



## Memorandum

**To:** Kim Baranek, Principal, Baranek Consulting Group  
**From:** James Westbrook, BlueScape Environmental  
**Date:** October 27, 2021  
**Subject:** Air Quality Technical Study and Screening Health Risk Assessment Results, for: All Peoples Church, San Diego, California

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This memo provides results for the air quality technical study and screening health risk assessment (HRA) performed for the All Peoples Church, proposed to be located south and east of College Avenue, in San Diego, California (Project). The information contained in this memo is intended to accompany the draft environmental impact report (DEIR). This air quality technical study includes an assessment of potential impacts associated with Project construction, and an evaluation of Project operational impacts.

The screening HRA presented in this memo was performed for diesel particulate matter (DPM) emissions due to construction of the Project. For health risk impacts, the DPM emissions are considered to be the only pollutant from construction or emissions from operation of the Project that needs to be considered. Other potential emissions such as fugitive dust, will have a negligible health impact.

The modeling results from both studies are compared to the City of San Diego's CEQA thresholds, to determine if impacts from the Project would be considered significant.

### PROJECT DESCRIPTION

The Project site is designated in the Navajo Community Plan for Residential land use and is zoned Residential (RS-1-7). The proposed Community Plan Amendment (CPA) would retain the Residential land use designation and identify the site for Institutional (Church) use, similar to other church facilities in the community. No rezone is proposed because churches are a permitted use in the RS-1-7 zone. With this CPA in place, the project would involve the development of a 900-seat, 52,680 square foot (SF) church with accessory uses (i.e., Sunday school classrooms, offices, and a multi-purpose room/gym), a 71,010 SF parking structure and surface parking, site improvements, and off-site improvements to College Avenue.

### REGULATORY SETTING

Air pollutants are regulated at the national, state, and air basin level; each agency has a different degree of control. The United States Environmental Protection Agency (USEPA) regulates at the national level; the California Air Resources Control Board (CARB) regulates at the state level; and the San Diego Air Pollution Control District (SDAPCD) regulates air quality in San Diego County.

The federal and state governments have been empowered by the federal and state Clean Air Acts to regulate the emission of airborne pollutants and have established ambient air quality standards for the protection of public health. The USEPA is the federal agency designated to administer national air quality regulations, while CARB is the state equivalent in the California Environmental Protection Agency (CalEPA). Local control over air quality management is provided by CARB through multi-county and county-level Air Pollution Control Districts (APCDs) (also referred to as Air Quality Management Districts). CARB establishes statewide air quality standards and is responsible for the control of mobile emission sources, while the local APCDs are responsible for enforcing standards and regulating stationary sources. CARB has established 15 air basins statewide. The City of San Diego is located in the San Diego Air Basin (SDAB), which is under the jurisdiction of the SDAPCD.

### California Air Resources Board

CARB, which became part of the CalEPA in 1991, is responsible for ensuring implementation of the California Clean Air Act (CCAA), meeting state requirements of the federal Clean Air Act and establishing the California Ambient Air Quality Standards (CAAQS). It is also responsible for setting emission standards for vehicles sold in California and for other emission sources such as consumer products and certain off-road equipment. CARB also established passenger vehicle fuel specifications and oversees the functions of local air pollution control districts and air quality management districts, which in turn administer air quality activities at the regional and county level. The CCAA is administered by CARB at the state level and by the Air Quality Management Districts at the regional level. Both state and federal standards can be found online on CARB's website.<sup>1</sup> The federal "primary" standards have been established to protect the public health. The federal "secondary" standards are intended to protect the nation's welfare and account for air pollutant effects on soil, water, visibility, materials, vegetation, and other aspects of the general welfare.

### San Diego Air Pollution Control District

The SDAPCD was created to protect the public from the harmful effects of air pollution, achieve and maintain air quality standards, foster community involvement and develop and implement cost-effective programs that meet state and federal mandates while considering environmental and economic impacts.

Specifically, the SDAPCD is responsible for monitoring air quality and planning, implementing, and enforcing programs designed to attain and maintain state and federal ambient air quality standards in the district. Programs developed include air quality rules and regulations that regulate stationary source emissions, including area sources, point sources, and certain mobile source emissions. The SDAPCD is also responsible for establishing permitting requirements for stationary sources and ensuring that new, modified or relocated stationary sources do not create net emissions increases; and thus, are consistent with the region's air quality goals. The SDAPCD provides significance thresholds in Regulation II, Rule 20.2, Table 20-2-1.

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<sup>1</sup> [https://ww2.arb.ca.gov/sites/default/files/2020-03/aaqs2\\_0.pdf](https://ww2.arb.ca.gov/sites/default/files/2020-03/aaqs2_0.pdf)

“AQIA Trigger Levels.” These trigger levels were established for stationary sources of air pollution and are commonly used for environmental evaluations. The SDAPCD enforces air quality rules and regulations through a variety of means, including inspections, educational or training programs, or fines, when necessary.

### State Implementation Plan / Regional Air Quality Strategy

The federal Clean Air Act Amendments (CAAA) mandate that states submit and implement a State Implementation Plan (SIP) for areas not meeting air quality standards. SIPs are comprehensive plans that describe how an area will attain national and state ambient air quality standards. SIPs are a compilation of new and previously submitted plans, programs (i.e., monitoring, modeling and permitting programs), district rules, state regulations and federal controls and include pollution control measures that demonstrate how the standards will be met through those measures.

State law makes CARB the lead agency for all purposes related to the SIP. Local air districts and other agencies prepare SIP elements and submit them to CARB for review and approval. CARB forwards SIP revisions to the USEPA for approval and publication in the Federal Register.

Thus, the Regional Air Quality Strategy (RAQS) and Air Quality Management Plan (AQMP) prepared by SDAPCD and referenced herein become part of the SIP as the material relates to efforts ongoing in San Diego to achieve the national and state ambient air quality standards. The most recent SIP element for San Diego County was submitted in November 2020.<sup>2</sup> The document defines the plan for attaining the NAAQS for ozone in San Diego County.

The San Diego RAQS was developed pursuant to California Clean Air Act (CCAA) requirements. The RAQS was initially adopted in 1991 and was updated in 1995, 1998, 2001, 2004, 2009 and 2016.<sup>3</sup> The RAQS identifies feasible emission control measures to provide progress in San Diego County toward attaining the state ozone standard. The pollutants addressed in the RAQS are volatile organic compounds (VOC) and oxides of nitrogen (NO<sub>x</sub>), precursors to the photochemical formation of ozone (the primary component of smog). The RAQS was initially adopted by the San Diego County Air Pollution Control Board on June 30, 1992, and amended on March 2, 1993, in response to ARB comments. At present, no attainment plan for particulate matter less than 10 microns in diameter (PM<sub>10</sub>) or particulate matter less than 2.5 microns in diameter (PM<sub>2.5</sub>) is required by the state regulations; however, SDAPCD has adopted measures to reduce particulate matter in San Diego County. These measures range from regulation against open burning to incentive programs that introduce cleaner technology. These measures can be found in a report titled “*Measures to Reduce Particulate Matter in San Diego County*” December 2005.<sup>4</sup>

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<sup>2</sup> <https://www.sdapcd.org/content/sdc/apcd/en/air-quality-planning.html>

<sup>3</sup> <https://www.sdapcd.org/content/dam/sdc/apcd/PDF/Air%20Quality%20Planning/2016%20RAQS.pdf>

<sup>4</sup> [www.sdapcd.org/content/dam/sdc/apcd/PDF/Air%20Quality%20Planning/PM-Measures.pdf](http://www.sdapcd.org/content/dam/sdc/apcd/PDF/Air%20Quality%20Planning/PM-Measures.pdf)

The RAQS relies on information from CARB and San Diego Association of Governments (SANDAG), including mobile and area source emissions, as well as information regarding projected growth in the county, to estimate future emissions and then determine strategies necessary for the reduction of emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population and vehicle trends as well as land use plans developed by the cities and the county as part of the development of the individual General Plans. As such, projects that propose development consistent with the growth anticipated by the general plans would be consistent with the RAQS. If a project proposes development which is less dense than anticipated within the General Plan, the project would likewise be consistent with the RAQS. If a project proposes development that is greater than that anticipated in the General Plan and SANDAG's growth projections, the project might conflict with the RAQS and SIP; and thus, have a potentially significant impact on air quality.

