-005	1.9800e-003	1.0000e-005	1.9900e-003	5.2000e-004	1.0000e-005	5.3000e-004	0.0000	1.5024	1.5024	3.0000e-005	4.0000e-005	1.5141

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	8.2600e-003	0.0791	0.1097	1.7000e-004		3.9200e-003	3.9200e-003		3.6200e-003	3.6200e-003	0.0000	14.7407	14.7407	4.6300e-003	0.0000	14.8565
Paving	1.4300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	9.6900e-003	0.0791	0.1097	1.7000e-004		3.9200e-003	3.9200e-003		3.6200e-003	3.6200e-003	0.0000	14.7407	14.7407	4.6300e-003	0.0000	14.8565

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Annual

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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.1000e-004	3.6000e-004	5.2400e-003	2.0000e-005	1.8200e-003	1.0000e-005	1.8300e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.5024	1.5024	3.0000e-005	4.0000e-005	1.5141
Total	5.1000e-004	3.6000e-004	5.2400e-003	2.0000e-005	1.8200e-003	1.0000e-005	1.8300e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.5024	1.5024	3.0000e-005	4.0000e-005	1.5141

3.8 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1874					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7200e-003	0.0117	0.0163	3.0000e-005		6.4000e-004	6.4000e-004		6.4000e-004	6.4000e-004	0.0000	2.2979	2.2979	1.4000e-004	0.0000	2.3014
Total	0.1891	0.0117	0.0163	3.0000e-005		6.4000e-004	6.4000e-004		6.4000e-004	6.4000e-004	0.0000	2.2979	2.2979	1.4000e-004	0.0000	2.3014

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Annual

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

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	4.6000e-004	3.3000e-004	4.7100e-003	1.0000e-005	1.7800e-003	1.0000e-005	1.7900e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.3522	1.3522	3.0000e-005	3.0000e-005	1.3627
Total	4.6000e-004	3.3000e-004	4.7100e-003	1.0000e-005	1.7800e-003	1.0000e-005	1.7900e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.3522	1.3522	3.0000e-005	3.0000e-005	1.3627

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1874					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7200e-003	0.0117	0.0163	3.0000e-005		6.4000e-004	6.4000e-004		6.4000e-004	6.4000e-004	0.0000	2.2979	2.2979	1.4000e-004	0.0000	2.3014
Total	0.1891	0.0117	0.0163	3.0000e-005		6.4000e-004	6.4000e-004		6.4000e-004	6.4000e-004	0.0000	2.2979	2.2979	1.4000e-004	0.0000	2.3014

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Annual

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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.6000e-004	3.3000e-004	4.7100e-003	1.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3522	1.3522	3.0000e-005	3.0000e-005	1.3627
Total	4.6000e-004	3.3000e-004	4.7100e-003	1.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3522	1.3522	3.0000e-005	3.0000e-005	1.3627

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Summer

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

**Isaac L. Sowers Middle School Redevelopment Project P1
Orange County, Summer**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Junior High School	39.59	1000sqft	0.99	39,585.00	0
Other Asphalt Surfaces	19.72	1000sqft	0.45	19,715.00	0
Other Non-Asphalt Surfaces	96.61	1000sqft	2.22	96,605.00	0
Parking Lot	27.88	1000sqft	0.64	27,876.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	30
Climate Zone	8			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	509.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Based on 2020 SCE Sustainability Report, see assumptions file

Land Use - Based on District info., see assumptions file

Construction Phase - Based on District info, see assumptions file

Off-road Equipment - No extra equipment required for hauling phase

Trips and VMT - Assume 2 vt/day/water truck, see assumptions file

Demolition -

Architectural Coating - See assumptions file

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Summer

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

Construction Off-road Equipment Mitigation - SCAQMD rule 403, SCAQMD rule 1186

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Parking	8,652.00	1,673.00
tblAreaCoating	Area_Parking	8652	10692
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	230.00	228.00
tblLandUse	LandUseSquareFeet	39,590.00	39,585.00
tblLandUse	LandUseSquareFeet	19,720.00	19,715.00
tblLandUse	LandUseSquareFeet	96,610.00	96,605.00
tblLandUse	LandUseSquareFeet	27,880.00	27,876.00
tblLandUse	LotAcreage	0.91	0.99
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	390.98	509.98
tblTripsAndVMT	HaulingTripNumber	52.00	53.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	30.00	36.00
tblTripsAndVMT	WorkerTripNumber	77.00	91.00
tblTripsAndVMT	WorkerTripNumber	15.00	18.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Summer

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

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	lb/day										lb/day					
2022	3.2276	33.2096	21.2348	0.0426	19.8710	1.6145	21.4855	10.1595	1.4854	11.6449	0.0000	4,196.9083	4,196.9083	1.1987	0.1271	4,251.6837
2023	24.0581	25.9722	34.7081	0.0675	1.6721	1.2200	2.8921	0.4487	1.1447	1.5934	0.0000	6,582.7427	6,582.7427	1.2613	0.1286	6,652.5854
Maximum	24.0581	33.2096	34.7081	0.0675	19.8710	1.6145	21.4855	10.1595	1.4854	11.6449	0.0000	6,582.7427	6,582.7427	1.2613	0.1286	6,652.5854

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	lb/day										lb/day					
2022	3.2276	33.2096	21.2348	0.0426	8.6008	1.6145	10.2153	4.3718	1.4854	5.8572	0.0000	4,196.9083	4,196.9083	1.1987	0.1271	4,251.6837
2023	24.0581	25.9722	34.7081	0.0675	1.5445	1.2200	2.7645	0.4173	1.1447	1.5620	0.0000	6,582.7427	6,582.7427	1.2613	0.1286	6,652.5854
Maximum	24.0581	33.2096	34.7081	0.0675	8.6008	1.6145	10.2153	4.3718	1.4854	5.8572	0.0000	6,582.7427	6,582.7427	1.2613	0.1286	6,652.5854

	ROG	NOx	CO	SO2	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	52.91	0.00	46.76	54.85	0.00	43.96	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Summer

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

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Asphalt Demolition	Demolition	9/1/2022	9/28/2022	5	20	a
2	Asphalt Demolition Debris Haul	Demolition	9/1/2022	9/28/2022	5	20	b
3	Site Preparation	Site Preparation	9/29/2022	10/5/2022	5	5	c
4	Grading	Grading	10/6/2022	10/17/2022	5	8	d
5	Building Construction	Building Construction	10/18/2022	8/31/2023	5	228	e
6	Paving	Paving	8/8/2023	8/31/2023	5	18	f
7	Architectural Coating	Architectural Coating	8/8/2023	8/31/2023	5	18	g

Acres of Grading (Site Preparation Phase): 7.5

Acres of Grading (Grading Phase): 8

Acres of Paving: 3.31

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 59,378; Non-Residential Outdoor: 19,793; Striped Parking Area: 1,673

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Asphalt Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Asphalt Demolition	Excavators	3	8.00	158	0.38
Asphalt Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Asphalt Demolition Debris Haul	Concrete/Industrial Saws	0	8.00	81	0.73
Asphalt Demolition Debris Haul	Excavators	0	8.00	158	0.38
Asphalt Demolition Debris Haul	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Summer

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

Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Asphalt Demolition	6	15.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Asphalt Demolition	0	0.00	0.00	53.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Debris Haul										
Site Preparation	7	18.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	91.00	36.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Summer

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

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Asphalt Demolition - 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	2.6392	25.7194	20.5941	0.0388		1.2427	1.2427		1.1553	1.1553		3,746.7812	3,746.7812	1.0524		3,773.0920
Total	2.6392	25.7194	20.5941	0.0388		1.2427	1.2427		1.1553	1.1553		3,746.7812	3,746.7812	1.0524		3,773.0920

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	3.3300e-003	0.0897	0.0319	3.8000e-004	0.0128	8.7000e-004	0.0137	3.6800e-003	8.4000e-004	4.5200e-003		41.4715	41.4715	2.3800e-003	5.9400e-003	43.3020
Worker	0.0451	0.0303	0.4930	1.4600e-003	0.1677	9.0000e-004	0.1686	0.0445	8.3000e-004	0.0453		147.7067	147.7067	3.4700e-003	3.3200e-003	148.7828
Total	0.0485	0.1201	0.5248	1.8400e-003	0.1805	1.7700e-003	0.1822	0.0482	1.6700e-003	0.0498		189.1783	189.1783	5.8500e-003	9.2600e-003	192.0848

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

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	2.6392	25.7194	20.5941	0.0388		1.2427	1.2427		1.1553	1.1553	0.0000	3,746.7812	3,746.7812	1.0524		3,773.0920
Total	2.6392	25.7194	20.5941	0.0388		1.2427	1.2427		1.1553	1.1553	0.0000	3,746.7812	3,746.7812	1.0524		3,773.0920

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	3.3300e-003	0.0897	0.0319	3.8000e-004	0.0120	8.7000e-004	0.0128	3.4800e-003	8.4000e-004	4.3100e-003		41.4715	41.4715	2.3800e-003	5.9400e-003	43.3020
Worker	0.0451	0.0303	0.4930	1.4600e-003	0.1546	9.0000e-004	0.1555	0.0413	8.3000e-004	0.0421		147.7067	147.7067	3.4700e-003	3.3200e-003	148.7828
Total	0.0485	0.1201	0.5248	1.8400e-003	0.1665	1.7700e-003	0.1683	0.0447	1.6700e-003	0.0464		189.1783	189.1783	5.8500e-003	9.2600e-003	192.0848

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Summer

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

3.3 Asphalt Demolition Debris Haul - 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					0.5639	0.0000	0.5639	0.0854	0.0000	0.0854			0.0000			0.0000
Off-Road	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	0.5639	0.0000	0.5639	0.0854	0.0000	0.0854		0.0000	0.0000	0.0000		0.0000

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	0.0107	0.4126	0.1159	1.5800e-003	0.0462	3.1200e-003	0.0493	0.0127	2.9900e-003	0.0156		179.1656	179.1656	0.0171	0.0287	188.1438
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	0.0000	0.0000	0.0000	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	0.0107	0.4126	0.1159	1.5800e-003	0.0462	3.1200e-003	0.0493	0.0127	2.9900e-003	0.0156		179.1656	179.1656	0.0171	0.0287	188.1438

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

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					0.2411	0.0000	0.2411	0.0365	0.0000	0.0365			0.0000			0.0000
Off-Road	0.0000	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	0.2411	0.0000	0.2411	0.0365	0.0000	0.0365	0.0000	0.0000	0.0000	0.0000		0.0000

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	0.0107	0.4126	0.1159	1.5800e-003	0.0431	3.1200e-003	0.0462	0.0119	2.9900e-003	0.0149		179.1656	179.1656	0.0171	0.0287	188.1438
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	0.0000	0.0000	0.0000	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	0.0107	0.4126	0.1159	1.5800e-003	0.0431	3.1200e-003	0.0462	0.0119	2.9900e-003	0.0149		179.1656	179.1656	0.0171	0.0287	188.1438

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Summer

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

3.4 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					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836		3,686.0619	3,686.0619	1.1922		3,715.8655
Total	3.1701	33.0835	19.6978	0.0380	19.6570	1.6126	21.2696	10.1025	1.4836	11.5860		3,686.0619	3,686.0619	1.1922		3,715.8655

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	3.3300e-003	0.0897	0.0319	3.8000e-004	0.0128	8.7000e-004	0.0137	3.6800e-003	8.4000e-004	4.5200e-003		41.4715	41.4715	2.3800e-003	5.9400e-003	43.3020
Worker	0.0541	0.0364	0.5915	1.7500e-003	0.2012	1.0800e-003	0.2023	0.0534	1.0000e-003	0.0544		177.2481	177.2481	4.1700e-003	3.9800e-003	178.5393
Total	0.0575	0.1261	0.6234	2.1300e-003	0.2140	1.9500e-003	0.2159	0.0570	1.8400e-003	0.0589		218.7196	218.7196	6.5500e-003	9.9200e-003	221.8413

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Summer

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

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					8.4034	0.0000	8.4034	4.3188	0.0000	4.3188			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836	0.0000	3,686.0619	3,686.0619	1.1922		3,715.8655
Total	3.1701	33.0835	19.6978	0.0380	8.4034	1.6126	10.0159	4.3188	1.4836	5.8024	0.0000	3,686.0619	3,686.0619	1.1922		3,715.8655

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	3.3300e-003	0.0897	0.0319	3.8000e-004	0.0120	8.7000e-004	0.0128	3.4800e-003	8.4000e-004	4.3100e-003		41.4715	41.4715	2.3800e-003	5.9400e-003	43.3020
Worker	0.0541	0.0364	0.5915	1.7500e-003	0.1855	1.0800e-003	0.1865	0.0495	1.0000e-003	0.0505		177.2481	177.2481	4.1700e-003	3.9800e-003	178.5393
Total	0.0575	0.1261	0.6234	2.1300e-003	0.1974	1.9500e-003	0.1994	0.0530	1.8400e-003	0.0548		218.7196	218.7196	6.5500e-003	9.9200e-003	221.8413

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Summer

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

3.5 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					7.0826	0.0000	7.0826	3.4247	0.0000	3.4247			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656		2,872.0464	2,872.0464	0.9289		2,895.2684
Total	1.9486	20.8551	15.2727	0.0297	7.0826	0.9409	8.0234	3.4247	0.8656	4.2903		2,872.0464	2,872.0464	0.9289		2,895.2684

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	3.3300e-003	0.0897	0.0319	3.8000e-004	0.0128	8.7000e-004	0.0137	3.6800e-003	8.4000e-004	4.5200e-003		41.4715	41.4715	2.3800e-003	5.9400e-003	43.3020
Worker	0.0451	0.0303	0.4930	1.4600e-003	0.1677	9.0000e-004	0.1686	0.0445	8.3000e-004	0.0453		147.7067	147.7067	3.4700e-003	3.3200e-003	148.7828
Total	0.0485	0.1201	0.5248	1.8400e-003	0.1805	1.7700e-003	0.1822	0.0482	1.6700e-003	0.0498		189.1783	189.1783	5.8500e-003	9.2600e-003	192.0848

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

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					3.0278	0.0000	3.0278	1.4641	0.0000	1.4641			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656	0.0000	2,872.0464	2,872.0464	0.9289		2,895.2684
Total	1.9486	20.8551	15.2727	0.0297	3.0278	0.9409	3.9687	1.4641	0.8656	2.3297	0.0000	2,872.0464	2,872.0464	0.9289		2,895.2684

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	3.3300e-003	0.0897	0.0319	3.8000e-004	0.0120	8.7000e-004	0.0128	3.4800e-003	8.4000e-004	4.3100e-003		41.4715	41.4715	2.3800e-003	5.9400e-003	43.3020
Worker	0.0451	0.0303	0.4930	1.4600e-003	0.1546	9.0000e-004	0.1555	0.0413	8.3000e-004	0.0421		147.7067	147.7067	3.4700e-003	3.3200e-003	148.7828
Total	0.0485	0.1201	0.5248	1.8400e-003	0.1665	1.7700e-003	0.1683	0.0447	1.6700e-003	0.0464		189.1783	189.1783	5.8500e-003	9.2600e-003	192.0848

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Summer

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

3.6 Building Construction - 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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322

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	0.0599	1.6153	0.5736	6.8200e-003	0.2302	0.0157	0.2459	0.0663	0.0150	0.0813		746.4873	746.4873	0.0428	0.1070	779.4361
Worker	0.2737	0.1839	2.9906	8.8700e-003	1.0172	5.4800e-003	1.0227	0.2698	5.0400e-003	0.2748		896.0875	896.0875	0.0211	0.0201	902.6154
Total	0.3336	1.7992	3.5641	0.0157	1.2474	0.0212	1.2686	0.3360	0.0201	0.3561		1,642.5748	1,642.5748	0.0639	0.1271	1,682.0515

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

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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120			2,569.6322
Total	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120			2,569.6322

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	0.0599	1.6153	0.5736	6.8200e-003	0.2154	0.0157	0.2311	0.0626	0.0150	0.0777		746.4873	746.4873	0.0428	0.1070	779.4361
Worker	0.2737	0.1839	2.9906	8.8700e-003	0.9376	5.4800e-003	0.9431	0.2502	5.0400e-003	0.2553		896.0875	896.0875	0.0211	0.0201	902.6154
Total	0.3336	1.7992	3.5641	0.0157	1.1530	0.0212	1.1742	0.3128	0.0201	0.3329		1,642.5748	1,642.5748	0.0639	0.1271	1,682.0515

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Summer

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

3.6 Building Construction - 2023

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	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061

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	0.0364	1.2617	0.5231	6.4700e-003	0.2302	6.4700e-003	0.2367	0.0663	6.1900e-003	0.0724		710.8178	710.8178	0.0423	0.1020	742.2684
Worker	0.2563	0.1639	2.7790	8.5800e-003	1.0172	5.1900e-003	1.0224	0.2698	4.7700e-003	0.2745		867.5591	867.5591	0.0191	0.0187	873.6210
Total	0.2926	1.4256	3.3021	0.0151	1.2474	0.0117	1.2590	0.3360	0.0110	0.3470		1,578.3769	1,578.3769	0.0613	0.1207	1,615.8893

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Summer

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

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	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061

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	0.0364	1.2617	0.5231	6.4700e-003	0.2154	6.4700e-003	0.2219	0.0626	6.1900e-003	0.0688		710.8178	710.8178	0.0423	0.1020	742.2684
Worker	0.2563	0.1639	2.7790	8.5800e-003	0.9376	5.1900e-003	0.9428	0.2502	4.7700e-003	0.2550		867.5591	867.5591	0.0191	0.0187	873.6210
Total	0.2926	1.4256	3.3021	0.0151	1.1530	0.0117	1.1647	0.3128	0.0110	0.3238		1,578.3769	1,578.3769	0.0613	0.1207	1,615.8893

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Summer

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

3.7 Paving - 2023

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	0.9181	8.7903	12.1905	0.0189		0.4357	0.4357		0.4025	0.4025		1,805.4304	1,805.4304	0.5673		1,819.6122
Paving	0.1587					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0767	8.7903	12.1905	0.0189		0.4357	0.4357		0.4025	0.4025		1,805.4304	1,805.4304	0.5673		1,819.6122

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	0.0563	0.0360	0.6108	1.8900e-003	0.2236	1.1400e-003	0.2247	0.0593	1.0500e-003	0.0603		190.6723	190.6723	4.1900e-003	4.1200e-003	192.0046
Total	0.0563	0.0360	0.6108	1.8900e-003	0.2236	1.1400e-003	0.2247	0.0593	1.0500e-003	0.0603		190.6723	190.6723	4.1900e-003	4.1200e-003	192.0046

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Summer

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

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	0.9181	8.7903	12.1905	0.0189		0.4357	0.4357		0.4025	0.4025	0.0000	1,805.4304	1,805.4304	0.5673		1,819.6122
Paving	0.1587					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0767	8.7903	12.1905	0.0189		0.4357	0.4357		0.4025	0.4025	0.0000	1,805.4304	1,805.4304	0.5673		1,819.6122

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	0.0563	0.0360	0.6108	1.8900e-003	0.2061	1.1400e-003	0.2072	0.0550	1.0500e-003	0.0560		190.6723	190.6723	4.1900e-003	4.1200e-003	192.0046
Total	0.0563	0.0360	0.6108	1.8900e-003	0.2061	1.1400e-003	0.2072	0.0550	1.0500e-003	0.0560		190.6723	190.6723	4.1900e-003	4.1200e-003	192.0046

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Summer

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

3.8 Architectural Coating - 2023

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					
Archit. Coating	20.8173					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	21.0090	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690

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	0.0507	0.0324	0.5497	1.7000e-003	0.2012	1.0300e-003	0.2022	0.0534	9.4000e-004	0.0543		171.6051	171.6051	3.7700e-003	3.7100e-003	172.8042
Total	0.0507	0.0324	0.5497	1.7000e-003	0.2012	1.0300e-003	0.2022	0.0534	9.4000e-004	0.0543		171.6051	171.6051	3.7700e-003	3.7100e-003	172.8042

Mitigated Construction On-Site

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, 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
Category	lb/day										lb/day					
Archit. Coating	20.8173					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	21.0090	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690

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	0.0507	0.0324	0.5497	1.7000e-003	0.1855	1.0300e-003	0.1865	0.0495	9.4000e-004	0.0504		171.6051	171.6051	3.7700e-003	3.7100e-003	172.8042
Total	0.0507	0.0324	0.5497	1.7000e-003	0.1855	1.0300e-003	0.1865	0.0495	9.4000e-004	0.0504		171.6051	171.6051	3.7700e-003	3.7100e-003	172.8042

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Winter

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

**Isaac L. Sowers Middle School Redevelopment Project P1
Orange County, Winter**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Junior High School	39.59	1000sqft	0.99	39,585.00	0
Other Asphalt Surfaces	19.72	1000sqft	0.45	19,715.00	0
Other Non-Asphalt Surfaces	96.61	1000sqft	2.22	96,605.00	0
Parking Lot	27.88	1000sqft	0.64	27,876.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	30
Climate Zone	8			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	509.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Based on 2020 SCE Sustainability Report, see assumptions file

Land Use - Based on District info., see assumptions file

Construction Phase - Based on District info, see assumptions file

Off-road Equipment - No extra equipment required for hauling phase

Trips and VMT - Assume 2 vt/day/water truck, see assumptions file

Demolition -

Architectural Coating - See assumptions file

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Winter

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

Construction Off-road Equipment Mitigation - SCAQMD rule 403, SCAQMD rule 1186

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Parking	8,652.00	1,673.00
tblAreaCoating	Area_Parking	8652	10692
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	230.00	228.00
tblLandUse	LandUseSquareFeet	39,590.00	39,585.00
tblLandUse	LandUseSquareFeet	19,720.00	19,715.00
tblLandUse	LandUseSquareFeet	96,610.00	96,605.00
tblLandUse	LandUseSquareFeet	27,880.00	27,876.00
tblLandUse	LotAcreage	0.91	0.99
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	390.98	509.98
tblTripsAndVMT	HaulingTripNumber	52.00	53.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	30.00	36.00
tblTripsAndVMT	WorkerTripNumber	77.00	91.00
tblTripsAndVMT	WorkerTripNumber	15.00	18.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Winter

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

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	lb/day										lb/day					
2022	3.2324	33.2167	21.2034	0.0422	19.8710	1.6145	21.4855	10.1595	1.4854	11.6449	0.0000	4,154.1809	4,154.1809	1.1988	0.1285	4,209.3843
2023	24.0906	26.0513	34.4552	0.0669	1.6721	1.2201	2.8922	0.4487	1.1448	1.5934	0.0000	6,524.9903	6,524.9903	1.2618	0.1305	6,595.4216
Maximum	24.0906	33.2167	34.4552	0.0669	19.8710	1.6145	21.4855	10.1595	1.4854	11.6449	0.0000	6,524.9903	6,524.9903	1.2618	0.1305	6,595.4216

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	lb/day										lb/day					
2022	3.2324	33.2167	21.2034	0.0422	8.6008	1.6145	10.2153	4.3718	1.4854	5.8572	0.0000	4,154.1809	4,154.1809	1.1988	0.1285	4,209.3843
2023	24.0906	26.0513	34.4552	0.0669	1.5445	1.2201	2.7646	0.4173	1.1448	1.5621	0.0000	6,524.9903	6,524.9903	1.2618	0.1305	6,595.4216
Maximum	24.0906	33.2167	34.4552	0.0669	8.6008	1.6145	10.2153	4.3718	1.4854	5.8572	0.0000	6,524.9903	6,524.9903	1.2618	0.1305	6,595.4216

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Winter

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

Percent Reduction	0.00	0.00	0.00	0.00	52.91	0.00	46.76	54.85	0.00	43.96	0.00	0.00	0.00	0.00	0.00	0.00
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3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Asphalt Demolition	Demolition	9/1/2022	9/28/2022	5	20	a
2	Asphalt Demolition Debris Haul	Demolition	9/1/2022	9/28/2022	5	20	b
3	Site Preparation	Site Preparation	9/29/2022	10/5/2022	5	5	c
4	Grading	Grading	10/6/2022	10/17/2022	5	8	d
5	Building Construction	Building Construction	10/18/2022	8/31/2023	5	228	e
6	Paving	Paving	8/8/2023	8/31/2023	5	18	f
7	Architectural Coating	Architectural Coating	8/8/2023	8/31/2023	5	18	g

Acres of Grading (Site Preparation Phase): 7.5

Acres of Grading (Grading Phase): 8

Acres of Paving: 3.31

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 59,378; Non-Residential Outdoor: 19,793; Striped Parking Area: 1,673

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Asphalt Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Asphalt Demolition	Excavators	3	8.00	158	0.38
Asphalt Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Asphalt Demolition Debris Haul	Concrete/Industrial Saws	0	8.00	81	0.73

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Winter

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

Asphalt Demolition Debris Haul	Excavators	0	8.00	158	0.38
Asphalt Demolition Debris Haul	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Asphalt Demolition	6	15.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Asphalt Demolition Debris Haul	0	0.00	0.00	53.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Winter

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

Building Construction	9	91.00	36.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

3.2 Asphalt Demolition - 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	2.6392	25.7194	20.5941	0.0388		1.2427	1.2427		1.1553	1.1553		3,746.7812	3,746.7812	1.0524		3,773.0920
Total	2.6392	25.7194	20.5941	0.0388		1.2427	1.2427		1.1553	1.1553		3,746.7812	3,746.7812	1.0524		3,773.0920

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Winter

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

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	3.2800e-003	0.0933	0.0330	3.8000e-004	0.0128	8.8000e-004	0.0137	3.6800e-003	8.4000e-004	4.5200e-003		41.4845	41.4845	2.3700e-003	5.9500e-003	43.3167
Worker	0.0491	0.0333	0.4587	1.3900e-003	0.1677	9.0000e-004	0.1686	0.0445	8.3000e-004	0.0453		140.6252	140.6252	3.5500e-003	3.5300e-003	141.7667
Total	0.0524	0.1266	0.4917	1.7700e-003	0.1805	1.7800e-003	0.1822	0.0482	1.6700e-003	0.0498		182.1097	182.1097	5.9200e-003	9.4800e-003	185.0834

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	2.6392	25.7194	20.5941	0.0388		1.2427	1.2427		1.1553	1.1553	0.0000	3,746.7812	3,746.7812	1.0524		3,773.0920
Total	2.6392	25.7194	20.5941	0.0388		1.2427	1.2427		1.1553	1.1553	0.0000	3,746.7812	3,746.7812	1.0524		3,773.0920

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	3.2800e-003	0.0933	0.0330	3.8000e-004	0.0120	8.8000e-004	0.0128	3.4800e-003	8.4000e-004	4.3200e-003		41.4845	41.4845	2.3700e-003	5.9500e-003	43.3167
Worker	0.0491	0.0333	0.4587	1.3900e-003	0.1546	9.0000e-004	0.1555	0.0413	8.3000e-004	0.0421		140.6252	140.6252	3.5500e-003	3.5300e-003	141.7667
Total	0.0524	0.1266	0.4917	1.7700e-003	0.1665	1.7800e-003	0.1683	0.0447	1.6700e-003	0.0464		182.1097	182.1097	5.9200e-003	9.4800e-003	185.0834

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Winter

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

3.3 Asphalt Demolition Debris Haul - 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					0.5639	0.0000	0.5639	0.0854	0.0000	0.0854			0.0000			0.0000
Off-Road	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	0.5639	0.0000	0.5639	0.0854	0.0000	0.0854		0.0000	0.0000	0.0000		0.0000

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	0.0105	0.4288	0.1176	1.5800e-003	0.0462	3.1300e-003	0.0494	0.0127	2.9900e-003	0.0157		179.2081	179.2081	0.0171	0.0287	188.1883
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	0.0000	0.0000	0.0000	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	0.0105	0.4288	0.1176	1.5800e-003	0.0462	3.1300e-003	0.0494	0.0127	2.9900e-003	0.0157		179.2081	179.2081	0.0171	0.0287	188.1883

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Winter

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

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					0.2411	0.0000	0.2411	0.0365	0.0000	0.0365			0.0000			0.0000
Off-Road	0.0000	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	0.2411	0.0000	0.2411	0.0365	0.0000	0.0365	0.0000	0.0000	0.0000	0.0000		0.0000