Under state law, the SDAPCD is required to prepare an Air Quality Management Plan (AQMP) for pollutants for which the SDAB is designated non-attainment. Each iteration of the SDAPCD's AQMP is an update of the previous plan and has a 20-year horizon. Currently the SDAPCD has implemented a 2012 8-hour National Ozone Implementation/Maintenance Plan, a 2007 8-hour Ozone Plan, and a 2004 Carbon Monoxide Plan. The SDAPCD adopted the 2008 8-hour Ozone Attainment Plan for San Diego County on December 16, 2016. CARB adopted the ozone plan as a revision to the California SIP on March 23, 2017. The ozone plan was submitted to the USEPA for review on April 12, 2017. Comments from the USEPA are pending. These plans are available for download on the CARB website.<sup>5</sup>

## **AIR POLLUTANTS OF CONCERN**

### Criteria Air Pollutants

The seven criteria air pollutants regulated under the National Ambient Air Quality Standards (NAAQS) are as follows: ozone (O<sub>3</sub>), carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), respirable particulate matter (or particulate matter with an aerodynamic diameter of 10 microns or less, PM<sub>10</sub>), fine particulate matter (or particulate matter with an aerodynamic diameter of 2.5 microns or less, PM<sub>2.5</sub>), sulfur dioxide (SO<sub>2</sub>), and lead (Pb). Primary standards are designed to protect human health with an adequate margin of safety. Secondary standards are designed to protect property and the public welfare from air pollutants in the atmosphere. Areas that do not meet the NAAQS for a particular pollutant are considered to be "non-attainment areas" for that pollutant.

CARB is the state regulatory agency with authority to enforce regulations to both achieve and maintain air quality in the state. CARB is responsible for the development, adoption, and enforcement of the state's motor vehicle emissions program, as well as the adoption of the California Ambient Air Quality Standards (CAAQS). CARB also reviews operations and programs of the local air districts and

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<sup>5</sup> [www.arb.ca.gov/planning/sip/planarea/sansip.htm](http://www.arb.ca.gov/planning/sip/planarea/sansip.htm).

requires each air district with jurisdiction over a non-attainment area to develop its own strategy for achieving the NAAQS and CAAQS. The California Clean Air Act of 1988 (CCAA) provides the state with the ability to adopt ambient air quality standards and other regulations provided they are at least as stringent as federal standards, or more stringent.

Through the CCAA, CARB has established the CAAQS for six criteria air pollutants also regulated by the NAAQS, and also has established CAAQS for additional pollutants, including sulfates, hydrogen sulfide, vinyl chloride and visibility-reducing particles. The San Diego Air Basin (SDAB) is currently classified as a non-attainment area under the CAAQS for O<sub>3</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>. It should be noted that CARB does not differentiate between attainment of the 1-hour and 8-hour CAAQS for O<sub>3</sub>; therefore, if an air basin records an exceedance of either standard, the area is considered non-attainment for the CAAQS for O<sub>3</sub>. The SDAB has recorded exceedances of both the 1-hour and 8-hour CAAQS for O<sub>3</sub>.

The SDAPCD is required to monitor air pollutant levels to ensure that air quality standards are met and, if they are not met, to develop strategies to meet the standards. Depending on whether the standards are met or exceeded, the local air basin is classified as being in "attainment" or "non-attainment." San Diego County is listed as a federal non-attainment area for ozone (8-hour) and a state non-attainment area for ozone (1-hour and 8-hour standards), PM<sub>10</sub> and PM<sub>2.5</sub>. The SDAB is in attainment for the state and federal standards for nitrogen dioxide, carbon monoxide, sulfur dioxide and lead.<sup>6</sup>

### Toxic Air Contaminants

Toxic air contaminants (TACs) are controlled under a different regulatory process than criteria pollutants. Because no safe level of emissions can be established for TACs region-wide, the regulation of TACs is based on the levels of cancer risk and other health risks posed to persons who may be exposed. Joint federal, state and local regulations aimed at lessening public exposure to TACs are constantly revisited and updated.

Under federal law, 188 substances are listed as Hazardous Air Pollutants (HAPs) that are TACs. Major sources of specific HAPs are subject to the requirements of the National Emissions Standards for Hazardous Air Pollutants (NESHAP) program. The USEPA establishes regulatory schemes for specific source categories and requires implementation of Maximum Achievable Control Technologies (MACTs) for major sources of HAPs in each source category.

State law has established the framework for California's TAC identification and control program, which is generally more stringent than the federal program, and is aimed at HAPs that are a concern in California. The state has formally identified more than 200 substances as TACs and has adopted appropriate control measures for each. Once adopted at the state level, each air district is required to adopt a measure that

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<sup>6</sup> <https://www.sdapcd.org/content/sdc/apcd/en/air-quality-planning/attainment-status.html>

is equally or more stringent. In addition, the California Air Toxics "Hot Spots" Information and Assessment Act (AB 2588) enacted in 1987 requires certain applicable facilities in San Diego County to quantify the emissions of TACs, and in some cases, conduct a health risk assessment (HRA), and to notify the public, while developing risk reduction strategies. In San Diego County, SDAPCD Rule 1210 implements the public notification and risk reduction requirements of AB 2588 and requires facilities to reduce risks to acceptable levels within 5 years. In addition, SDAPCD Rule 1200 establishes acceptable risk levels, and emission control requirements for new and modified facilities that may emit TACs.

As an example of TAC emissions from the proposed Project, development projects generate diesel emissions from construction vehicles during the construction and operational phases. Diesel exhaust is mainly composed of particulate matter and gases, which contain potential cancer-causing substances in addition to some noncancer hazards. Emissions from diesel engines currently include over 40 substances that are listed by EPA as HAPs and by CARB as TACs. On August 27, 1998, CARB and the Office of Environmental Health Hazard Assessment (OEHHA) identified particulate matter in diesel exhaust as a TAC, based on data linking diesel particulate emissions to increased risks of lung cancer and respiratory disease.

## **BACKGROUND AIR QUALITY**

The SDAPCD monitors air quality conditions at locations throughout the SDAB. The purpose of the monitoring stations is to measure ambient concentrations of pollutants, including criteria pollutants, ozone precursors and TACs, and to determine whether the CAAQS and the NAAQS are met. For this analysis, data from the San Diego Kearney Villa Road monitoring station north of the site were used to characterize existing ozone, PM<sub>10</sub> and PM<sub>2.5</sub> conditions in the vicinity of the project site. This is the closest monitoring location, approximately 5.5 miles northwest of the Project site, with a current and comprehensive data set. Background data for this site can be found at CARB's website.<sup>7</sup>

## **SIGNIFICANCE CRITERIA METHODOLOGY**

Air quality emissions estimates were performed in general accordance with the methodologies outlined in the SDAPCD 2009 Regional Air Quality Strategy (RAQS) to identify both construction and operational emissions associated with the proposed Project. All emissions were calculated using the California Emissions Estimator Model (CalEEMod) software version 2020.4.0 which incorporates current air emission data, energy efficiency standards, and protocol approved by CARB. Air dispersion modeling for the screening HRA to determine risk impacts from DPM emissions due to construction of the Project was performed using the United States Environmental Protection Agency's (USEPA) American Meteorological Society / Environmental Protection Agency regulatory air dispersion model (AERMOD), version 21112.

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<sup>7</sup> <https://www.arb.ca.gov/adam/topfour/topfour1.php>

Construction activities would include site fill material, grading, construction of the building and related landscape, as well as paved parking areas and architectural coating. Construction activities would require the use of equipment that would generate criteria air pollutant emissions. For calculation purposes, it was assumed that all construction equipment used would be diesel-powered. Construction emissions associated with development of the proposed Project were quantified by estimating the types of equipment, including the number of individual pieces of equipment, that would be used on-site during each of the construction phases as well as soil import haul trips.

Operational emissions include mobile source emissions, energy emissions and area source emissions. Mobile source emissions are generated by motor vehicle trips associated with operation of the Project. Emissions attributable to energy use include electricity and natural gas consumption for space and water heating. Area source emissions are generated by landscape maintenance equipment, use of consumer products and painting. To determine whether a regional air quality impact would occur, the increase in emissions would be compared with the SDAPCD-recommended regional thresholds for operational emissions.

### **AIR QUALITY AND HEALTH RISK THRESHOLDS OF SIGNIFICANCE**

The air quality and health risk thresholds of significance are based on Project-related impacts from short-term construction activities and long-term operation of the project. Air quality and health risk impacts of the proposed Project were evaluated based on the City of San Diego's (City) CEQA guidance doc for significance thresholds, which are partly based on SDAPCD Rule 20.2 and Rule 1200 thresholds.<sup>8</sup>

For CEQA purposes, these screening level thresholds (SLTs) can be used to determine if a project's total emissions (e.g., stationary and fugitive emissions, as well as emissions from mobile sources) would result in a significant impact to air quality and/or health risk. The daily SLTs are most appropriately used for the standard construction and operational emissions. While the operational emissions are considered on a long-term basis, so they are also compared with the annual SLTs. The SLTs are shown in Table 1.