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	0.0105	0.4288	0.1176	1.5800e-003	0.0431	3.1300e-003	0.0462	0.0119	2.9900e-003	0.0149		179.2081	179.2081	0.0171	0.0287	188.1883
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	0.0000	0.0000	0.0000	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	0.0105	0.4288	0.1176	1.5800e-003	0.0431	3.1300e-003	0.0462	0.0119	2.9900e-003	0.0149		179.2081	179.2081	0.0171	0.0287	188.1883

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Winter

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

3.4 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					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836		3,686.0619	3,686.0619	1.1922		3,715.8655
Total	3.1701	33.0835	19.6978	0.0380	19.6570	1.6126	21.2696	10.1025	1.4836	11.5860		3,686.0619	3,686.0619	1.1922		3,715.8655

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	3.2800e-003	0.0933	0.0330	3.8000e-004	0.0128	8.8000e-004	0.0137	3.6800e-003	8.4000e-004	4.5200e-003		41.4845	41.4845	2.3700e-003	5.9500e-003	43.3167
Worker	0.0590	0.0400	0.5505	1.6700e-003	0.2012	1.0800e-003	0.2023	0.0534	1.0000e-003	0.0544		168.7502	168.7502	4.2600e-003	4.2400e-003	170.1200
Total	0.0623	0.1332	0.5835	2.0500e-003	0.2140	1.9600e-003	0.2159	0.0570	1.8400e-003	0.0589		210.2347	210.2347	6.6300e-003	0.0102	213.4367

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Winter

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

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					8.4034	0.0000	8.4034	4.3188	0.0000	4.3188			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836	0.0000	3,686.0619	3,686.0619	1.1922		3,715.8655
Total	3.1701	33.0835	19.6978	0.0380	8.4034	1.6126	10.0159	4.3188	1.4836	5.8024	0.0000	3,686.0619	3,686.0619	1.1922		3,715.8655

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	3.2800e-003	0.0933	0.0330	3.8000e-004	0.0120	8.8000e-004	0.0128	3.4800e-003	8.4000e-004	4.3200e-003		41.4845	41.4845	2.3700e-003	5.9500e-003	43.3167
Worker	0.0590	0.0400	0.5505	1.6700e-003	0.1855	1.0800e-003	0.1865	0.0495	1.0000e-003	0.0505		168.7502	168.7502	4.2600e-003	4.2400e-003	170.1200
Total	0.0623	0.1332	0.5835	2.0500e-003	0.1974	1.9600e-003	0.1994	0.0530	1.8400e-003	0.0548		210.2347	210.2347	6.6300e-003	0.0102	213.4367

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Winter

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

3.5 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					7.0826	0.0000	7.0826	3.4247	0.0000	3.4247			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656		2,872.0464	2,872.0464	0.9289		2,895.2684
Total	1.9486	20.8551	15.2727	0.0297	7.0826	0.9409	8.0234	3.4247	0.8656	4.2903		2,872.0464	2,872.0464	0.9289		2,895.2684

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	3.2800e-003	0.0933	0.0330	3.8000e-004	0.0128	8.8000e-004	0.0137	3.6800e-003	8.4000e-004	4.5200e-003		41.4845	41.4845	2.3700e-003	5.9500e-003	43.3167
Worker	0.0491	0.0333	0.4587	1.3900e-003	0.1677	9.0000e-004	0.1686	0.0445	8.3000e-004	0.0453		140.6252	140.6252	3.5500e-003	3.5300e-003	141.7667
Total	0.0524	0.1266	0.4917	1.7700e-003	0.1805	1.7800e-003	0.1822	0.0482	1.6700e-003	0.0498		182.1097	182.1097	5.9200e-003	9.4800e-003	185.0834

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Winter

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

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					3.0278	0.0000	3.0278	1.4641	0.0000	1.4641			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656	0.0000	2,872.0464	2,872.0464	0.9289		2,895.2684
Total	1.9486	20.8551	15.2727	0.0297	3.0278	0.9409	3.9687	1.4641	0.8656	2.3297	0.0000	2,872.0464	2,872.0464	0.9289		2,895.2684

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	3.2800e-003	0.0933	0.0330	3.8000e-004	0.0120	8.8000e-004	0.0128	3.4800e-003	8.4000e-004	4.3200e-003		41.4845	41.4845	2.3700e-003	5.9500e-003	43.3167
Worker	0.0491	0.0333	0.4587	1.3900e-003	0.1546	9.0000e-004	0.1555	0.0413	8.3000e-004	0.0421		140.6252	140.6252	3.5500e-003	3.5300e-003	141.7667
Total	0.0524	0.1266	0.4917	1.7700e-003	0.1665	1.7800e-003	0.1683	0.0447	1.6700e-003	0.0464		182.1097	182.1097	5.9200e-003	9.4800e-003	185.0834

3.6 Building Construction - 2022

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Winter

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

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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322

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	0.0590	1.6786	0.5941	6.8200e-003	0.2302	0.0158	0.2460	0.0663	0.0151	0.0813		746.7215	746.7215	0.0427	0.1071	779.7010
Worker	0.2981	0.2020	2.7829	8.4400e-003	1.0172	5.4800e-003	1.0227	0.2698	5.0400e-003	0.2748		853.1259	853.1259	0.0216	0.0214	860.0512
Total	0.3572	1.8806	3.3770	0.0153	1.2474	0.0213	1.2686	0.3360	0.0201	0.3561		1,599.8474	1,599.8474	0.0642	0.1285	1,639.7521

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Winter

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

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	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322

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	0.0590	1.6786	0.5941	6.8200e-003	0.2154	0.0158	0.2312	0.0626	0.0151	0.0777		746.7215	746.7215	0.0427	0.1071	779.7010
Worker	0.2981	0.2020	2.7829	8.4400e-003	0.9376	5.4800e-003	0.9431	0.2502	5.0400e-003	0.2553		853.1259	853.1259	0.0216	0.0214	860.0512
Total	0.3572	1.8806	3.3770	0.0153	1.1530	0.0213	1.1743	0.3128	0.0201	0.3330		1,599.8474	1,599.8474	0.0642	0.1285	1,639.7521

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Winter

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

3.6 Building Construction - 2023

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	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061

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	0.0351	1.3179	0.5398	6.4800e-003	0.2302	6.5100e-003	0.2367	0.0663	6.2300e-003	0.0725		711.8632	711.8632	0.0422	0.1022	743.3801
Worker	0.2801	0.1800	2.5888	8.1700e-003	1.0172	5.1900e-003	1.0224	0.2698	4.7700e-003	0.2745		826.0815	826.0815	0.0195	0.0199	832.5119
Total	0.3151	1.4979	3.1286	0.0147	1.2474	0.0117	1.2591	0.3360	0.0110	0.3470		1,537.9448	1,537.9448	0.0617	0.1222	1,575.8920

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Winter

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

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	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079			2,570.4061
Total	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079			2,570.4061

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	0.0351	1.3179	0.5398	6.4800e-003	0.2154	6.5100e-003	0.2219	0.0626	6.2300e-003	0.0689		711.8632	711.8632	0.0422	0.1022	743.3801
Worker	0.2801	0.1800	2.5888	8.1700e-003	0.9376	5.1900e-003	0.9428	0.2502	4.7700e-003	0.2550		826.0815	826.0815	0.0195	0.0199	832.5119
Total	0.3151	1.4979	3.1286	0.0147	1.1530	0.0117	1.1647	0.3128	0.0110	0.3238		1,537.9448	1,537.9448	0.0617	0.1222	1,575.8920

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Winter

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

3.7 Paving - 2023

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	0.9181	8.7903	12.1905	0.0189		0.4357	0.4357		0.4025	0.4025		1,805.4304	1,805.4304	0.5673		1,819.6122
Paving	0.1587					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.0767	8.7903	12.1905	0.0189		0.4357	0.4357		0.4025	0.4025		1,805.4304	1,805.4304	0.5673		1,819.6122

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	0.0616	0.0396	0.5690	1.8000e-003	0.2236	1.1400e-003	0.2247	0.0593	1.0500e-003	0.0603		181.5564	181.5564	4.2900e-003	4.3800e-003	182.9697
Total	0.0616	0.0396	0.5690	1.8000e-003	0.2236	1.1400e-003	0.2247	0.0593	1.0500e-003	0.0603		181.5564	181.5564	4.2900e-003	4.3800e-003	182.9697

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Winter

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

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	0.9181	8.7903	12.1905	0.0189		0.4357	0.4357		0.4025	0.4025	0.0000	1,805.4304	1,805.4304	0.5673			1,819.6122
Paving	0.1587					0.0000	0.0000		0.0000	0.0000			0.0000				0.0000
Total	1.0767	8.7903	12.1905	0.0189		0.4357	0.4357		0.4025	0.4025	0.0000	1,805.4304	1,805.4304	0.5673			1,819.6122

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	0.0616	0.0396	0.5690	1.8000e-003	0.2061	1.1400e-003	0.2072	0.0550	1.0500e-003	0.0560		181.5564	181.5564	4.2900e-003	4.3800e-003	182.9697
Total	0.0616	0.0396	0.5690	1.8000e-003	0.2061	1.1400e-003	0.2072	0.0550	1.0500e-003	0.0560		181.5564	181.5564	4.2900e-003	4.3800e-003	182.9697

Isaac L. Sowers Middle School Redevelopment Project P1 - Orange County, Winter

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

3.8 Architectural Coating - 2023

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					
Archit. Coating	20.8173					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	21.0090	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690

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	0.0554	0.0356	0.5121	1.6200e-003	0.2012	1.0300e-003	0.2022	0.0534	9.4000e-004	0.0543		163.4007	163.4007	3.8600e-003	3.9400e-003	164.6727
Total	0.0554	0.0356	0.5121	1.6200e-003	0.2012	1.0300e-003	0.2022	0.0534	9.4000e-004	0.0543		163.4007	163.4007	3.8600e-003	3.9400e-003	164.6727

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

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					
Archit. Coating	20.8173					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	21.0090	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690

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	0.0554	0.0356	0.5121	1.6200e-003	0.1855	1.0300e-003	0.1865	0.0495	9.4000e-004	0.0504		163.4007	163.4007	3.8600e-003	3.9400e-003	164.6727
Total	0.0554	0.0356	0.5121	1.6200e-003	0.1855	1.0300e-003	0.1865	0.0495	9.4000e-004	0.0504		163.4007	163.4007	3.8600e-003	3.9400e-003	164.6727

CalEEMod Construction Model

Phase 2

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, Annual

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

**Isaac L. Sowers Middle School Redevelopment Project P2
Orange County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Junior High School	17.33	1000sqft	0.40	17,334.00	0
Other Asphalt Surfaces	78.96	1000sqft	1.81	78,960.00	0
Other Non-Asphalt Surfaces	29.76	1000sqft	0.68	29,762.00	0
Parking Lot	79.98	1000sqft	1.84	79,983.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	30
Climate Zone	8			Operational Year	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	509.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Based on 2020 SCE Sustainability Report, see assumptions file

Land Use - Based on District info., see assumptions file

Construction Phase - Based on District info., see assumptions file

Off-road Equipment - No additional equipment required for debris haul

Demolition -

Trips and VMT - Assume 2 vt/day/water truck, see assumptions file

Architectural Coating - Based on District info., see assumptions file

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, Annual

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

Construction Off-road Equipment Mitigation - SCAQMD Rule 403 and 1186

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Parking	11,322.00	4,799.00
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	230.00	228.00
tblLandUse	LandUseSquareFeet	17,330.00	17,334.00
tblLandUse	LandUseSquareFeet	29,760.00	29,762.00
tblLandUse	LandUseSquareFeet	79,980.00	79,983.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	390.98	509.98
tblTripsAndVMT	HaulingTripNumber	392.00	397.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

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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
Year	tons/yr										MT/yr					
2023	0.0864	0.8009	0.8279	1.8300e-003	0.1573	0.0353	0.1925	0.0555	0.0329	0.0884	0.0000	163.8409	163.8409	0.0329	4.7700e-003	166.0834
2024	0.2586	1.3850	1.7997	3.7800e-003	0.1060	0.0588	0.1648	0.0286	0.0553	0.0839	0.0000	336.6212	336.6212	0.0573	9.0700e-003	340.7566
Maximum	0.2586	1.3850	1.7997	3.7800e-003	0.1573	0.0588	0.1925	0.0555	0.0553	0.0884	0.0000	336.6212	336.6212	0.0573	9.0700e-003	340.7566

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	0.0864	0.8009	0.8279	1.8300e-003	0.0859	0.0353	0.1211	0.0288	0.0329	0.0617	0.0000	163.8408	163.8408	0.0329	4.7700e-003	166.0833
2024	0.2586	1.3850	1.7997	3.7800e-003	0.0980	0.0588	0.1568	0.0266	0.0553	0.0819	0.0000	336.6210	336.6210	0.0573	9.0700e-003	340.7564
Maximum	0.2586	1.3850	1.7997	3.7800e-003	0.0980	0.0588	0.1568	0.0288	0.0553	0.0819	0.0000	336.6210	336.6210	0.0573	9.0700e-003	340.7564

	ROG	NOx	CO	SO2	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	30.17	0.00	22.23	34.06	0.00	16.62	0.00	0.00	0.00	0.00	0.00	0.00

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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	9-1-2023	11-30-2023	0.7015	0.7015
2	12-1-2023	2-29-2024	0.5513	0.5513
3	3-1-2024	5-31-2024	0.5434	0.5434
4	6-1-2024	8-31-2024	0.7200	0.7200
		Highest	0.7200	0.7200

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building and Asphalt Demolition	Demolition	9/1/2023	9/28/2023	5	20	a
2	Demolition Debris Haul	Demolition	9/1/2023	9/28/2023	5	20	b
3	Site Preparation	Site Preparation	9/29/2023	10/5/2023	5	5	c
4	Grading	Grading	10/6/2023	10/17/2023	5	8	d
5	Building Construction	Building Construction	10/18/2023	8/30/2024	5	228	e
6	Paving	Paving	8/7/2024	8/30/2024	5	18	f
7	Architectural Coating	Architectural Coating	8/7/2024	8/30/2024	5	18	g

Acres of Grading (Site Preparation Phase): 7.5

Acres of Grading (Grading Phase): 8

Acres of Paving: 4.33

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 26,001; Non-Residential Outdoor: 8,667; Striped Parking Area: 4,799

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building and Asphalt Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building and Asphalt Demolition	Excavators	3	8.00	158	0.38
Building and Asphalt Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Demolition Debris Haul	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition Debris Haul	Excavators	0	8.00	158	0.38
Demolition Debris Haul	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

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

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
Building and Asphalt Demolition	6	15.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Demolition Debris Haul	0	0.00	0.00	397.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	87.00	34.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	17.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Replace Ground Cover
- Water Exposed Area
- Reduce Vehicle Speed on Unpaved Roads
- Clean Paved Roads

3.2 Building and Asphalt Demolition - 2023

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	0.0227	0.2148	0.1964	3.9000e-004		9.9800e-003	9.9800e-003		9.2800e-003	9.2800e-003	0.0000	33.9921	33.9921	9.5200e-003	0.0000	34.2301
Total	0.0227	0.2148	0.1964	3.9000e-004		9.9800e-003	9.9800e-003		9.2800e-003	9.2800e-003	0.0000	33.9921	33.9921	9.5200e-003	0.0000	34.2301

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

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	2.0000e-005	7.3000e-004	2.9000e-004	0.0000	1.3000e-004	0.0000	1.3000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.3585	0.3585	2.0000e-005	5.0000e-005	0.3743
Worker	4.2000e-004	3.0000e-004	4.3600e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.2520	1.2520	3.0000e-005	3.0000e-005	1.2618
Total	4.4000e-004	1.0300e-003	4.6500e-003	1.0000e-005	1.7800e-003	1.0000e-005	1.7900e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.6105	1.6105	5.0000e-005	8.0000e-005	1.6361

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	0.0227	0.2148	0.1964	3.9000e-004		9.9800e-003	9.9800e-003		9.2800e-003	9.2800e-003	0.0000	33.9920	33.9920	9.5200e-003	0.0000	34.2300
Total	0.0227	0.2148	0.1964	3.9000e-004		9.9800e-003	9.9800e-003		9.2800e-003	9.2800e-003	0.0000	33.9920	33.9920	9.5200e-003	0.0000	34.2300

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

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	2.0000e-005	7.3000e-004	2.9000e-004	0.0000	1.2000e-004	0.0000	1.2000e-004	3.0000e-005	0.0000	4.0000e-005	0.0000	0.3585	0.3585	2.0000e-005	5.0000e-005	0.3743
Worker	4.2000e-004	3.0000e-004	4.3600e-003	1.0000e-005	1.5200e-003	1.0000e-005	1.5300e-003	4.1000e-004	1.0000e-005	4.1000e-004	0.0000	1.2520	1.2520	3.0000e-005	3.0000e-005	1.2618
Total	4.4000e-004	1.0300e-003	4.6500e-003	1.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.6105	1.6105	5.0000e-005	8.0000e-005	1.6361

3.3 Demolition Debris Haul - 2023

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					0.0424	0.0000	0.0424	6.4200e-003	0.0000	6.4200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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	0.0424	0.0000	0.0424	6.4200e-003	0.0000	6.4200e-003	0.0000	0.0000	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

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	4.0000e-004	0.0249	8.1400e-003	1.1000e-004	3.4100e-003	1.5000e-004	3.5600e-003	9.3000e-004	1.5000e-004	1.0800e-003	0.0000	11.5212	11.5212	1.1600e-003	1.8500e-003	12.1010
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	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	4.0000e-004	0.0249	8.1400e-003	1.1000e-004	3.4100e-003	1.5000e-004	3.5600e-003	9.3000e-004	1.5000e-004	1.0800e-003	0.0000	11.5212	11.5212	1.1600e-003	1.8500e-003	12.1010

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					0.0181	0.0000	0.0181	2.7400e-003	0.0000	2.7400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	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	0.0181	0.0000	0.0181	2.7400e-003	0.0000	2.7400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

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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
Category	tons/yr										MT/yr					
Hauling	4.0000e-004	0.0249	8.1400e-003	1.1000e-004	3.1800e-003	1.5000e-004	3.3300e-003	8.8000e-004	1.5000e-004	1.0200e-003	0.0000	11.5212	11.5212	1.1600e-003	1.8500e-003	12.1010
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	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	4.0000e-004	0.0249	8.1400e-003	1.1000e-004	3.1800e-003	1.5000e-004	3.3300e-003	8.8000e-004	1.5000e-004	1.0200e-003	0.0000	11.5212	11.5212	1.1600e-003	1.8500e-003	12.1010

3.4 Site Preparation - 2023

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					0.0491	0.0000	0.0491	0.0253	0.0000	0.0253	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.6500e-003	0.0688	0.0456	1.0000e-004		3.1700e-003	3.1700e-003		2.9100e-003	2.9100e-003	0.0000	8.3627	8.3627	2.7000e-003	0.0000	8.4303
Total	6.6500e-003	0.0688	0.0456	1.0000e-004	0.0491	3.1700e-003	0.0523	0.0253	2.9100e-003	0.0282	0.0000	8.3627	8.3627	2.7000e-003	0.0000	8.4303

Unmitigated Construction Off-Site

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, Annual

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
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	1.8000e-004	7.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0896	0.0896	1.0000e-005	1.0000e-005	0.0936
Worker	1.3000e-004	9.0000e-005	1.3100e-003	0.0000	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3756	0.3756	1.0000e-005	1.0000e-005	0.3785
Total	1.3000e-004	2.7000e-004	1.3800e-003	0.0000	5.2000e-004	0.0000	5.3000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4652	0.4652	2.0000e-005	2.0000e-005	0.4721

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					0.0210	0.0000	0.0210	0.0108	0.0000	0.0108	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.6500e-003	0.0688	0.0456	1.0000e-004		3.1700e-003	3.1700e-003		2.9100e-003	2.9100e-003	0.0000	8.3627	8.3627	2.7000e-003	0.0000	8.4303
Total	6.6500e-003	0.0688	0.0456	1.0000e-004	0.0210	3.1700e-003	0.0242	0.0108	2.9100e-003	0.0137	0.0000	8.3627	8.3627	2.7000e-003	0.0000	8.4303

Mitigated Construction Off-Site

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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
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	1.8000e-004	7.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0896	0.0896	1.0000e-005	1.0000e-005	0.0936
Worker	1.3000e-004	9.0000e-005	1.3100e-003	0.0000	4.6000e-004	0.0000	4.6000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.3756	0.3756	1.0000e-005	1.0000e-005	0.3785
Total	1.3000e-004	2.7000e-004	1.3800e-003	0.0000	4.9000e-004	0.0000	4.9000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4652	0.4652	2.0000e-005	2.0000e-005	0.4721

3.5 Grading - 2023

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					0.0283	0.0000	0.0283	0.0137	0.0000	0.0137	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.8400e-003	0.0717	0.0590	1.2000e-004		3.1000e-003	3.1000e-003		2.8500e-003	2.8500e-003	0.0000	10.4243	10.4243	3.3700e-003	0.0000	10.5085
Total	6.8400e-003	0.0717	0.0590	1.2000e-004	0.0283	3.1000e-003	0.0314	0.0137	2.8500e-003	0.0166	0.0000	10.4243	10.4243	3.3700e-003	0.0000	10.5085

Unmitigated Construction Off-Site

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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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	2.9000e-004	1.2000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.1434	0.1434	1.0000e-005	2.0000e-005	0.1497
Worker	1.7000e-004	1.2000e-004	1.7500e-003	1.0000e-005	6.6000e-004	0.0000	6.6000e-004	1.7000e-004	0.0000	1.8000e-004	0.0000	0.5008	0.5008	1.0000e-005	1.0000e-005	0.5047
Total	1.8000e-004	4.1000e-004	1.8700e-003	1.0000e-005	7.1000e-004	0.0000	7.1000e-004	1.8000e-004	0.0000	2.0000e-004	0.0000	0.6442	0.6442	2.0000e-005	3.0000e-005	0.6545

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					0.0121	0.0000	0.0121	5.8600e-003	0.0000	5.8600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.8400e-003	0.0717	0.0590	1.2000e-004		3.1000e-003	3.1000e-003		2.8500e-003	2.8500e-003	0.0000	10.4242	10.4242	3.3700e-003	0.0000	10.5085
Total	6.8400e-003	0.0717	0.0590	1.2000e-004	0.0121	3.1000e-003	0.0152	5.8600e-003	2.8500e-003	8.7100e-003	0.0000	10.4242	10.4242	3.3700e-003	0.0000	10.5085

Mitigated Construction Off-Site

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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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	2.9000e-004	1.2000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.1434	0.1434	1.0000e-005	2.0000e-005	0.1497
Worker	1.7000e-004	1.2000e-004	1.7500e-003	1.0000e-005	6.1000e-004	0.0000	6.1000e-004	1.6000e-004	0.0000	1.7000e-004	0.0000	0.5008	0.5008	1.0000e-005	1.0000e-005	0.5047
Total	1.8000e-004	4.1000e-004	1.8700e-003	1.0000e-005	6.6000e-004	0.0000	6.6000e-004	1.7000e-004	0.0000	1.9000e-004	0.0000	0.6442	0.6442	2.0000e-005	3.0000e-005	0.6545

3.6 Building Construction - 2023

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	0.0417	0.3812	0.4305	7.1000e-004		0.0185	0.0185		0.0175	0.0175	0.0000	61.4283	61.4283	0.0146	0.0000	61.7936
Total	0.0417	0.3812	0.4305	7.1000e-004		0.0185	0.0185		0.0175	0.0175	0.0000	61.4283	61.4283	0.0146	0.0000	61.7936

Unmitigated Construction Off-Site

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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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.9000e-004	0.0331	0.0133	1.6000e-004	5.6800e-003	1.6000e-004	5.8400e-003	1.6400e-003	1.6000e-004	1.7900e-003	0.0000	16.1490	16.1490	9.6000e-004	2.3200e-003	16.8640
Worker	6.5100e-003	4.6500e-003	0.0671	2.1000e-004	0.0253	1.3000e-004	0.0254	6.7200e-003	1.2000e-004	6.8400e-003	0.0000	19.2436	19.2436	4.5000e-004	4.6000e-004	19.3933
Total	7.4000e-003	0.0377	0.0804	3.7000e-004	0.0310	2.9000e-004	0.0313	8.3600e-003	2.8000e-004	8.6300e-003	0.0000	35.3926	35.3926	1.4100e-003	2.7800e-003	36.2573

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	0.0417	0.3812	0.4305	7.1000e-004		0.0185	0.0185		0.0175	0.0175	0.0000	61.4282	61.4282	0.0146	0.0000	61.7935
Total	0.0417	0.3812	0.4305	7.1000e-004		0.0185	0.0185		0.0175	0.0175	0.0000	61.4282	61.4282	0.0146	0.0000	61.7935

Mitigated Construction Off-Site

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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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.9000e-004	0.0331	0.0133	1.6000e-004	5.3100e-003	1.6000e-004	5.4800e-003	1.5500e-003	1.6000e-004	1.7000e-003	0.0000	16.1490	16.1490	9.6000e-004	2.3200e-003	16.8640
Worker	6.5100e-003	4.6500e-003	0.0671	2.1000e-004	0.0233	1.3000e-004	0.0235	6.2400e-003	1.2000e-004	6.3600e-003	0.0000	19.2436	19.2436	4.5000e-004	4.6000e-004	19.3933
Total	7.4000e-003	0.0377	0.0804	3.7000e-004	0.0286	2.9000e-004	0.0290	7.7900e-003	2.8000e-004	8.0600e-003	0.0000	35.3926	35.3926	1.4100e-003	2.7800e-003	36.2573

3.6 Building Construction - 2024

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	0.1288	1.1763	1.4146	2.3600e-003		0.0537	0.0537		0.0505	0.0505	0.0000	202.8680	202.8680	0.0480	0.0000	204.0673
Total	0.1288	1.1763	1.4146	2.3600e-003		0.0537	0.0537		0.0505	0.0505	0.0000	202.8680	202.8680	0.0480	0.0000	204.0673

Unmitigated Construction Off-Site

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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
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	2.9100e-003	0.1089	0.0435	5.3000e-004	0.0187	5.6000e-004	0.0193	5.4100e-003	5.4000e-004	5.9400e-003	0.0000	52.4958	52.4958	3.2000e-003	7.5700e-003	54.8315
Worker	0.0202	0.0138	0.2063	6.7000e-004	0.0836	4.1000e-004	0.0840	0.0222	3.8000e-004	0.0226	0.0000	61.5259	61.5259	1.3400e-003	1.4300e-003	61.9870
Total	0.0231	0.1227	0.2498	1.2000e-003	0.1023	9.7000e-004	0.1033	0.0276	9.2000e-004	0.0285	0.0000	114.0217	114.0217	4.5400e-003	9.0000e-003	116.8186

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	0.1288	1.1763	1.4146	2.3600e-003		0.0537	0.0537		0.0505	0.0505	0.0000	202.8677	202.8677	0.0480	0.0000	204.0670
Total	0.1288	1.1763	1.4146	2.3600e-003		0.0537	0.0537		0.0505	0.0505	0.0000	202.8677	202.8677	0.0480	0.0000	204.0670

Mitigated Construction Off-Site

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, Annual

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
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	2.9100e-003	0.1089	0.0435	5.3000e-004	0.0176	5.6000e-004	0.0181	5.1100e-003	5.4000e-004	5.6500e-003	0.0000	52.4958	52.4958	3.2000e-003	7.5700e-003	54.8315
Worker	0.0202	0.0138	0.2063	6.7000e-004	0.0771	4.1000e-004	0.0775	0.0206	3.8000e-004	0.0210	0.0000	61.5259	61.5259	1.3400e-003	1.4300e-003	61.9870
Total	0.0231	0.1227	0.2498	1.2000e-003	0.0946	9.7000e-004	0.0956	0.0257	9.2000e-004	0.0266	0.0000	114.0217	114.0217	4.5400e-003	9.0000e-003	116.8186