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<sup>8</sup> [https://www.sandiego.gov/sites/default/files/july\\_2016\\_ceqa\\_thresholds\\_final\\_0.pdf](https://www.sandiego.gov/sites/default/files/july_2016_ceqa_thresholds_final_0.pdf)

<b>TABLE 1 SDAPCD AIR QUALITY AND HEALTH RISK SCREENING-LEVEL THRESHOLDS</b>		
<b>Pollutant</b>	<b>Daily SLT (lb/day)</b>	<b>Annual SLT (ton/yr)</b>
<b>Criteria Pollutants</b>		
Respirable Particulate Matter (PM <sub>10</sub> )	100	15
Fine Particulate Matter (PM <sub>2.5</sub> )	67	10
Oxides of Nitrogen (NO <sub>x</sub> )	250	40
Oxides of Sulfur (SO <sub>x</sub> )	250	40
Carbon Monoxide (CO)	550	100
Volatile Organic Compounds (VOC) <sup>a</sup>	137	15
<b>Health Risk – Toxic Air Contaminants</b>		
<b>Risk Type</b>	<b>Threshold Limit</b>	
30-year Residential Cancer	10 in one million	
Non-cancer Chronic Risk	1.0 HHI <sup>b</sup>	
Non-cancer Acute Risk	1.0 HHI <sup>b</sup>	
<small>a. VOC threshold based on SCAQMD levels per South Coast Air Quality Management District, which has similar federal and state attainment status as San Diego.  b. HHI = Health Hazard Index.</small>		

## AIR QUALITY IMPACT ANALYSIS

The construction and operational scenarios were modeled in CalEEMod with the assumptions listed below. Tables 2, 3, and 4 show the CalEEMod results from these two scenarios, compared to the screening level thresholds that are shown in Table 1.

### Construction Scenario

Construction of the Project would generate temporary criteria pollutant and DPM emissions, primarily from operation of construction equipment onsite and from vehicles transporting construction workers to and from the site. Construction equipment used for site preparation and grading typically generate the highest quantity of emissions. Construction may commence as early as January 2022 and it was conservatively estimated for a 12-month duration. The modeled construction schedule is as follows:

- Site preparation (10 days)
- Grading (20 days)
- Building Construction (190 days)
- Paving (20 days)



- Architectural Coating (20 days)

It was assumed that watering of exposed areas will occur up to three times per day. Off-road and on-road construction equipment and vehicles associated with the construction periods were estimated in CalEEMod, with the following non-default assumptions:

- All construction equipment rated at 100 hp or more are assumed to meet Tier 4 engine standards.
- Some select equipment hours were adjusted to be more consistent with the overall building phase. For example, crane usage hours/day were changed from the default 8 hours/day to 6 hours/day.

Table 2 shows the estimated maximum daily construction emissions. The CalEEMod emission estimates and assumptions for construction can be viewed in Attachment A. Short-term construction emissions, on a daily basis, are summarized in Table 2 and annual construction emissions are summarized in Table 3.

<b>TABLE 2 ESTIMATED MAXIMUM DAILY CONSTRUCTION EMISSIONS</b>						
<b>Construction Phase</b>	<b>Maximum Emissions (lbs/day)</b>					
	<b>VOC</b>	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>SO<sub>x</sub></b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>
2022 Maximum Day	14.2	49.5	32.6	0.22	12.7	5.76
Screening Level Thresholds	137	250	550	250	100	67
<b>Threshold Exceeded?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

*See Attachment A for CalEEMod ver. 2020.4.0 computer model output for the construction emission estimates for the proposed development; the higher value of summer or winter, daily emissions, incorporating project design features to minimize emissions are shown.*

<b>TABLE 3 ESTIMATED MAXIMUM ANNUAL CONSTRUCTION EMISSIONS</b>						
<b>Construction Phase</b>	<b>Maximum Emissions (tons/yr)</b>					
	<b>VOC</b>	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>SO<sub>x</sub></b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>
2022 Annual	0.24	0.84	2.22	0.005	0.17	0.079
Screening Level Thresholds	15	40	100	40	15	10
<b>Threshold Exceeded?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>

*See Attachment A for CalEEMod ver. 2020.4.0 computer model output; annual emissions shown.*

As shown in Table 2 and Table 3, construction of the proposed Project would not exceed the City’s CEQA construction emission thresholds for daily emissions. As such,

air quality impacts from Project-related construction activities would be **less than significant**.

### Operational Scenario

Operational emissions include emissions from electricity consumption (energy sources), vehicle trips (mobile sources), area sources, landscape equipment and evaporative emissions as the structures are repainted over the life of the Project. The majority of operational emissions are associated with vehicle trips to and from the Project site. The first year of operation was assumed to be 2023.

Project design features include using architectural coatings that meet SDAPCD Rule 67.0.1 standards. Current Title 24 Building Standards will be incorporated, as well as low flow water fixtures and water-efficient irrigation systems. Solid waste assumes a 50% reduction applied for California's existing recycling and composting requirements.

Table 4 summarizes daily emissions and Table 5 summarizes annual emissions associated with operation of the proposed Project. The CalEEMod emission estimates and assumptions for operations can be viewed in Attachment A.

<b>TABLE 4 ESTIMATED DAILY OPERATIONAL EMISSIONS</b>						
	<b>Estimated Emissions (lbs/day)</b>					
	<b>VOC</b>	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>SO<sub>x</sub></b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>
<b><i>Proposed Project</i></b>						
Area	1.27	<0.001	0.013	<0.001	<0.001	<0.001
Energy	0.019	0.169	0.142	0.001	0.013	0.013
Mobile	4.38	3.77	31.4	0.055	5.49	1.49
<b>Daily Total</b>	<b>5.67</b>	<b>3.94</b>	<b>31.5</b>	<b>0.056</b>	<b>5.50</b>	<b>1.50</b>
Screening Level Thresholds	137	250	550	250	100	67
<b>Exceeds Threshold?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>
<i>See Attachment A for CalEEMod ver. 2020.4.0 computer model output; the higher value of summer or winter, daily emissions are shown.</i>						

<b>TABLE 5 ESTIMATED ANNUAL OPERATIONAL EMISSIONS</b>						
	<b>Estimated Emissions (tons/yr)</b>					
	<b>VOC</b>	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>SO<sub>x</sub></b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>
<b><i>Proposed Project</i></b>						
Area	0.23	<0.001	0.001	<0.001	<0.001	<0.001
Energy	0.003	0.031	0.026	<0.001	0.002	0.002
Mobile	0.20	0.18	1.47	0.003	0.26	0.07
<b>Annual Total</b>	<b>0.43</b>	<b>0.21</b>	<b>1.49</b>	<b>0.003</b>	<b>0.26</b>	<b>0.07</b>
Screening Level Thresholds	15	40	100	40	15	10
<b>Exceeds Threshold?</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>
<i>See Attachment A for CalEEMod ver. 2020.4.0 computer model output; annual emissions shown.</i>						

As shown in Tables 4 and 5, the emissions associated with Project operations would not exceed the SDAPCD thresholds for VOC, NO<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>10</sub> or PM<sub>2.5</sub>. Therefore, the Project's regional air quality impacts (including impacts related to criteria pollutants and violations of air quality standards) would be **less than significant**.

### **SCREENING HRA FOR CONSTRUCTION EMISSIONS**

Emissions of diesel particulate matter (DPM) from equipment used to construct the Project were analyzed to determine if the health risk impacts to nearby sensitive receptors (including residents, schools, hospitals, daycare, parks, etc.) exceed the City's thresholds (see Table 1). The CalEEMod-modeled maximum daily Exhaust PM<sub>10</sub> value for construction was used for non-cancer acute risk and the average annual Exhaust PM<sub>10</sub> value for construction was used to analyze 30-year residential cancer risk and non-cancer chronic risk.

#### Sensitive Receptors

The Project site is bordered by the I-8 freeway to the south, and various neighborhoods of single-family homes directly adjacent to the east and across College Avenue to the west. The nearest school is Hearst Elementary School, located approximately 0.1 mile northwest of the Project site at 6230 Del Cerro Blvd. The closest preschool is the Price Family Preschool at the Temple Emanu-El located approximately 300 feet north of the Project site at 6299 Capri Drive. The closest hospital is the Alvarado Hospital Medical Center, located south of the I-8 freeway at 6655 Alvarado Road. No other sensitive receptors are closer than the Price Family Preschool and Hearst Elementary School.