3.7 Paving - 2024

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	7.9300e-003	0.0745	0.1100	1.7000e-004		3.5900e-003	3.5900e-003		3.3200e-003	3.3200e-003	0.0000	14.7423	14.7423	4.6300e-003	0.0000	14.8581
Paving	4.7800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0127	0.0745	0.1100	1.7000e-004		3.5900e-003	3.5900e-003		3.3200e-003	3.3200e-003	0.0000	14.7423	14.7423	4.6300e-003	0.0000	14.8581

Unmitigated Construction Off-Site

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, Annual

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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.8000e-004	3.3000e-004	4.8800e-003	2.0000e-005	1.9800e-003	1.0000e-005	1.9900e-003	5.2000e-004	1.0000e-005	5.3000e-004	0.0000	1.4548	1.4548	3.0000e-005	3.0000e-005	1.4657
Total	4.8000e-004	3.3000e-004	4.8800e-003	2.0000e-005	1.9800e-003	1.0000e-005	1.9900e-003	5.2000e-004	1.0000e-005	5.3000e-004	0.0000	1.4548	1.4548	3.0000e-005	3.0000e-005	1.4657

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	7.9300e-003	0.0745	0.1100	1.7000e-004		3.5900e-003	3.5900e-003		3.3200e-003	3.3200e-003	0.0000	14.7423	14.7423	4.6300e-003	0.0000	14.8581
Paving	4.7800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0127	0.0745	0.1100	1.7000e-004		3.5900e-003	3.5900e-003		3.3200e-003	3.3200e-003	0.0000	14.7423	14.7423	4.6300e-003	0.0000	14.8581

Mitigated Construction Off-Site

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, Annual

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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.8000e-004	3.3000e-004	4.8800e-003	2.0000e-005	1.8200e-003	1.0000e-005	1.8300e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.4548	1.4548	3.0000e-005	3.0000e-005	1.4657
Total	4.8000e-004	3.3000e-004	4.8800e-003	2.0000e-005	1.8200e-003	1.0000e-005	1.8300e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.4548	1.4548	3.0000e-005	3.0000e-005	1.4657

3.8 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0915					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6300e-003	0.0110	0.0163	3.0000e-005		5.5000e-004	5.5000e-004		5.5000e-004	5.5000e-004	0.0000	2.2979	2.2979	1.3000e-004	0.0000	2.3012
Total	0.0931	0.0110	0.0163	3.0000e-005		5.5000e-004	5.5000e-004		5.5000e-004	5.5000e-004	0.0000	2.2979	2.2979	1.3000e-004	0.0000	2.3012

Unmitigated Construction Off-Site

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, Annual

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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.1000e-004	2.8000e-004	4.1500e-003	1.0000e-005	1.6800e-003	1.0000e-005	1.6900e-003	4.5000e-004	1.0000e-005	4.5000e-004	0.0000	1.2366	1.2366	3.0000e-005	3.0000e-005	1.2459
Total	4.1000e-004	2.8000e-004	4.1500e-003	1.0000e-005	1.6800e-003	1.0000e-005	1.6900e-003	4.5000e-004	1.0000e-005	4.5000e-004	0.0000	1.2366	1.2366	3.0000e-005	3.0000e-005	1.2459

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0915					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6300e-003	0.0110	0.0163	3.0000e-005		5.5000e-004	5.5000e-004		5.5000e-004	5.5000e-004	0.0000	2.2979	2.2979	1.3000e-004	0.0000	2.3012
Total	0.0931	0.0110	0.0163	3.0000e-005		5.5000e-004	5.5000e-004		5.5000e-004	5.5000e-004	0.0000	2.2979	2.2979	1.3000e-004	0.0000	2.3012

Mitigated Construction Off-Site

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, Annual

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
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.1000e-004	2.8000e-004	4.1500e-003	1.0000e-005	1.5500e-003	1.0000e-005	1.5600e-003	4.1000e-004	1.0000e-005	4.2000e-004	0.0000	1.2366	1.2366	3.0000e-005	3.0000e-005	1.2459
Total	4.1000e-004	2.8000e-004	4.1500e-003	1.0000e-005	1.5500e-003	1.0000e-005	1.5600e-003	4.1000e-004	1.0000e-005	4.2000e-004	0.0000	1.2366	1.2366	3.0000e-005	3.0000e-005	1.2459

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, Summer

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

**Isaac L. Sowers Middle School Redevelopment Project P2
Orange County, Summer**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Junior High School	17.33	1000sqft	0.40	17,334.00	0
Other Asphalt Surfaces	78.96	1000sqft	1.81	78,960.00	0
Other Non-Asphalt Surfaces	29.76	1000sqft	0.68	29,762.00	0
Parking Lot	79.98	1000sqft	1.84	79,983.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	30
Climate Zone	8			Operational Year	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	509.98	CH4 Intensity (lb/MW hr)	0.033	N2O Intensity (lb/MW hr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Based on 2020 SCE Sustainability Report, see assumptions file

Land Use - Based on District info., see assumptions file

Construction Phase - Based on District info., see assumptions file

Off-road Equipment - No additional equipment required for debris haul

Demolition -

Trips and VMT - Assume 2 vt/day/water truck, see assumptions file

Architectural Coating - Based on District info., see assumptions file

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, Summer

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

Construction Off-road Equipment Mitigation - SCAQMD Rule 403 and 1186

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Parking	11,322.00	4,799.00
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	230.00	228.00
tblLandUse	LandUseSquareFeet	17,330.00	17,334.00
tblLandUse	LandUseSquareFeet	29,760.00	29,762.00
tblLandUse	LandUseSquareFeet	79,980.00	79,983.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	390.98	509.98
tblTripsAndVMT	HaulingTripNumber	392.00	397.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00

2.0 Emissions Summary

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, Summer

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

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2023	2.7122	27.6267	20.9414	0.0517	19.8710	1.2674	21.1384	10.1595	1.1660	11.3255	0.0000	5,198.9860	5,198.9860	1.1987	0.2124	5,291.8553
2024	13.5897	24.3243	34.2119	0.0662	1.6034	1.0860	2.6894	0.4302	1.0186	1.4487	0.0000	6,448.3064	6,448.3064	1.2514	0.1191	6,515.0896
Maximum	13.5897	27.6267	34.2119	0.0662	19.8710	1.2674	21.1384	10.1595	1.1660	11.3255	0.0000	6,448.3064	6,448.3064	1.2514	0.2124	6,515.0896

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	lb/day										lb/day					
2023	2.7122	27.6267	20.9414	0.0517	8.6008	1.2674	9.8682	4.3718	1.1660	5.5378	0.0000	5,198.9860	5,198.9860	1.1987	0.2124	5,291.8553
2024	13.5897	24.3243	34.2119	0.0662	1.4810	1.0860	2.5670	0.4001	1.0186	1.4187	0.0000	6,448.3064	6,448.3064	1.2514	0.1191	6,515.0896
Maximum	13.5897	27.6267	34.2119	0.0662	8.6008	1.2674	9.8682	4.3718	1.1660	5.5378	0.0000	6,448.3064	6,448.3064	1.2514	0.2124	6,515.0896

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, 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	53.05	0.00	47.81	54.94	0.00	45.54	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	Building and Asphalt Demolition	Demolition	9/1/2023	9/28/2023	5	20	a
2	Demolition Debris Haul	Demolition	9/1/2023	9/28/2023	5	20	b
3	Site Preparation	Site Preparation	9/29/2023	10/5/2023	5	5	c
4	Grading	Grading	10/6/2023	10/17/2023	5	8	d
5	Building Construction	Building Construction	10/18/2023	8/30/2024	5	228	e
6	Paving	Paving	8/7/2024	8/30/2024	5	18	f
7	Architectural Coating	Architectural Coating	8/7/2024	8/30/2024	5	18	g

Acres of Grading (Site Preparation Phase): 7.5

Acres of Grading (Grading Phase): 8

Acres of Paving: 4.33

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 26,001; Non-Residential Outdoor: 8,667; Striped Parking Area: 4,799

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, Summer

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

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building and Asphalt Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building and Asphalt Demolition	Excavators	3	8.00	158	0.38
Building and Asphalt Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Demolition Debris Haul	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition Debris Haul	Excavators	0	8.00	158	0.38
Demolition Debris Haul	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, Summer

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

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
Building and Asphalt Demolition	6	15.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Demolition Debris Haul	0	0.00	0.00	397.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	87.00	34.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	17.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Replace Ground Cover
- Water Exposed Area
- Reduce Vehicle Speed on Unpaved Roads
- Clean Paved Roads

3.2 Building and Asphalt Demolition - 2023

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	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280		3,746.9840	3,746.9840	1.0494		3,773.2183
Total	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280		3,746.9840	3,746.9840	1.0494		3,773.2183

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, Summer

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

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	2.0200e-003	0.0701	0.0291	3.6000e-004	0.0128	3.6000e-004	0.0132	3.6800e-003	3.4000e-004	4.0200e-003		39.4899	39.4899	2.3500e-003	5.6700e-003	41.2371
Worker	0.0422	0.0270	0.4581	1.4100e-003	0.1677	8.5000e-004	0.1685	0.0445	7.9000e-004	0.0453		143.0043	143.0043	3.1400e-003	3.0900e-003	144.0035
Total	0.0443	0.0971	0.4871	1.7700e-003	0.1805	1.2100e-003	0.1817	0.0482	1.1300e-003	0.0493		182.4941	182.4941	5.4900e-003	8.7600e-003	185.2406

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	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280	0.0000	3,746.9840	3,746.9840	1.0494		3,773.2183
Total	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280	0.0000	3,746.9840	3,746.9840	1.0494		3,773.2183

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, Summer

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

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	2.0200e-003	0.0701	0.0291	3.6000e-004	0.0120	3.6000e-004	0.0123	3.4800e-003	3.4000e-004	3.8200e-003		39.4899	39.4899	2.3500e-003	5.6700e-003	41.2371
Worker	0.0422	0.0270	0.4581	1.4100e-003	0.1546	8.5000e-004	0.1554	0.0413	7.9000e-004	0.0420		143.0043	143.0043	3.1400e-003	3.0900e-003	144.0035
Total	0.0443	0.0971	0.4871	1.7700e-003	0.1665	1.2100e-003	0.1677	0.0447	1.1300e-003	0.0459		182.4941	182.4941	5.4900e-003	8.7600e-003	185.2406

3.3 Demolition Debris Haul - 2023

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					4.2402	0.0000	4.2402	0.6420	0.0000	0.6420			0.0000			0.0000
Off-Road	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	4.2402	0.0000	4.2402	0.6420	0.0000	0.6420		0.0000	0.0000	0.0000		0.0000

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, Summer

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

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	0.0414	2.3656	0.8109	0.0111	0.3462	0.0152	0.3614	0.0948	0.0146	0.1094		1,269.5079	1,269.5079	0.1281	0.2037	1,333.3964
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	0.0000	0.0000	0.0000	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	0.0414	2.3656	0.8109	0.0111	0.3462	0.0152	0.3614	0.0948	0.0146	0.1094		1,269.5079	1,269.5079	0.1281	0.2037	1,333.3964

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					1.8127	0.0000	1.8127	0.2745	0.0000	0.2745			0.0000			0.0000
Off-Road	0.0000	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	1.8127	0.0000	1.8127	0.2745	0.0000	0.2745	0.0000	0.0000	0.0000	0.0000		0.0000

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, Summer

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

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	0.0414	2.3656	0.8109	0.0111	0.3226	0.0152	0.3378	0.0890	0.0146	0.1036		1,269.5079	1,269.5079	0.1281	0.2037	1,333.3964
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	0.0000	0.0000	0.0000	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	0.0414	2.3656	0.8109	0.0111	0.3226	0.0152	0.3378	0.0890	0.0146	0.1036		1,269.5079	1,269.5079	0.1281	0.2037	1,333.3964

3.4 Site Preparation - 2023

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					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.3081	3,687.3081	1.1926		3,717.1219
Total	2.6595	27.5242	18.2443	0.0381	19.6570	1.2660	20.9230	10.1025	1.1647	11.2672		3,687.3081	3,687.3081	1.1926		3,717.1219

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, Summer

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

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	2.0200e-003	0.0701	0.0291	3.6000e-004	0.0128	3.6000e-004	0.0132	3.6800e-003	3.4000e-004	4.0200e-003		39.4899	39.4899	2.3500e-003	5.6700e-003	41.2371
Worker	0.0507	0.0324	0.5497	1.7000e-003	0.2012	1.0300e-003	0.2022	0.0534	9.4000e-004	0.0543		171.6051	171.6051	3.7700e-003	3.7100e-003	172.8042
Total	0.0527	0.1025	0.5787	2.0600e-003	0.2140	1.3900e-003	0.2154	0.0570	1.2800e-003	0.0583		211.0950	211.0950	6.1200e-003	9.3800e-003	214.0413

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					8.4034	0.0000	8.4034	4.3188	0.0000	4.3188			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.3081	3,687.3081	1.1926		3,717.1219
Total	2.6595	27.5242	18.2443	0.0381	8.4034	1.2660	9.6694	4.3188	1.1647	5.4835	0.0000	3,687.3081	3,687.3081	1.1926		3,717.1219

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, Summer

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

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	2.0200e-003	0.0701	0.0291	3.6000e-004	0.0120	3.6000e-004	0.0123	3.4800e-003	3.4000e-004	3.8200e-003		39.4899	39.4899	2.3500e-003	5.6700e-003	41.2371
Worker	0.0507	0.0324	0.5497	1.7000e-003	0.1855	1.0300e-003	0.1865	0.0495	9.4000e-004	0.0504		171.6051	171.6051	3.7700e-003	3.7100e-003	172.8042
Total	0.0527	0.1025	0.5787	2.0600e-003	0.1974	1.3900e-003	0.1988	0.0530	1.2800e-003	0.0543		211.0950	211.0950	6.1200e-003	9.3800e-003	214.0413

3.5 Grading - 2023

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					7.0826	0.0000	7.0826	3.4247	0.0000	3.4247			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129		2,872.6910	2,872.6910	0.9291		2,895.9182
Total	1.7109	17.9359	14.7507	0.0297	7.0826	0.7749	7.8575	3.4247	0.7129	4.1377		2,872.6910	2,872.6910	0.9291		2,895.9182