DPM Emissions

- Reference daily and annual CalEEMod results for All Peoples Church construction (Attachment A).
- Assumed Tier 4 engines or equivalent for all construction equipment rated 100 hp or higher.
- 30-year Residential, Child cancer risk and non-cancer chronic risk:
  - Avg. Annual Exhaust PM<sub>10</sub> = 0.0248 tons/year.
  - Avg. Annual DPM = 7.10E-04 g/sec.
- Non-cancer acute risk:
  - Max. Daily Exhaust PM<sub>10</sub> = 0.5037 lbs/day
  - Divided over 10 hrs/day = (0.5037 lbs/day)/(10 hrs/day) = 0.05037 lbs/hr.
  - Max. hourly DPM = 0.0063 g/sec
  - Acute risk analyzed for the components of DPM, which include mercury, nickel, and benzene. See Table 6.

**TABLE 6  
SPECIATED COMPONENT EMISSIONS FROM DPM  
FOR ACUTE RISK CALCULATIONS**

<b>Component of DPM</b>	<b>Diesel Default TAC Concentration* (lb/1000 gal)</b>	<b>Diesel TAC Ratio (g TAC/g DPM)</b>	<b>Emissions (g/sec)</b>
Arsenic	0.0016	0.0009	5.63E-06
Copper	0.0041	0.0023	1.44E-05
Mercury	0.0020	0.0011	7.03E-06
Nickel	0.0039	0.0022	1.37E-05
1,3-Butadiene	0.2174	0.1204	7.64E-04
Acetaldehyde	0.7833	0.4340	2.75E-03
Acrolein	0.0339	0.0188	**
Benzene	0.1863	0.1032	6.55E-04
Formaldehyde	1.7261	0.9563	6.07E-03
Hydrochloric Acid	0.1863	0.1032	6.55E-04
Toluene	0.1054	0.0584	3.71E-04
Xylenes (mixed)	0.0424	0.0235	1.49E-04

\* Diesel Default TAC Concentration for Acute Risk (lb/1000gal) from

<http://www.vcapcd.org/pubs/Engineering/AirToxics/combem.pdf>

\*\* ARB Policy is to exclude acrolein from risk management decisions, based upon Method 430 source test emission factors.

### AERMOD Model Setup

AERMOD inputs were as follows:

- Source Parameters:
  - Source Type – AREA POLY; area source over the construction area
  - Source ID – APC\_CONST
  - Emission Rate – 1.0 g/sec spread out over the entire 7,840.5 m<sup>2</sup> area source (1.28E-04 g/sec-m<sup>2</sup>)
  - Release height – 5.0 meters<sup>9</sup>
  - Initial vertical dimension – 1.16 meters<sup>10</sup>
- Met Data: Kearny Villa Road Station – KVR\_2014\_2016\_sigma\_19191.<sup>11</sup>
- Flat terrain modeled.
- Urban dispersion coefficient, with a population of 3,338,330.<sup>12</sup>
- Variable emissions scenarios (assume construction hours 7 am – 5 pm):
  - Cancer and chronic risk: Factor of 2.4 entered for each hour between 7 am and 5 pm. Factor of 0 entered for all other hours, 7 days/week.
  - Acute risk: Factor of 1.0 entered for each hour between 7 am and 5 pm. Factor of 0 entered for all other hours, 7 days/week.
- Receptors:
  - No flagpole receptors.
  - Receptors 1 – 2763: Grid receptors placed at locations of sensitive receptors. Grid spacing = 25 meters.
  - Receptors 2764 – 2810: Fence Line receptors placed at a spacing of 25 meters.

### Risk Calculation Methodology

#### *Cancer Risk:*

AERMOD outputs consist of concentrations at each receptor, and the concentration at the point of maximum impact (PMI) is analyzed for the cancer and non-cancer chronic risk at the maximally exposed individual resident (MEIR) and sensitive receptors using equations and methodology in the OEHHA

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<sup>9</sup> Reference for source release height and initial vertical dimension: SCAQMD Localized Significance Threshold Methodology, July 2008.

<http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf?sfvrsn=2>

<sup>10</sup> Ibid.

<sup>11</sup> Determined by Bill Reeve at SDAPCD as the most representative data set to use for the Project site. Provided on September 20, 2021.

<sup>12</sup> 2010 Census population of San Diego County.

guidance.<sup>13</sup> Exposure is evaluated by calculating the dose in milligrams per kilogram body weight per day (mg/kg/day). For residential exposure, the breathing rates are determined for specific age groups, so inhalation dose (Dose<sub>air</sub>) is calculated for each of these age groups: 3<sup>rd</sup> trimester, 0<2, 2<9, 2<16, 16<30 and 16-70 years. As explained below, due to the short period for construction, age groups were selected as applicable for the Resident, Child and School receptor exposures.

The following algorithms calculate this dose for exposure through the inhalation pathways. The worst-case cancer risk dose calculation is defined in OEHHA Equation 5.4.1.1 below:

*OEHHA Equation 5.4.1.1*

$$Dose_{air} = C_{air} * (BR/BW) * A * EF * 10^{-6}$$

**Where:**

*Dose<sub>air</sub>* = Dose through inhalation (mg/kg/day)

*C<sub>air</sub>* = Annual average DPM concentration at the PMI (µg/m<sup>3</sup>)

*BR/BW* = Daily breathing rate normalized to body weight (L/kg body weight-day)

- See OEHHA guidance Table 5.6, 95<sup>th</sup> percentile values

*A* = Inhalation absorption factor (unitless) – recommended value is 1

*EF* = Exposure frequency (unitless) – recommended value = 350 days/365 days = 0.96

*10<sup>-6</sup>* = Micrograms to milligrams conversion, liters to cubic meters conversion

Residential cancer risk is calculated by multiplying the daily inhalation dose, by a cancer potency factor, the age sensitivity factor, the frequency of time spent at home and the exposure duration divided by averaging time, to yield the excess cancer risk. As described below, the excess cancer risk is calculated separately for each age grouping and then summed to yield cancer risk for any given location. In this analysis, the exposure age bins from -0.25 years (third trimester pregnancy) and 0 – 2 years are applicable, due to the short-term construction period and the sensitivity of these age groups to cancer risk impacts, compared to sensitivities of the older age bins. The use of these youngest age bins in the cancer risk calculations provides the most conservative cancer risk health impacts. The older age bins (2 – 16 years and 16 – 30 years) were not used to calculate cancer risk impacts for this reason. Specific factors as modeled are shown within the calculations section shown in Appendix B. The worst-case cancer risk calculation is defined in OEHHA Equation 8.2.4A below:

*OEHHA Equation 8.2.4A*

$$Risk_{inh-res} = Dose_{air} * CPF * ASF * ED/AT * FAH$$

**Where:**

*Risk<sub>inh-res</sub>* = Residential inhalation cancer risk

*Dose<sub>air</sub>* = Dose through inhalation (mg/kg/d)

<sup>13</sup> Reference: *The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*, Office of Environmental Health Hazard Assessment. February 2015.

CPF = Inhalation cancer potency factor (mg/kg-day<sup>-1</sup>) – Value for DPM is 1.1 mg/kg-day<sup>-1</sup> (OEHHA 2020)

ASF = Age sensitivity factor for specified age group (unitless) (OEHHA Table 8.3)

ED = Exposure duration (in years) for a specified age group

AT = Averaging time for lifetime cancer risk (years) – 70 years

FAH = Fraction of time at home (OEHHA 2015, Table 8.4)

OEHHA recommends that an exposure duration (residency time) of 30 years be used to estimate individual cancer risk for the MEIR. For the short-term cancer risk impact calculations, exposure to one year of construction DPM was assumed for the youngest age bins, and 30-year resident cancer risk impacts were calculated for both the child resident receptors and for children attending Hearst Elementary School (even though the school sensitive receptors would not include these youngest age bins). This is the most conservative cancer risk impact calculation, as described above. OEHHA also recommends that the 30- year exposure duration be used as the basis for public notification and risk reduction audits and plans.

*Non-cancer Chronic Risk:*

The non-cancer chronic risk health hazard index (HHI) is calculated using the OEHHA equation shown below:

$$\text{Chronic Health Hazard Index} = \text{Annual Average Concentration } (\mu\text{g}/\text{m}^3) / \text{Chronic REL } (\mu\text{g}/\text{m}^3)$$

The chronic Reference Exposure Level (REL) value for DPM is 5  $\mu\text{g}/\text{m}^3$ .

*Non-cancer Acute Risk:*

The non-cancer acute risk health hazard index (HHI) is calculated using the OEHHA equation shown below:

$$\text{Acute Health Hazard Index} = \text{1-Hour Max. Concentration } (\mu\text{g}/\text{m}^3) / \text{Acute REL } (\mu\text{g}/\text{m}^3)$$

The acute RELs for each component of DPM exhaust are listed in Table 7.

<b>TABLE 7 NON-CANCER ACUTE RISK REL VALUES FOR DPM COMPONENTS</b>	
<b>DPM Component</b>	<b>Acute Risk REL (<math>\mu\text{g}/\text{m}^3</math>)</b>
Arsenic	2.00E-01
Copper	1.00E+02
Mercury	6.00E-01
Nickel	2.00E-01
1,3-Butadiene	6.60E+02
Acetaldehyde	4.70E+02
Acrolein	*
Benzene	2.70E+01
Formaldehyde	5.50E+01

<b>DPM Component</b>	<b>Acute Risk REL (<math>\mu\text{g}/\text{m}^3</math>)</b>
Hydrochloric acid	2.10E+03
Toluene	5.00E+03
Xylenes (mixed)	2.20E+04
** ARB Policy is to exclude acrolein from risk management decisions, based upon Method 430 source test emission factors	

### HRA Results

Table 8 shows the Resident, Child 30-year cancer risk, and non-cancer chronic and acute risk impacts at the Maximally Exposed Individual (MEI) for residents and for the nearest school in the vicinity of the Project site. The risk results are compared to the significance thresholds provided in Table 1.

<b>Risk Type</b>	<b>Receptor Type</b>	<b>UTM Location (m)</b>	<b>Risk Results</b>	<b>Significance Threshold</b>	<b>Exceeds Threshold?</b>
Cancer Risk	Resident, Child	Rec. # 1273 494112.50 3627012.50	9.70 in one million	10 in one million	No
	Sensitive, (Price Family Preschool)	Rec # 1587 494087.50 3627162.50	1.02 in one million		No
	Sensitive, (Hearst Elem.)	Rec # 1747 494037.50 3627237.50	0.29 in one million		No
Chronic Risk	Resident, Child	Rec. # 1273 494112.50 3627012.50	0.014	1.0 HHI	No
	Sensitive, (Price Family Preschool)	Rec # 1587 494087.50 3627162.50	0.001		No
	Sensitive, (Hearst Elem.)	Rec # 1747 494037.50 3627237.50	0.0004		No



TABLE 8 ALL PEOPLES CHURCH: SCREENING HRA RESULTS DPM DUE TO CONSTRUCTION					
Risk Type	Receptor Type	UTM Location (m)	Risk Results	Significance Threshold	Exceeds Threshold?
Acute Risk	Resident, Child	Rec. # 2797 494121.36 3627047.71	0.15	1.0 HHI	No
	Sensitive, (Price Family Preschool)	Rec # 1587 494087.50 3627162.50	0.05		No
	Sensitive, (Hearst Elem.)	Rec # 1747 494037.50 3627237.50	0.03		No

As shown in Table 8, the health risk impacts from Construction DPM would not exceed the City's CEQA significance thresholds. Therefore, the Project's health risk impacts at the nearest sensitive receptors, including residents and children at the Price Family Preschool and Hearst Elementary School, would be **less than significant**. AERMOD HRA modeling files are included as electronic attachments in Attachment B.

## CONCLUSIONS

The air quality assessment for All Peoples Church, presented in this analysis, demonstrates that Project short-term emissions from construction of the Project are below all applicable City of San Diego daily thresholds of significance. Additionally, both Project short-term and long-term emissions from operational sources are below all applicable City of San Diego daily and annual thresholds of significance. Therefore, air quality emissions from Project construction and operation are considered less than significant.

The screening HRA for the DPM impacts from construction of All Peoples Church demonstrates that short-term construction DPM health risk impacts at nearby sensitive receptors are below all applicable City of San Diego thresholds of significance. Therefore, health risk impacts from Project construction are considered **less than significant**.

**ATTACHMENT A**  
**CALEEMOD RESULTS**

All Peoples Church - San Diego County APCD Air District, Annual

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

**All Peoples Church  
San Diego County APCD Air District, Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Place of Worship	54.48	1000sqft	4.36	54,476.00	0
Unenclosed Parking Structure	71.01	1000sqft	1.63	71,010.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.6	<b>Precipitation Freq (Days)</b>	40
<b>Climate Zone</b>	13			<b>Operational Year</b>	2023
<b>Utility Company</b>	San Diego Gas & Electric				
<b>CO2 Intensity (lb/MWhr)</b>	539.98	<b>CH4 Intensity (lb/MWhr)</b>	0.033	<b>N2O Intensity (lb/MWhr)</b>	0.004

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics -

Land Use - Total site area = 5.99 acres

Construction Phase - Building phase schedule demonstrates a conservative estimate, where all phases are shown within one calendar year.

Off-road Equipment - Arch Coating equipment is consistent with default from CalEEMod.

Off-road Equipment - Default equipment, with select equipment hours adjusted to be more consistent with the overall building construction phase.

Off-road Equipment - Grading equipment is consistent with default from CalEEMod.

Off-road Equipment - Paving equipment is consistent with default from CalEEMod.

All Peoples Church - San Diego County APCD Air District, Annual

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

Off-road Equipment - Site prep equipment is consistent with default from CalEEMod.

Grading - Total acres graded: 5.99; Soil import 22,500 CY

Architectural Coating - SDAPCD Rule 67.0.1: 50 g/L flat coatings and 100 g/L traffic markings

Vehicle Trips - Trip Rates based on ADT in LMA, July 6, 2021. Weekday: 5.14 x 54.476 = 280 and Sunday: 36.27 x 54.476 = 1976. Trip length based on TIA = avg 5.1 miles.

Area Coating - SDAPCD Rule 67.0.1: 50 g/L flat coatings; 100 g/L traffic markings

Construction Off-road Equipment Mitigation - Construction equipment is assumed to meet Tier 4 engine standards. Tier 4 is not necessary for smaller equipment, such as generator set, welders, and air compressors.

Area Mitigation - SDAPCD Rule 67.0.1: 50 g/L flat coatings, 100 g/L traffic markings

Energy Mitigation - Incorporates 2019 Title 24 Building Standards

Water Mitigation - Low-flow bathroom faucet, kitchen faucet, toilet, and shower. Use water-efficient irrigation systems.

Waste Mitigation - 50% reduction in waste for recycling and composting services.

Trips and VMT -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Parking	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	50
tblAreaCoating	Area_EF_Nonresidential_Interior	250	50
tblAreaCoating	Area_EF_Parking	250	100
tblAreaCoating	Area_EF_Residential_Exterior	250	50
tblAreaCoating	Area_EF_Residential_Interior	250	50
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

All Peoples Church - San Diego County APCD Air District, Annual

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

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	230.00	190.00
tblGrading	AcresOfGrading	20.00	5.99
tblGrading	AcresOfGrading	15.00	0.00
tblGrading	MaterialImported	0.00	22,500.00
tblLandUse	LandUseSquareFeet	54,480.00	54,476.00
tblLandUse	LotAcreage	1.25	4.36
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblVehicleTrips	CC_TL	7.30	5.10
tblVehicleTrips	CNW_TL	7.30	5.10
tblVehicleTrips	CW_TL	9.50	5.10
tblVehicleTrips	ST_TR	5.99	5.14
tblVehicleTrips	SU_TR	27.63	36.27
tblVehicleTrips	WD_TR	6.95	5.14



All Peoples Church - San Diego County APCD Air District, Annual

**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	1-1-2022	3-31-2022	0.9221	0.3742
2	4-1-2022	6-30-2022	0.5641	0.2184
3	7-1-2022	9-30-2022	0.5703	0.2208
		Highest	0.9221	0.3742

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2311	1.0000e-005	1.1500e-003	0.0000		0.0000	0.0000		0.0000	0.0000						
Energy	3.3800e-003	0.0308	0.0258	1.8000e-004		2.3400e-003	2.3400e-003		2.3400e-003	2.3400e-003						
Mobile	0.1982	0.1785	1.4662	2.5500e-003	0.2556	2.1500e-003	0.2577	0.0682	2.0100e-003	0.0702						
Waste						0.0000	0.0000		0.0000	0.0000						
Water						0.0000	0.0000		0.0000	0.0000						
<b>Total</b>	<b>0.4326</b>	<b>0.2093</b>	<b>1.4932</b>	<b>2.7300e-003</b>	<b>0.2556</b>	<b>4.4900e-003</b>	<b>0.2601</b>	<b>0.0682</b>	<b>4.3500e-003</b>	<b>0.0726</b>						