Unmitigated Construction Off-Site

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, 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
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	2.0200e-003	0.0701	0.0291	3.6000e-004	0.0128	3.6000e-004	0.0132	3.6800e-003	3.4000e-004	4.0200e-003		39.4899	39.4899	2.3500e-003	5.6700e-003	41.2371
Worker	0.0422	0.0270	0.4581	1.4100e-003	0.1677	8.5000e-004	0.1685	0.0445	7.9000e-004	0.0453		143.0043	143.0043	3.1400e-003	3.0900e-003	144.0035
Total	0.0443	0.0971	0.4871	1.7700e-003	0.1805	1.2100e-003	0.1817	0.0482	1.1300e-003	0.0493		182.4941	182.4941	5.4900e-003	8.7600e-003	185.2406

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					3.0278	0.0000	3.0278	1.4641	0.0000	1.4641			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129	0.0000	2,872.6910	2,872.6910	0.9291		2,895.9182
Total	1.7109	17.9359	14.7507	0.0297	3.0278	0.7749	3.8027	1.4641	0.7129	2.1770	0.0000	2,872.6910	2,872.6910	0.9291		2,895.9182

Mitigated Construction Off-Site

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, 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
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	2.0200e-003	0.0701	0.0291	3.6000e-004	0.0120	3.6000e-004	0.0123	3.4800e-003	3.4000e-004	3.8200e-003		39.4899	39.4899	2.3500e-003	5.6700e-003	41.2371
Worker	0.0422	0.0270	0.4581	1.4100e-003	0.1546	8.5000e-004	0.1554	0.0413	7.9000e-004	0.0420		143.0043	143.0043	3.1400e-003	3.0900e-003	144.0035
Total	0.0443	0.0971	0.4871	1.7700e-003	0.1665	1.2100e-003	0.1677	0.0447	1.1300e-003	0.0459		182.4941	182.4941	5.4900e-003	8.7600e-003	185.2406

3.6 Building Construction - 2023

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	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061

Unmitigated Construction Off-Site

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, 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
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	0.0343	1.1916	0.4940	6.1100e-003	0.2174	6.1100e-003	0.2235	0.0626	5.8500e-003	0.0684		671.3279	671.3279	0.0399	0.0963	701.0312
Worker	0.2450	0.1567	2.6568	8.2100e-003	0.9725	4.9600e-003	0.9774	0.2579	4.5600e-003	0.2625		829.4247	829.4247	0.0182	0.0179	835.2201
Total	0.2793	1.3483	3.1508	0.0143	1.1899	0.0111	1.2009	0.3205	0.0104	0.3309		1,500.7526	1,500.7526	0.0582	0.1143	1,536.2513

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	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061

Mitigated Construction Off-Site

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, 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
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	0.0343	1.1916	0.4940	6.1100e-003	0.2035	6.1100e-003	0.2096	0.0591	5.8500e-003	0.0650		671.3279	671.3279	0.0399	0.0963	701.0312
Worker	0.2450	0.1567	2.6568	8.2100e-003	0.8964	4.9600e-003	0.9013	0.2392	4.5600e-003	0.2438		829.4247	829.4247	0.0182	0.0179	835.2201
Total	0.2793	1.3483	3.1508	0.0143	1.0998	0.0111	1.1109	0.2984	0.0104	0.3088		1,500.7526	1,500.7526	0.0582	0.1143	1,536.2513

3.6 Building Construction - 2024

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	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077

Unmitigated Construction Off-Site

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, 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
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	0.0338	1.1881	0.4904	6.0100e-003	0.2174	6.4000e-003	0.2238	0.0626	6.1200e-003	0.0687		660.9136	660.9136	0.0403	0.0952	690.3019
Worker	0.2302	0.1407	2.4722	7.9500e-003	0.9725	4.7100e-003	0.9772	0.2579	4.3300e-003	0.2622		803.0839	803.0839	0.0165	0.0168	808.4909
Total	0.2640	1.3288	2.9625	0.0140	1.1899	0.0111	1.2010	0.3205	0.0105	0.3309		1,463.9975	1,463.9975	0.0569	0.1120	1,498.7929

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	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077
Total	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044		2,570.8077

Mitigated Construction Off-Site

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, 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
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	0.0338	1.1881	0.4904	6.0100e-003	0.2034	6.4000e-003	0.2098	0.0591	6.1200e-003	0.0653		660.9136	660.9136	0.0403	0.0952	690.3019
Worker	0.2302	0.1407	2.4722	7.9500e-003	0.8964	4.7100e-003	0.9011	0.2392	4.3300e-003	0.2436		803.0839	803.0839	0.0165	0.0168	808.4909
Total	0.2640	1.3288	2.9625	0.0140	1.0998	0.0111	1.1109	0.2984	0.0105	0.3088		1,463.9975	1,463.9975	0.0569	0.1120	1,498.7929

3.7 Paving - 2024

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	0.8814	8.2730	12.2210	0.0189		0.3987	0.3987		0.3685	0.3685		1,805.6205	1,805.6205	0.5673		1,819.8039
Paving	0.5313					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.4127	8.2730	12.2210	0.0189		0.3987	0.3987		0.3685	0.3685		1,805.6205	1,805.6205	0.5673		1,819.8039

Unmitigated Construction Off-Site

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, 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
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	0.0529	0.0324	0.5683	1.8300e-003	0.2236	1.0800e-003	0.2246	0.0593	1.0000e-003	0.0603		184.6170	184.6170	3.8000e-003	3.8500e-003	185.8600
Total	0.0529	0.0324	0.5683	1.8300e-003	0.2236	1.0800e-003	0.2246	0.0593	1.0000e-003	0.0603		184.6170	184.6170	3.8000e-003	3.8500e-003	185.8600

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	0.8814	8.2730	12.2210	0.0189		0.3987	0.3987		0.3685	0.3685	0.0000	1,805.6205	1,805.6205	0.5673		1,819.8039
Paving	0.5313					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.4127	8.2730	12.2210	0.0189		0.3987	0.3987		0.3685	0.3685	0.0000	1,805.6205	1,805.6205	0.5673		1,819.8039

Mitigated Construction Off-Site

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, 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
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	0.0529	0.0324	0.5683	1.8300e-003	0.2061	1.0800e-003	0.2071	0.0550	1.0000e-003	0.0560		184.6170	184.6170	3.8000e-003	3.8500e-003	185.8600
Total	0.0529	0.0324	0.5683	1.8300e-003	0.2061	1.0800e-003	0.2071	0.0550	1.0000e-003	0.0560		184.6170	184.6170	3.8000e-003	3.8500e-003	185.8600

3.8 Architectural Coating - 2024

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					
Archit. Coating	10.1628					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	10.3435	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443

Unmitigated Construction Off-Site

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, 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
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	0.0450	0.0275	0.4831	1.5500e-003	0.1900	9.2000e-004	0.1909	0.0504	8.5000e-004	0.0512		156.9244	156.9244	3.2300e-003	3.2700e-003	157.9810
Total	0.0450	0.0275	0.4831	1.5500e-003	0.1900	9.2000e-004	0.1909	0.0504	8.5000e-004	0.0512		156.9244	156.9244	3.2300e-003	3.2700e-003	157.9810

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					
Archit. Coating	10.1628					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	10.3435	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443

Mitigated Construction Off-Site

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, 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
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	0.0450	0.0275	0.4831	1.5500e-003	0.1752	9.2000e-004	0.1761	0.0467	8.5000e-004	0.0476		156.9244	156.9244	3.2300e-003	3.2700e-003	157.9810
Total	0.0450	0.0275	0.4831	1.5500e-003	0.1752	9.2000e-004	0.1761	0.0467	8.5000e-004	0.0476		156.9244	156.9244	3.2300e-003	3.2700e-003	157.9810

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, Winter

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

**Isaac L. Sowers Middle School Redevelopment Project P2
Orange County, Winter**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Junior High School	17.33	1000sqft	0.40	17,334.00	0
Other Asphalt Surfaces	78.96	1000sqft	1.81	78,960.00	0
Other Non-Asphalt Surfaces	29.76	1000sqft	0.68	29,762.00	0
Parking Lot	79.98	1000sqft	1.84	79,983.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	30
Climate Zone	8			Operational Year	2024
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	509.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Based on 2020 SCE Sustainability Report, see assumptions file

Land Use - Based on District info., see assumptions file

Construction Phase - Based on District info., see assumptions file

Off-road Equipment - No additional equipment required for debris haul

Demolition -

Trips and VMT - Assume 2 vt/day/water truck, see assumptions file

Architectural Coating - Based on District info., see assumptions file

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, Winter

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

Construction Off-road Equipment Mitigation - SCAQMD Rule 403 and 1186

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Parking	11,322.00	4,799.00
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	230.00	228.00
tblLandUse	LandUseSquareFeet	17,330.00	17,334.00
tblLandUse	LandUseSquareFeet	29,760.00	29,762.00
tblLandUse	LandUseSquareFeet	79,980.00	79,983.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	390.98	509.98
tblTripsAndVMT	HaulingTripNumber	392.00	397.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2023	2.7168	27.6330	20.9199	0.0517	19.8710	1.2674	21.1384	10.1595	1.1660	11.3255	0.0000	5,193.3547	5,193.3547	1.1988	0.2128	5,286.3405
2024	13.6202	24.3970	33.9898	0.0657	1.6034	1.0860	2.6895	0.4302	1.0186	1.4488	0.0000	6,394.6673	6,394.6673	1.2519	0.1209	6,461.9797
Maximum	13.6202	27.6330	33.9898	0.0657	19.8710	1.2674	21.1384	10.1595	1.1660	11.3255	0.0000	6,394.6673	6,394.6673	1.2519	0.2128	6,461.9797

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, Winter

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

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	lb/day										lb/day					
2023	2.7168	27.6330	20.9199	0.0517	8.6008	1.2674	9.8682	4.3718	1.1660	5.5378	0.0000	5,193.3546	5,193.3546	1.1988	0.2128	5,286.3405
2024	13.6202	24.3970	33.9898	0.0657	1.4810	1.0860	2.5670	0.4001	1.0186	1.4187	0.0000	6,394.6673	6,394.6673	1.2519	0.1209	6,461.9797
Maximum	13.6202	27.6330	33.9898	0.0657	8.6008	1.2674	9.8682	4.3718	1.1660	5.5378	0.0000	6,394.6673	6,394.6673	1.2519	0.2128	6,461.9797

	ROG	NOx	CO	SO2	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	53.05	0.00	47.81	54.94	0.00	45.54	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	Building and Asphalt Demolition	Demolition	9/1/2023	9/28/2023	5	20	a
2	Demolition Debris Haul	Demolition	9/1/2023	9/28/2023	5	20	b
3	Site Preparation	Site Preparation	9/29/2023	10/5/2023	5	5	c
4	Grading	Grading	10/6/2023	10/17/2023	5	8	d
5	Building Construction	Building Construction	10/18/2023	8/30/2024	5	228	e
6	Paving	Paving	8/7/2024	8/30/2024	5	18	f
7	Architectural Coating	Architectural Coating	8/7/2024	8/30/2024	5	18	g

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, Winter

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): 7.5

Acres of Grading (Grading Phase): 8

Acres of Paving: 4.33

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 26,001; Non-Residential Outdoor: 8,667; Striped Parking Area: 4,799

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building and Asphalt Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building and Asphalt Demolition	Excavators	3	8.00	158	0.38
Building and Asphalt Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Demolition Debris Haul	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition Debris Haul	Excavators	0	8.00	158	0.38
Demolition Debris Haul	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, Winter

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

Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Building and Asphalt Demolition	6	15.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Demolition Debris Haul	0	0.00	0.00	397.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	2.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	87.00	34.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	17.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, Winter

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

3.2 Building and Asphalt Demolition - 2023

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	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280		3,746.9840	3,746.9840	1.0494		3,773.2183
Total	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280		3,746.9840	3,746.9840	1.0494		3,773.2183

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	1.9500e-003	0.0732	0.0300	3.6000e-004	0.0128	3.6000e-004	0.0132	3.6800e-003	3.5000e-004	4.0300e-003		39.5480	39.5480	2.3400e-003	5.6800e-003	41.2989
Worker	0.0462	0.0297	0.4267	1.3500e-003	0.1677	8.5000e-004	0.1685	0.0445	7.9000e-004	0.0453		136.1673	136.1673	3.2200e-003	3.2900e-003	137.2272
Total	0.0481	0.1029	0.4567	1.7100e-003	0.1805	1.2100e-003	0.1817	0.0482	1.1400e-003	0.0493		175.7152	175.7152	5.5600e-003	8.9700e-003	178.5261

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	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280	0.0000	3,746.9840	3,746.9840	1.0494		3,773.2183
Total	2.2691	21.4844	19.6434	0.0388		0.9975	0.9975		0.9280	0.9280	0.0000	3,746.9840	3,746.9840	1.0494		3,773.2183

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, Winter

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

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	1.9500e-003	0.0732	0.0300	3.6000e-004	0.0120	3.6000e-004	0.0123	3.4800e-003	3.5000e-004	3.8300e-003		39.5480	39.5480	2.3400e-003	5.6800e-003	41.2989
Worker	0.0462	0.0297	0.4267	1.3500e-003	0.1546	8.5000e-004	0.1554	0.0413	7.9000e-004	0.0420		136.1673	136.1673	3.2200e-003	3.2900e-003	137.2272
Total	0.0481	0.1029	0.4567	1.7100e-003	0.1665	1.2100e-003	0.1677	0.0447	1.1400e-003	0.0459		175.7152	175.7152	5.5600e-003	8.9700e-003	178.5261

3.3 Demolition Debris Haul - 2023

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					4.2402	0.0000	4.2402	0.6420	0.0000	0.6420			0.0000			0.0000
Off-Road	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	4.2402	0.0000	4.2402	0.6420	0.0000	0.6420		0.0000	0.0000	0.0000		0.0000

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, Winter

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

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	0.0389	2.4662	0.8198	0.0112	0.3462	0.0153	0.3615	0.0948	0.0146	0.1094		1,270.6554	1,270.6554	0.1279	0.2038	1,334.5961
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	0.0000	0.0000	0.0000	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	0.0389	2.4662	0.8198	0.0112	0.3462	0.0153	0.3615	0.0948	0.0146	0.1094		1,270.6554	1,270.6554	0.1279	0.2038	1,334.5961