All Peoples Church - San Diego County APCD Air District, Annual

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

**2.2 Overall Operational**

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2311	1.0000e-005	1.1500e-003	0.0000		0.0000	0.0000		0.0000	0.0000						
Energy	3.3800e-003	0.0308	0.0258	1.8000e-004		2.3400e-003	2.3400e-003		2.3400e-003	2.3400e-003						
Mobile	0.1982	0.1785	1.4662	2.5500e-003	0.2556	2.1500e-003	0.2577	0.0682	2.0100e-003	0.0702						
Waste						0.0000	0.0000		0.0000	0.0000						
Water						0.0000	0.0000		0.0000	0.0000						
<b>Total</b>	<b>0.4326</b>	<b>0.2093</b>	<b>1.4932</b>	<b>2.7300e-003</b>	<b>0.2556</b>	<b>4.4900e-003</b>	<b>0.2601</b>	<b>0.0682</b>	<b>4.3500e-003</b>	<b>0.0726</b>						

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

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/2/2022	1/14/2022	5	10	
2	Grading	Grading	1/15/2022	2/11/2022	5	20	
3	Building Construction	Building Construction	2/12/2022	11/4/2022	5	190	



All Peoples Church - San Diego County APCD Air District, Annual

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

4	Paving	Paving	11/5/2022	12/2/2022	5	20
5	Architectural Coating	Architectural Coating	12/2/2022	12/29/2022	5	20

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 5.99**

**Acres of Paving: 1.63**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 81,714; Non-Residential Outdoor: 27,238; Striped Parking Area: 4,261 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
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	6.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	6.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

**Trips and VMT**

All Peoples Church - San Diego County APCD Air District, 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
Site Preparation	7	18.00	0.00	2,813.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	53.00	21.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	11.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Use Cleaner Engines for Construction Equipment

Water Exposed Area

**3.2 Site Preparation - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0919	0.0000	0.0919	0.0499	0.0000	0.0499						
Off-Road	0.0159	0.1654	0.0985	1.9000e-004		8.0600e-003	8.0600e-003		7.4200e-003	7.4200e-003						
<b>Total</b>	<b>0.0159</b>	<b>0.1654</b>	<b>0.0985</b>	<b>1.9000e-004</b>	<b>0.0919</b>	<b>8.0600e-003</b>	<b>0.1000</b>	<b>0.0499</b>	<b>7.4200e-003</b>	<b>0.0573</b>						

All Peoples Church - San Diego County APCD Air District, Annual

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

**3.2 Site Preparation - 2022**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.2300e-003	0.2368	0.0559	8.8000e-004	0.0241	2.2000e-003	0.0263	6.6200e-003	2.1100e-003	8.7200e-003						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	2.6000e-004	1.9000e-004	2.2100e-003	1.0000e-005	7.2000e-004	0.0000	7.3000e-004	1.9000e-004	0.0000	2.0000e-004						
<b>Total</b>	<b>6.4900e-003</b>	<b>0.2370</b>	<b>0.0581</b>	<b>8.9000e-004</b>	<b>0.0248</b>	<b>2.2000e-003</b>	<b>0.0270</b>	<b>6.8100e-003</b>	<b>2.1100e-003</b>	<b>8.9200e-003</b>						

**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					0.0359	0.0000	0.0359	0.0195	0.0000	0.0195						
Off-Road	2.3300e-003	0.0101	0.1043	1.9000e-004		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004						
<b>Total</b>	<b>2.3300e-003</b>	<b>0.0101</b>	<b>0.1043</b>	<b>1.9000e-004</b>	<b>0.0359</b>	<b>3.1000e-004</b>	<b>0.0362</b>	<b>0.0195</b>	<b>3.1000e-004</b>	<b>0.0198</b>						

All Peoples Church - San Diego County APCD Air District, Annual

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

**3.2 Site Preparation - 2022**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.2300e-003	0.2368	0.0559	8.8000e-004	0.0241	2.2000e-003	0.0263	6.6200e-003	2.1100e-003	8.7200e-003						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	2.6000e-004	1.9000e-004	2.2100e-003	1.0000e-005	7.2000e-004	0.0000	7.3000e-004	1.9000e-004	0.0000	2.0000e-004						
<b>Total</b>	<b>6.4900e-003</b>	<b>0.2370</b>	<b>0.0581</b>	<b>8.9000e-004</b>	<b>0.0248</b>	<b>2.2000e-003</b>	<b>0.0270</b>	<b>6.8100e-003</b>	<b>2.1100e-003</b>	<b>8.9200e-003</b>						

**3.3 Grading - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0634	0.0000	0.0634	0.0335	0.0000	0.0335						
Off-Road	0.0195	0.2086	0.1527	3.0000e-004		9.4100e-003	9.4100e-003		8.6600e-003	8.6600e-003						
<b>Total</b>	<b>0.0195</b>	<b>0.2086</b>	<b>0.1527</b>	<b>3.0000e-004</b>	<b>0.0634</b>	<b>9.4100e-003</b>	<b>0.0728</b>	<b>0.0335</b>	<b>8.6600e-003</b>	<b>0.0421</b>						

All Peoples Church - San Diego County APCD Air District, Annual

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

**3.3 Grading - 2022**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	4.3000e-004	3.1000e-004	3.6800e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004						
<b>Total</b>	<b>4.3000e-004</b>	<b>3.1000e-004</b>	<b>3.6800e-003</b>	<b>1.0000e-005</b>	<b>1.2000e-003</b>	<b>1.0000e-005</b>	<b>1.2100e-003</b>	<b>3.2000e-004</b>	<b>1.0000e-005</b>	<b>3.3000e-004</b>						

**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					0.0247	0.0000	0.0247	0.0130	0.0000	0.0130						
Off-Road	3.6300e-003	0.0157	0.1775	3.0000e-004		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004						
<b>Total</b>	<b>3.6300e-003</b>	<b>0.0157</b>	<b>0.1775</b>	<b>3.0000e-004</b>	<b>0.0247</b>	<b>4.8000e-004</b>	<b>0.0252</b>	<b>0.0130</b>	<b>4.8000e-004</b>	<b>0.0135</b>						

All Peoples Church - San Diego County APCD Air District, Annual

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

**3.3 Grading - 2022**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	4.3000e-004	3.1000e-004	3.6800e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004						
<b>Total</b>	<b>4.3000e-004</b>	<b>3.1000e-004</b>	<b>3.6800e-003</b>	<b>1.0000e-005</b>	<b>1.2000e-003</b>	<b>1.0000e-005</b>	<b>1.2100e-003</b>	<b>3.2000e-004</b>	<b>1.0000e-005</b>	<b>3.3000e-004</b>						

**3.4 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	0.1498	1.3643	1.4448	2.3300e-003		0.0713	0.0713		0.0669	0.0669						
<b>Total</b>	<b>0.1498</b>	<b>1.3643</b>	<b>1.4448</b>	<b>2.3300e-003</b>		<b>0.0713</b>	<b>0.0713</b>		<b>0.0669</b>	<b>0.0669</b>						

All Peoples Church - San Diego County APCD Air District, Annual

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

**3.4 Building Construction - 2022**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Vendor	4.4100e-003	0.1098	0.0360	4.3000e-004	0.0133	1.1500e-003	0.0144	3.8200e-003	1.1000e-003	4.9300e-003						
Worker	0.0145	0.0106	0.1236	3.6000e-004	0.0404	2.3000e-004	0.0406	0.0107	2.2000e-004	0.0109						
<b>Total</b>	<b>0.0189</b>	<b>0.1204</b>	<b>0.1596</b>	<b>7.9000e-004</b>	<b>0.0536</b>	<b>1.3800e-003</b>	<b>0.0550</b>	<b>0.0146</b>	<b>1.3200e-003</b>	<b>0.0159</b>						

**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	0.0697	0.4338	1.5233	2.3300e-003		0.0192	0.0192		0.0192	0.0192						
<b>Total</b>	<b>0.0697</b>	<b>0.4338</b>	<b>1.5233</b>	<b>2.3300e-003</b>		<b>0.0192</b>	<b>0.0192</b>		<b>0.0192</b>	<b>0.0192</b>						

All Peoples Church - San Diego County APCD Air District, Annual

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

**3.4 Building Construction - 2022**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Vendor	4.4100e-003	0.1098	0.0360	4.3000e-004	0.0133	1.1500e-003	0.0144	3.8200e-003	1.1000e-003	4.9300e-003						
Worker	0.0145	0.0106	0.1236	3.6000e-004	0.0404	2.3000e-004	0.0406	0.0107	2.2000e-004	0.0109						
<b>Total</b>	<b>0.0189</b>	<b>0.1204</b>	<b>0.1596</b>	<b>7.9000e-004</b>	<b>0.0536</b>	<b>1.3800e-003</b>	<b>0.0550</b>	<b>0.0146</b>	<b>1.3200e-003</b>	<b>0.0159</b>						

**3.5 Paving - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0110	0.1113	0.1458	2.3000e-004		5.6800e-003	5.6800e-003		5.2200e-003	5.2200e-003						
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						
<b>Total</b>	<b>0.0110</b>	<b>0.1113</b>	<b>0.1458</b>	<b>2.3000e-004</b>		<b>5.6800e-003</b>	<b>5.6800e-003</b>		<b>5.2200e-003</b>	<b>5.2200e-003</b>						



All Peoples Church - San Diego County APCD Air District, Annual

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

**3.5 Paving - 2022**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	4.3000e-004	3.1000e-004	3.6800e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004						
<b>Total</b>	<b>4.3000e-004</b>	<b>3.1000e-004</b>	<b>3.6800e-003</b>	<b>1.0000e-005</b>	<b>1.2000e-003</b>	<b>1.0000e-005</b>	<b>1.2100e-003</b>	<b>3.2000e-004</b>	<b>1.0000e-005</b>	<b>3.3000e-004</b>						

**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	2.8000e-003	0.0122	0.1730	2.3000e-004		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004						
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						
<b>Total</b>	<b>2.8000e-003</b>	<b>0.0122</b>	<b>0.1730</b>	<b>2.3000e-004</b>		<b>3.7000e-004</b>	<b>3.7000e-004</b>		<b>3.7000e-004</b>	<b>3.7000e-004</b>						

All Peoples Church - San Diego County APCD Air District, Annual

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

**3.5 Paving - 2022**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	4.3000e-004	3.1000e-004	3.6800e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004						
<b>Total</b>	<b>4.3000e-004</b>	<b>3.1000e-004</b>	<b>3.6800e-003</b>	<b>1.0000e-005</b>	<b>1.2000e-003</b>	<b>1.0000e-005</b>	<b>1.2100e-003</b>	<b>3.2000e-004</b>	<b>1.0000e-005</b>	<b>3.3000e-004</b>						

**3.6 Architectural Coating - 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					
Archit. Coating	0.1361					0.0000	0.0000		0.0000	0.0000						
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004						
<b>Total</b>	<b>0.1382</b>	<b>0.0141</b>	<b>0.0181</b>	<b>3.0000e-005</b>		<b>8.2000e-004</b>	<b>8.2000e-004</b>		<b>8.2000e-004</b>	<b>8.2000e-004</b>						

All Peoples Church - San Diego County APCD Air District, Annual

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

**3.6 Architectural Coating - 2022**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	3.2000e-004	2.3000e-004	2.7000e-003	1.0000e-005	8.8000e-004	1.0000e-005	8.9000e-004	2.3000e-004	0.0000	2.4000e-004						
<b>Total</b>	<b>3.2000e-004</b>	<b>2.3000e-004</b>	<b>2.7000e-003</b>	<b>1.0000e-005</b>	<b>8.8000e-004</b>	<b>1.0000e-005</b>	<b>8.9000e-004</b>	<b>2.3000e-004</b>	<b>0.0000</b>	<b>2.4000e-004</b>						

**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	0.1361					0.0000	0.0000		0.0000	0.0000						
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004						
<b>Total</b>	<b>0.1382</b>	<b>0.0141</b>	<b>0.0181</b>	<b>3.0000e-005</b>		<b>8.2000e-004</b>	<b>8.2000e-004</b>		<b>8.2000e-004</b>	<b>8.2000e-004</b>						

All Peoples Church - San Diego County APCD Air District, Annual

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

**3.6 Architectural Coating - 2022**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	3.2000e-004	2.3000e-004	2.7000e-003	1.0000e-005	8.8000e-004	1.0000e-005	8.9000e-004	2.3000e-004	0.0000	2.4000e-004						
<b>Total</b>	<b>3.2000e-004</b>	<b>2.3000e-004</b>	<b>2.7000e-003</b>	<b>1.0000e-005</b>	<b>8.8000e-004</b>	<b>1.0000e-005</b>	<b>8.9000e-004</b>	<b>2.3000e-004</b>	<b>0.0000</b>	<b>2.4000e-004</b>						

**4.0 Operational Detail - Mobile**

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**4.1 Mitigation Measures Mobile**

All Peoples Church - San Diego County APCD Air District, 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					
Mitigated	0.1982	0.1785	1.4662	2.5500e-003	0.2556	2.1500e-003	0.2577	0.0682	2.0100e-003	0.0702						
Unmitigated	0.1982	0.1785	1.4662	2.5500e-003	0.2556	2.1500e-003	0.2577	0.0682	2.0100e-003	0.0702						

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Place of Worship	280.03	280.03	1975.99	683,244	683,244
Unenclosed Parking Structure	0.00	0.00	0.00		
<b>Total</b>	<b>280.03</b>	<b>280.03</b>	<b>1,975.99</b>	<b>683,244</b>	<b>683,244</b>

**4.3 Trip Type Information**

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Place of Worship	5.10	5.10	5.10	0.00	95.00	5.00	64	25	11
Unenclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Place of Worship	0.553514	0.062792	0.181046	0.120736	0.024419	0.006214	0.008493	0.006184	0.000715	0.000556	0.029185	0.000982	0.005164
Unenclosed Parking Structure	0.553514	0.062792	0.181046	0.120736	0.024419	0.006214	0.008493	0.006184	0.000715	0.000556	0.029185	0.000982	0.005164

**5.0 Energy Detail**

All Peoples Church - San Diego County APCD Air District, Annual

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

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000						
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000						
NaturalGas Mitigated	3.3800e-003	0.0308	0.0258	1.8000e-004		2.3400e-003	2.3400e-003		2.3400e-003	2.3400e-003						
NaturalGas Unmitigated	3.3800e-003	0.0308	0.0258	1.8000e-004		2.3400e-003	2.3400e-003		2.3400e-003	2.3400e-003						

All Peoples Church - San Diego County APCD Air District, Annual

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

**5.2 Energy by Land Use - NaturalGas**

**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Place of Worship	627564	3.3800e-003	0.0308	0.0258	1.8000e-004		2.3400e-003	2.3400e-003		2.3400e-003	2.3400e-003						
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						
<b>Total</b>		<b>3.3800e-003</b>	<b>0.0308</b>	<b>0.0258</b>	<b>1.8000e-004</b>		<b>2.3400e-003</b>	<b>2.3400e-003</b>		<b>2.3400e-003</b>	<b>2.3400e-003</b>						

**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Place of Worship	627564	3.3800e-003	0.0308	0.0258	1.8000e-004		2.3400e-003	2.3400e-003		2.3400e-003	2.3400e-003						
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						
<b>Total</b>		<b>3.3800e-003</b>	<b>0.0308</b>	<b>0.0258</b>	<b>1.8000e-004</b>		<b>2.3400e-003</b>	<b>2.3400e-003</b>		<b>2.3400e-003</b>	<b>2.3400e-003</b>						

All Peoples Church - San Diego County APCD Air District, Annual

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

**5.3 Energy by Land Use - Electricity**

**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Place of Worship	445614				
Unenclosed Parking Structure	124268				
<b>Total</b>					

**Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Place of Worship	445614				
Unenclosed Parking Structure	124268				
<b>Total</b>					

**6.0 Area Detail**

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All Peoples Church - San Diego County APCD Air District, Annual

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

**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2311	1.0000e-005	1.1500e-003	0.0000		0.0000	0.0000		0.0000	0.0000						
Unmitigated	0.2311	1.0000e-005	1.1500e-003	0.0000		0.0000	0.0000		0.0000	0.0000						

**6.2 Area by SubCategory**

**Unmitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0136					0.0000	0.0000		0.0000	0.0000						
Consumer Products	0.2174					0.0000	0.0000		0.0000	0.0000						
Landscaping	1.1000e-004	1.0000e-005	1.1500e-003	0.0000		0.0000	0.0000		0.0000	0.0000						
<b>Total</b>	<b>0.2311</b>	<b>1.0000e-005</b>	<b>1.1500e-003</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>						