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					1.8127	0.0000	1.8127	0.2745	0.0000	0.2745			0.0000			0.0000
Off-Road	0.0000	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	1.8127	0.0000	1.8127	0.2745	0.0000	0.2745	0.0000	0.0000	0.0000	0.0000		0.0000

Mitigated Construction Off-Site

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, 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
Category	lb/day										lb/day					
Hauling	0.0389	2.4662	0.8198	0.0112	0.3226	0.0153	0.3378	0.0890	0.0146	0.1036		1,270.6554	1,270.6554	0.1279	0.2038	1,334.5961
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	0.0000	0.0000	0.0000	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	0.0389	2.4662	0.8198	0.0112	0.3226	0.0153	0.3378	0.0890	0.0146	0.1036		1,270.6554	1,270.6554	0.1279	0.2038	1,334.5961

3.4 Site Preparation - 2023

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					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647		3,687.3081	3,687.3081	1.1926		3,717.1219
Total	2.6595	27.5242	18.2443	0.0381	19.6570	1.2660	20.9230	10.1025	1.1647	11.2672		3,687.3081	3,687.3081	1.1926		3,717.1219

Unmitigated Construction Off-Site

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, 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
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	1.9500e-003	0.0732	0.0300	3.6000e-004	0.0128	3.6000e-004	0.0132	3.6800e-003	3.5000e-004	4.0300e-003		39.5480	39.5480	2.3400e-003	5.6800e-003	41.2989
Worker	0.0554	0.0356	0.5121	1.6200e-003	0.2012	1.0300e-003	0.2022	0.0534	9.4000e-004	0.0543		163.4007	163.4007	3.8600e-003	3.9400e-003	164.6727
Total	0.0574	0.1088	0.5421	1.9800e-003	0.2140	1.3900e-003	0.2154	0.0570	1.2900e-003	0.0583		202.9487	202.9487	6.2000e-003	9.6200e-003	205.9716

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					8.4034	0.0000	8.4034	4.3188	0.0000	4.3188			0.0000			0.0000
Off-Road	2.6595	27.5242	18.2443	0.0381		1.2660	1.2660		1.1647	1.1647	0.0000	3,687.3081	3,687.3081	1.1926		3,717.1219
Total	2.6595	27.5242	18.2443	0.0381	8.4034	1.2660	9.6694	4.3188	1.1647	5.4835	0.0000	3,687.3081	3,687.3081	1.1926		3,717.1219

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, Winter

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

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	1.9500e-003	0.0732	0.0300	3.6000e-004	0.0120	3.6000e-004	0.0123	3.4800e-003	3.5000e-004	3.8300e-003		39.5480	39.5480	2.3400e-003	5.6800e-003	41.2989
Worker	0.0554	0.0356	0.5121	1.6200e-003	0.1855	1.0300e-003	0.1865	0.0495	9.4000e-004	0.0504		163.4007	163.4007	3.8600e-003	3.9400e-003	164.6727
Total	0.0574	0.1088	0.5421	1.9800e-003	0.1974	1.3900e-003	0.1988	0.0530	1.2900e-003	0.0543		202.9487	202.9487	6.2000e-003	9.6200e-003	205.9716

3.5 Grading - 2023

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					7.0826	0.0000	7.0826	3.4247	0.0000	3.4247			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129		2,872.6910	2,872.6910	0.9291		2,895.9182
Total	1.7109	17.9359	14.7507	0.0297	7.0826	0.7749	7.8575	3.4247	0.7129	4.1377		2,872.6910	2,872.6910	0.9291		2,895.9182

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, Winter

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

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	1.9500e-003	0.0732	0.0300	3.6000e-004	0.0128	3.6000e-004	0.0132	3.6800e-003	3.5000e-004	4.0300e-003		39.5480	39.5480	2.3400e-003	5.6800e-003	41.2989
Worker	0.0462	0.0297	0.4267	1.3500e-003	0.1677	8.5000e-004	0.1685	0.0445	7.9000e-004	0.0453		136.1673	136.1673	3.2200e-003	3.2900e-003	137.2272
Total	0.0481	0.1029	0.4567	1.7100e-003	0.1805	1.2100e-003	0.1817	0.0482	1.1400e-003	0.0493		175.7152	175.7152	5.5600e-003	8.9700e-003	178.5261

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					3.0278	0.0000	3.0278	1.4641	0.0000	1.4641			0.0000			0.0000
Off-Road	1.7109	17.9359	14.7507	0.0297		0.7749	0.7749		0.7129	0.7129	0.0000	2,872.6910	2,872.6910	0.9291		2,895.9182
Total	1.7109	17.9359	14.7507	0.0297	3.0278	0.7749	3.8027	1.4641	0.7129	2.1770	0.0000	2,872.6910	2,872.6910	0.9291		2,895.9182

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, Winter

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

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	1.9500e-003	0.0732	0.0300	3.6000e-004	0.0120	3.6000e-004	0.0123	3.4800e-003	3.5000e-004	3.8300e-003		39.5480	39.5480	2.3400e-003	5.6800e-003	41.2989
Worker	0.0462	0.0297	0.4267	1.3500e-003	0.1546	8.5000e-004	0.1554	0.0413	7.9000e-004	0.0420		136.1673	136.1673	3.2200e-003	3.2900e-003	137.2272
Total	0.0481	0.1029	0.4567	1.7100e-003	0.1665	1.2100e-003	0.1677	0.0447	1.1400e-003	0.0459		175.7152	175.7152	5.5600e-003	8.9700e-003	178.5261

3.6 Building Construction - 2023

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	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, Winter

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

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	0.0331	1.2447	0.5098	6.1200e-003	0.2174	6.1500e-003	0.2236	0.0626	5.8800e-003	0.0685		672.3153	672.3153	0.0398	0.0966	702.0812
Worker	0.2677	0.1721	2.4750	7.8100e-003	0.9725	4.9600e-003	0.9774	0.2579	4.5600e-003	0.2625		789.7703	789.7703	0.0187	0.0191	795.9180
Total	0.3009	1.4168	2.9848	0.0139	1.1899	0.0111	1.2010	0.3205	0.0104	0.3309		1,462.0855	1,462.0855	0.0585	0.1156	1,497.9992

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	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061

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	0.0331	1.2447	0.5098	6.1200e-003	0.2035	6.1500e-003	0.2096	0.0591	5.8800e-003	0.0650		672.3153	672.3153	0.0398	0.0966	702.0812
Worker	0.2677	0.1721	2.4750	7.8100e-003	0.8964	4.9600e-003	0.9013	0.2392	4.5600e-003	0.2438		789.7703	789.7703	0.0187	0.0191	795.9180
Total	0.3009	1.4168	2.9848	0.0139	1.0998	0.0111	1.1109	0.2984	0.0104	0.3088		1,462.0855	1,462.0855	0.0585	0.1156	1,497.9992

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, Winter

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

3.6 Building Construction - 2024

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	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077
Total	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769		2,555.6989	2,555.6989	0.6044		2,570.8077

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	0.0326	1.2412	0.5058	6.0200e-003	0.2174	6.4300e-003	0.2238	0.0626	6.1500e-003	0.0687		661.9097	661.9097	0.0402	0.0955	691.3592
Worker	0.2524	0.1545	2.3056	7.5700e-003	0.9725	4.7100e-003	0.9772	0.2579	4.3300e-003	0.2622		764.7512	764.7512	0.0170	0.0178	770.4865
Total	0.2851	1.3957	2.8114	0.0136	1.1899	0.0111	1.2010	0.3205	0.0105	0.3310		1,426.6609	1,426.6609	0.0572	0.1133	1,461.8458

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, Winter

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

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	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044			2,570.8077
Total	1.4716	13.4438	16.1668	0.0270		0.6133	0.6133		0.5769	0.5769	0.0000	2,555.6989	2,555.6989	0.6044			2,570.8077

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	0.0326	1.2412	0.5058	6.0200e-003	0.2034	6.4300e-003	0.2099	0.0591	6.1500e-003	0.0653		661.9097	661.9097	0.0402	0.0955	691.3592
Worker	0.2524	0.1545	2.3056	7.5700e-003	0.8964	4.7100e-003	0.9011	0.2392	4.3300e-003	0.2436		764.7512	764.7512	0.0170	0.0178	770.4865
Total	0.2851	1.3957	2.8114	0.0136	1.0998	0.0111	1.1110	0.2984	0.0105	0.3089		1,426.6609	1,426.6609	0.0572	0.1133	1,461.8458

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, Winter

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

3.7 Paving - 2024

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	0.8814	8.2730	12.2210	0.0189		0.3987	0.3987		0.3685	0.3685		1,805.6205	1,805.6205	0.5673		1,819.8039
Paving	0.5313					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.4127	8.2730	12.2210	0.0189		0.3987	0.3987		0.3685	0.3685		1,805.6205	1,805.6205	0.5673		1,819.8039

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	0.0580	0.0355	0.5300	1.7400e-003	0.2236	1.0800e-003	0.2246	0.0593	1.0000e-003	0.0603		175.8049	175.8049	3.9000e-003	4.1000e-003	177.1233
Total	0.0580	0.0355	0.5300	1.7400e-003	0.2236	1.0800e-003	0.2246	0.0593	1.0000e-003	0.0603		175.8049	175.8049	3.9000e-003	4.1000e-003	177.1233

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, Winter

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

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	0.8814	8.2730	12.2210	0.0189		0.3987	0.3987		0.3685	0.3685	0.0000	1,805.6205	1,805.6205	0.5673		1,819.8039
Paving	0.5313					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.4127	8.2730	12.2210	0.0189		0.3987	0.3987		0.3685	0.3685	0.0000	1,805.6205	1,805.6205	0.5673		1,819.8039

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	0.0580	0.0355	0.5300	1.7400e-003	0.2061	1.0800e-003	0.2071	0.0550	1.0000e-003	0.0560		175.8049	175.8049	3.9000e-003	4.1000e-003	177.1233
Total	0.0580	0.0355	0.5300	1.7400e-003	0.2061	1.0800e-003	0.2071	0.0550	1.0000e-003	0.0560		175.8049	175.8049	3.9000e-003	4.1000e-003	177.1233

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, Winter

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

3.8 Architectural Coating - 2024

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					
Archit. Coating	10.1628					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	10.3435	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443

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	0.0493	0.0302	0.4505	1.4800e-003	0.1900	9.2000e-004	0.1909	0.0504	8.5000e-004	0.0512		149.4341	149.4341	3.3100e-003	3.4800e-003	150.5548
Total	0.0493	0.0302	0.4505	1.4800e-003	0.1900	9.2000e-004	0.1909	0.0504	8.5000e-004	0.0512		149.4341	149.4341	3.3100e-003	3.4800e-003	150.5548

Isaac L. Sowers Middle School Redevelopment Project P2 - Orange County, Winter

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

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					
Archit. Coating	10.1628					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	10.3435	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443

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	0.0493	0.0302	0.4505	1.4800e-003	0.1752	9.2000e-004	0.1761	0.0467	8.5000e-004	0.0476		149.4341	149.4341	3.3100e-003	3.4800e-003	150.5548
Total	0.0493	0.0302	0.4505	1.4800e-003	0.1752	9.2000e-004	0.1761	0.0467	8.5000e-004	0.0476		149.4341	149.4341	3.3100e-003	3.4800e-003	150.5548

LST Worksheets

Phase 1

Construction Localized Significance Thresholds: Asphalt Demolition & Demo Debris Haul

SRA No.	Acres	NOx & CO		PM10 & PM2.5		Construction / Project Site Size (Acres)
		Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	
18	1.00	25	82	25	82	4.30

Source Receptor Distance (meters)	North Coastal Orange County	Equipment	Acres/8-hr Day	Daily hours	Equipment Used	Acres	
25							
NOx	92	Tractors	0.5	0.0625		0	
CO	647	Graders	0.5	0.0625		0	
PM10	4.00	Dozers	0.5	0.0625	8	1	
PM2.5	3.00	Scrapers	1	0.125	2	0	
					Acres	1.00	
	Acres	25	50		100	200	500
NOx	1	92	93		108	140	219
	1	92	93		108	140	219
		92	93		108	140	219
CO	1	647	738		1090	2096	6841
	1	647	738		1090	2096	6841
		647	738		1090	2096	6841
PM10	1	4	13		27	54	135
	1	4	13		27	54	135
		4	13		27	54	135
PM2.5	1	3	5		9	22	76
	1	3	5		9	22	76
		3	5		9	22	76
North Coastal Orange County							
1.00 Acres							
	25	50	100		200	500	
NOx	92	93	108		140	219	
CO	647	738	1090		2096	6841	
PM10	4	13	27		54	135	
PM2.5	3	5	9		22	76	

Acre Below		Acre Above	
SRA No.	Acres	SRA No.	Acres
18	1	18	1
Distance Increment Below			
25			
Distance Increment Above			
25			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: Site Preparation

SRA No.	Acres	NOx & CO		PM10 & PM2.5		Construction / Project Site Size (Acres)
		Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	
18	3.50	25	82	25	82	4.30

Source Receptor Distance (meters)	North Coastal Orange County	Equipment	Acres/8-hr Day	Daily hours	Equipment Used	Acres	
25							
NOx	164	Tractors	0.5	0.0625	8	4	2
CO	1,336	Graders	0.5	0.0625			0
PM10	10.49	Dozers	0.5	0.0625	8	3	1.5
PM2.5	7.00	Scrapers	1	0.125			0
						Acres	3.50

	Acres	25	50	100	200	500
NOx	3	153	149	160	184	249
	4	175	169	181	204	264
		164	159	171	194	257
CO	3	1212	1347	1822	3039	8086
	4	1461	1606	2139	3464	8679
		1337	1477	1981	3252	8383
PM10	3	9	29	42	70	152
	4	12	36	50	77	159
		11	33	46	74	156
PM2.5	3	6	8	14	29	89
	4	8	10	16	32	95
		7	9	15	31	92
North Coastal Orange County						
3.50 Acres						
	25	50	100	200	500	
NOx	164	159	171	194	257	
CO	1337	1477	1981	3252	8383	
PM10	11	33	46	74	156	
PM2.5	7	9	15	31	92	

Acre Below		Acre Above	
SRA No.	Acres	SRA No.	Acres
18	3	18	4
Distance Increment Below			
25			
Distance Increment Above			
25			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: Grading

SRA No.	Acres	NOx & CO		PM10 & PM2.5		Construction / Project Site Size (Acres)
		Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	
18	2.50	25	82	25	82	4.30

Source Receptor Distance (meters)	North Coastal Orange County	Equipment	Acres/8-hr Day	Daily hours	Equipment Used	Acres		
25								
NOx	142	Tractors	0.5	0.0625	8	3	1.5	
CO	1,087	Graders	0.5	0.0625	8	1	0.5	
PM10	8.16	Dozers	0.5	0.0625	8	1	0.5	
PM2.5	5.67	Scrapers	1	0.125			0	
						Acres	2.50	
	Acres	25	50			100	200	500
NOx	2	131	128			139	165	235
	3	153	149			160	184	249
		142	138			150	175	242
CO	2	962	1089			1506	2615	7493
	3	1212	1347			1822	3039	8086
		1087	1218			1664	2827	7790
PM10	2	7	21			35	62	144
	3	9	29			42	70	152
		8	25			39	66	148
PM2.5	2	5	7			12	26	83
	3	6	8			14	29	89
		6	8			13	28	86
North Coastal Orange County								
2.50 Acres								
	25	50	100			200	500	
NOx	142	138	150			175	242	
CO	1087	1218	1664			2827	7790	
PM10	8	25	39			66	148	
PM2.5	6	8	13			28	86	

Acre Below		Acre Above	
SRA No.	Acres	SRA No.	Acres
18	2	18	3
Distance Increment Below			
25			
Distance Increment Above			
25			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: Building Construction

SRA No.	Acres	NO _x & CO		PM ₁₀ & PM _{2.5}		Construction / Project Site Size (Acres)
		Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	
18	1.31	25	82	25	82	4.30

Source Receptor Distance (meters)	North Coastal Orange County	Equipment	Acres/8-hr Day	Daily hours	Equipment Used	Acres	
25							
NO _x	104	Tractors	0.5	0.0625	7	3	1.3125
CO	745	Graders	0.5	0.0625			0
PM ₁₀	4.93	Dozers	0.5	0.0625			0
PM _{2.5}	3.62	Scrapers	1	0.125			0
							Acres
							1.31

	Acres	25	50	100	200	500
NO _x	1	92	93	108	140	219
	2	131	128	139	165	235
		104	104	118	148	224
CO	1	647	738	1090	2096	6841
	2	962	1089	1506	2615	7493
		745	848	1220	2258	7045
PM ₁₀	1	4	13	27	54	135
	2	7	21	35	62	144
		5	16	30	57	138
PM _{2.5}	1	3	5	9	22	76
	2	5	7	12	26	83
		4	6	10	23	78
North Coastal Orange County						
1.31 Acres						
	25	50	100	200	500	
NO _x	104	104	118	148	224	
CO	745	848	1220	2258	7045	
PM ₁₀	5	16	30	57	138	
PM _{2.5}	4	6	10	23	78	

Acre Below		Acre Above	
SRA No.	Acres	SRA No.	Acres
18	1	18	2
Distance Increment Below			
25			
Distance Increment Above			
25			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: Building Construction, Paving and Architectural Coating

SRA No.	Acres	NOx & CO		PM10 & PM2.5		Construction / Project Site Size (Acres)
		Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	
18	2.00	25	82	25	82	4.30

Source Receptor Distance (meters)	North Coastal Orange County	Equipment	Acres/8-hr Day	Daily hours	Equipment Used	Acres	
25							
NOx	131	Tractors	0.5	0.0625	8	4	2
CO	962	Graders	0.5	0.0625			0
PM10	7.00	Dozers	0.5	0.0625			0
PM2.5	5.00	Scrapers	1	0.125			0
						Acres	2.00

	Acres	25	50	100	200	500
NOx	2	131	128	139	165	235
	2	131	128	139	165	235
		131	128	139	165	235
CO	2	962	1089	1506	2615	7493
	2	962	1089	1506	2615	7493
		962	1089	1506	2615	7493
PM10	2	7	21	35	62	144
	2	7	21	35	62	144
		7	21	35	62	144
PM2.5	2	5	7	12	26	83
	2	5	7	12	26	83
		5	7	12	26	83

North Coastal Orange County

2.00 Acres

	25	50	100	200	500
NOx	131	128	139	165	235
CO	962	1089	1506	2615	7493
PM10	7	21	35	62	144
PM2.5	5	7	12	26	83

Acre Below		Acre Above	
SRA No.	Acres	SRA No.	Acres
18	2	18	2
Distance Increment Below			
25			
Distance Increment Above			
25			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

LST Worksheets

Phase 2

Construction Localized Significance Thresholds: Demolition & Demo Debris Haul

SRA No.	Acres	NO _x & CO		PM ₁₀ & PM _{2.5}		Construction / Project Site Size (Acres)
		Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	
18	1.00	25	82	25	82	4.73

Source Receptor Distance (meters)	North Coastal Orange County	Equipment	Acres/8-hr Day	Daily hours	Equipment Used	Acres	
25							
NO_x	92	Tractors	0.5	0.0625		0	
CO	647	Graders	0.5	0.0625		0	
PM₁₀	4.00	Dozers	0.5	0.0625	8	2	
PM_{2.5}	3.00	Scrapers	1	0.125		0	
					Acres	1.00	
	Acres	25	50		100	200	500
NO _x	1	92	93		108	140	219
	1	92	93		108	140	219
		92	93		108	140	219
CO	1	647	738		1090	2096	6841
	1	647	738		1090	2096	6841
		647	738		1090	2096	6841
PM ₁₀	1	4	13		27	54	135
	1	4	13		27	54	135
		4	13		27	54	135
PM _{2.5}	1	3	5		9	22	76
	1	3	5		9	22	76
		3	5		9	22	76
North Coastal Orange County							
1.00 Acres							
	Acres	25	50		100	200	500
NO _x		92	93		108	140	219
CO		647	738		1090	2096	6841
PM ₁₀		4	13		27	54	135
PM _{2.5}		3	5		9	22	76

Acre Below		Acre Above	
SRA No.	Acres	SRA No.	Acres
18	1	18	1
Distance Increment Below			
25			
Distance Increment Above			
25			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: Site Preparation

SRA No.	Acres	NOx & CO		PM10 & PM2.5		Construction / Project Site Size (Acres)
		Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	
18	3.50	25	82	25	82	4.73

Source Receptor Distance (meters)	North Coastal Orange County	Equipment	Acres/8-hr Day	Daily hours	Equipment Used	Acres	
25							
NOx	164	Tractors	0.5	0.0625	8	4	2
CO	1,336	Graders	0.5	0.0625			0
PM10	10.49	Dozers	0.5	0.0625	8	3	1.5
PM2.5	7.00	Scrapers	1	0.125			0
						Acres	3.50

	Acres	25	50	100	200	500
NOx	3	153	149	160	184	249
	4	175	169	181	204	264
		164	159	171	194	257
CO	3	1212	1347	1822	3039	8086
	4	1461	1606	2139	3464	8679
		1337	1477	1981	3252	8383
PM10	3	9	29	42	70	152
	4	12	36	50	77	159
		11	33	46	74	156
PM2.5	3	6	8	14	29	89
	4	8	10	16	32	95
		7	9	15	31	92
North Coastal Orange County						
3.50 Acres						
	25	50	100	200	500	
NOx	164	159	171	194	257	
CO	1337	1477	1981	3252	8383	
PM10	11	33	46	74	156	
PM2.5	7	9	15	31	92	

Acre Below		Acre Above	
SRA No.	Acres	SRA No.	Acres
18	3	18	4
Distance Increment Below			
25			
Distance Increment Above			
25			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: Grading

SRA No.	Acres	NOx & CO		PM10 & PM2.5		Construction / Project Site Size (Acres)
		Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	
18	2.50	25	82	25	82	4.73

Source Receptor Distance (meters)	North Coastal Orange County	Equipment	Acres/8-hr Day	Daily hours	Equipment Used	Acres	
25							
NOx	142	Tractors	0.5	0.0625	8	3	1.5
CO	1,087	Graders	0.5	0.0625	8	1	0.5
PM10	8.16	Dozers	0.5	0.0625	8	1	0.5
PM2.5	5.67	Scrapers	1	0.125			0
					Acres		2.50
	Acres	25	50		100	200	500
NOx	2	131	128		139	165	235
	3	153	149		160	184	249
		142	138		150	175	242
CO	2	962	1089		1506	2615	7493
	3	1212	1347		1822	3039	8086
		1087	1218		1664	2827	7790
PM10	2	7	21		35	62	144
	3	9	29		42	70	152
		8	25		39	66	148
PM2.5	2	5	7		12	26	83
	3	6	8		14	29	89
		6	8		13	28	86
North Coastal Orange County							
2.50 Acres							
	25	50	100		200	500	
NOx	142	138	150		175	242	
CO	1087	1218	1664		2827	7790	
PM10	8	25	39		66	148	
PM2.5	6	8	13		28	86	

Acre Below		Acre Above	
SRA No.	Acres	SRA No.	Acres
18	2	18	3
Distance Increment Below			
25			
Distance Increment Above			
25			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: Building Construction

SRA No.	Acres	NOx & CO		PM10 & PM2.5		Construction / Project Site Size (Acres)
		Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Source Receptor Distance (meters)	Source Receptor Distance (Feet)	
18	1.31	25	82	25	82	4.73

Source Receptor Distance (meters)	North Coastal Orange County	Equipment	Acres/8-hr Day	Daily hours	Equipment Used	Acres	
25							
NOx	104	Tractors	0.5	0.0625	7	3	1.3125
CO	745	Graders	0.5	0.0625			0
PM10	4.93	Dozers	0.5	0.0625			0
PM2.5	3.62	Scrapers	1	0.125			0
							Acres
							1.31

	Acres	25	50	100	200	500
NOx	1	92	93	108	140	219
	2	131	128	139	165	235
		104	104	118	148	224
CO	1	647	738	1090	2096	6841
	2	962	1089	1506	2615	7493
		745	848	1220	2258	7045
PM10	1	4	13	27	54	135
	2	7	21	35	62	144
		5	16	30	57	138
PM2.5	1	3	5	9	22	76
	2	5	7	12	26	83
		4	6	10	23	78
North Coastal Orange County						
1.31 Acres						
	25	50	100	200	500	
NOx	104	104	118	148	224	
CO	745	848	1220	2258	7045	
PM10	5	16	30	57	138	
PM2.5	4	6	10	23	78	

Acre Below		Acre Above	
SRA No.	Acres	SRA No.	Acres
18	1	18	2
Distance Increment Below			
25			
Distance Increment Above			
25			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Construction Localized Significance Thresholds: Building Construction, Paving and Architectural Coating

SRA No.	Acres	NOx & CO		PM10 & PM2.5		Construction / Project Site Size (Acres)	
		Source Receptor Distance (meters)	Source Receptor Distance (Feet)	Source Receptor Distance (meters)	Source Receptor Distance (Feet)		
18	2.00	25	82	25	82	4.73	
Source Receptor Distance (meters)	North Coastal Orange County	Equipment	Acres/8-hr Day	Daily hours	Equipment Used	Acres	
	25						
NOx	131	Tractors	0.5	0.0625	8	4	2
CO	962	Graders	0.5	0.0625			0
PM10	7.00	Dozers	0.5	0.0625			0
PM2.5	5.00	Scrapers	1	0.125			0
					Acres		2.00
	Acres	25	50	100	200	500	
NOx	2	131	128	139	165	235	
	2	131	128	139	165	235	
		131	128	139	165	235	
CO	2	962	1089	1506	2615	7493	
	2	962	1089	1506	2615	7493	
		962	1089	1506	2615	7493	
PM10	2	7	21	35	62	144	
	2	7	21	35	62	144	
		7	21	35	62	144	
PM2.5	2	5	7	12	26	83	
	2	5	7	12	26	83	
		5	7	12	26	83	
North Coastal Orange County							
2.00 Acres							
	25	50	100	200	500		
NOx	131	128	139	165	235		
CO	962	1089	1506	2615	7493		
PM10	7	21	35	62	144		
PM2.5	5	7	12	26	83		

Acre Below		Acre Above	
SRA No.	Acres	SRA No.	Acres
18	2	18	2
Distance Increment Below			
25			
Distance Increment Above			
25			

Updated: 10/21/2009 - Table C-1. 2006 – 2008

Bus Idling Calculations for Operational LST Analysis

calendar_y	season	mcsub_area	vehicle_class	fuel	temperature	relative_humidity	process	speed_time	pollutant	emission_rate
2022	Annual	Orange (SC)	SBUS	Dsl			IDLEX		PM10	0.125850705
2022	Annual	Orange (SC)	SBUS	Dsl			IDLEX		PM2_5	0.12040646
2022	Annual	Orange (SC)	SBUS	Gas	12	65	RUNEX	5	HC	0.600333273
2022	Annual	Orange (SC)	SBUS	Gas	12	65	RUNEX	5	PM10	0.006196778
2022	Annual	Orange (SC)	SBUS	Gas	12	65	RUNEX	5	PM2_5	0.005697709
2022	Annual	Orange (SC)	SBUS	Gas			IDLEX		HC	26.9703798
2022	Annual	Orange (SC)	SBUS	NG			IDLEX		PM10	0.045959277
2022	Annual	Orange (SC)	SBUS	NG			IDLEX		PM2_5	0.042257858

For LST Analysis, PM10 and PM2.5
School Bus Idling
Huntington Beach City School District, Transportation Department
9300 Indianapolis Ave, Huntington Beach, CA 92646

Bus Activity: ⁽¹⁾

Diesel School Buses	7
Gasoline School Buses	3
CNG School Buses	5
Idling Duration (startup)	35

min

Idling Emission Rate: ⁽²⁾

	Diesel	Gas	CNG
PM10	0.1259	0.2784	0.0460
PM2.5	0.1204	0.2560	0.0423

Emissions:

	g/day	lbs/day
PM10	1.14E+00	0.003
PM2.5	1.06E+00	0.002

(1) Provided by District: school buses operate assumed 180 school days per year (5 days per week, approximately 36 weeks per year). Idling approx. 35 minutes for startup between hours of 5:45AM and 7:00AM.

(2) Emission factors from EMFAC2021 for SBUS category for year 2022 in Orange County.