All Peoples Church - San Diego County APCD Air District, Annual

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

**6.2 Area by SubCategory**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0136					0.0000	0.0000		0.0000	0.0000						
Consumer Products	0.2174					0.0000	0.0000		0.0000	0.0000						
Landscaping	1.1000e-004	1.0000e-005	1.1500e-003	0.0000		0.0000	0.0000		0.0000	0.0000						
<b>Total</b>	<b>0.2311</b>	<b>1.0000e-005</b>	<b>1.1500e-003</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>						

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

All Peoples Church - San Diego County APCD Air District, Annual

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

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated				
Unmitigated				

**7.2 Water by Land Use**

**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Place of Worship	1.70462 / 2.6662				
Unenclosed Parking Structure	0 / 0				
<b>Total</b>					

All Peoples Church - San Diego County APCD Air District, Annual

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

**7.2 Water by Land Use**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Place of Worship	1.3637 / 2.50356				
Unenclosed Parking Structure	0 / 0				
<b>Total</b>					

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

Institute Recycling and Composting Services

All Peoples Church - San Diego County APCD Air District, Annual

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

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated				
Unmitigated				

**8.2 Waste by Land Use**

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Place of Worship	310.54				
Unenclosed Parking Structure	0				
<b>Total</b>					

All Peoples Church - San Diego County APCD Air District, Annual

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

**8.2 Waste by Land Use**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Place of Worship	155.27				
Unenclosed Parking Structure	0				
<b>Total</b>					

**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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**10.0 Stationary Equipment**

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number
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**11.0 Vegetation**

All Peoples Church - San Diego County APCD Air District, Annual

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

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All Peoples Church - San Diego County APCD Air District, Summer

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

**All Peoples Church**

**San Diego County APCD Air District, Summer**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Place of Worship	54.48	1000sqft	4.36	54,476.00	0
Unenclosed Parking Structure	71.01	1000sqft	1.63	71,010.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.6	<b>Precipitation Freq (Days)</b>	40
<b>Climate Zone</b>	13			<b>Operational Year</b>	2023
<b>Utility Company</b>	San Diego Gas & Electric				
<b>CO2 Intensity (lb/MWhr)</b>	539.98	<b>CH4 Intensity (lb/MWhr)</b>	0.033	<b>N2O Intensity (lb/MWhr)</b>	0.004

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics -

Land Use - Total site area = 5.99 acres

Construction Phase - Building phase schedule demonstrates a conservative estimate, where all phases are shown within one calendar year.

Off-road Equipment - Arch Coating equipment is consistent with default from CalEEMod.

Off-road Equipment - Default equipment, with select equipment hours adjusted to be more consistent with the overall building construction phase.

Off-road Equipment - Grading equipment is consistent with default from CalEEMod.

Off-road Equipment - Paving equipment is consistent with default from CalEEMod.



All Peoples Church - San Diego County APCD Air District, Summer

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

Off-road Equipment - Site prep equipment is consistent with default from CalEEMod.

Grading - Total acres graded: 5.99; Soil import 22,500 CY

Architectural Coating - SDAPCD Rule 67.0.1: 50 g/L flat coatings and 100 g/L traffic markings

Vehicle Trips - Trip Rates based on ADT in LMA, July 6, 2021. Weekday: 5.14 x 54.476 = 280 and Sunday: 36.27 x 54.476 = 1976. Trip length based on TIA = avg 5.1 miles.

Area Coating - SDAPCD Rule 67.0.1: 50 g/L flat coatings; 100 g/L traffic markings

Construction Off-road Equipment Mitigation - Construction equipment is assumed to meet Tier 4 engine standards. Tier 4 is not necessary for smaller equipment, such as generator set, welders, and air compressors.

Area Mitigation - SDAPCD Rule 67.0.1: 50 g/L flat coatings, 100 g/L traffic markings

Energy Mitigation - Incorporates 2019 Title 24 Building Standards

Water Mitigation - Low-flow bathroom faucet, kitchen faucet, toilet, and shower. Use water-efficient irrigation systems.

Waste Mitigation - 50% reduction in waste for recycling and composting services.

Trips and VMT -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Parking	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	50
tblAreaCoating	Area_EF_Nonresidential_Interior	250	50
tblAreaCoating	Area_EF_Parking	250	100
tblAreaCoating	Area_EF_Residential_Exterior	250	50
tblAreaCoating	Area_EF_Residential_Interior	250	50
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

All Peoples Church - San Diego County APCD Air District, Summer

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

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	230.00	190.00
tblGrading	AcresOfGrading	20.00	5.99
tblGrading	AcresOfGrading	15.00	0.00
tblGrading	MaterialImported	0.00	22,500.00
tblLandUse	LandUseSquareFeet	54,480.00	54,476.00
tblLandUse	LotAcreage	1.25	4.36
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblVehicleTrips	CC_TL	7.30	5.10
tblVehicleTrips	CNW_TL	7.30	5.10
tblVehicleTrips	CW_TL	9.50	5.10
tblVehicleTrips	ST_TR	5.99	5.14
tblVehicleTrips	SU_TR	27.63	36.27
tblVehicleTrips	WD_TR	6.95	5.14



All Peoples Church - San Diego County APCD Air District, Summer

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

All Peoples Church - San Diego County APCD Air District, Summer

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

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.2667	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005						
Energy	0.0185	0.1686	0.1416	1.0100e-003		0.0128	0.0128		0.0128	0.0128						
Mobile	4.3812	3.4601	29.4581	0.0550	5.4414	0.0448	5.4862	1.4495	0.0418	1.4913						
<b>Total</b>	<b>5.6664</b>	<b>3.6288</b>	<b>29.6125</b>	<b>0.0560</b>	<b>5.4414</b>	<b>0.0577</b>	<b>5.4991</b>	<b>1.4495</b>	<b>0.0546</b>	<b>1.5041</b>						

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.2667	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005						
Energy	0.0185	0.1686	0.1416	1.0100e-003		0.0128	0.0128		0.0128	0.0128						
Mobile	4.3812	3.4601	29.4581	0.0550	5.4414	0.0448	5.4862	1.4495	0.0418	1.4913						
<b>Total</b>	<b>5.6664</b>	<b>3.6288</b>	<b>29.6125</b>	<b>0.0560</b>	<b>5.4414</b>	<b>0.0577</b>	<b>5.4991</b>	<b>1.4495</b>	<b>0.0546</b>	<b>1.5041</b>						

All Peoples Church - San Diego County APCD Air District, Summer

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

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

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/2/2022	1/14/2022	5	10	
2	Grading	Grading	1/15/2022	2/11/2022	5	20	
3	Building Construction	Building Construction	2/12/2022	11/4/2022	5	190	
4	Paving	Paving	11/5/2022	12/2/2022	5	20	
5	Architectural Coating	Architectural Coating	12/2/2022	12/29/2022	5	20	

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 5.99**

**Acres of Paving: 1.63**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 81,714; Non-Residential Outdoor: 27,238; Striped Parking Area: 4,261 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
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

All Peoples Church - San Diego County APCD Air District, Summer

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

Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	6.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
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
Site Preparation	7	18.00	0.00	2,813.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	53.00	21.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	11.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Use Cleaner Engines for Construction Equipment

Water Exposed Area

All Peoples Church - San Diego County APCD Air District, Summer

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

**3.2 Site Preparation - 2022**

**Unmitigated Construction 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					18.3824	0.0000	18.3824	9.9786	0.0000	9.9786						
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836						
<b>Total</b>	<b>3.1701</b>	<b>33.0835</b>	<b>19.6978</b>	<b>0.0380</b>	<b>18.3824</b>	<b>1.6126</b>	<b>19.9950</b>	<b>9.9786</b>	<b>1.4836</b>	<b>11.4621</b>						

**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	1.2607	45.6862	11.1053	0.1765	4.9199	0.4401	5.3600	1.3485	0.4210	1.7696						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0525	0.0342	0.4661	1.3500e-003	0.1479	8.4000e-004	0.1487	0.0392	7.7000e-004	0.0400						
<b>Total</b>	<b>1.3132</b>	<b>45.7204</b>	<b>11.5714</b>	<b>0.1779</b>	<b>5.0678</b>	<b>0.4409</b>	<b>5.5087</b>	<b>1.3878</b>	<b>0.4218</b>	<b>1.8096</b>						



All Peoples Church - San Diego County APCD Air District, Summer

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

**3.2 Site Preparation - 2022**

**Mitigated Construction 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					7.1692	0.0000	7.1692	3.8916	0.0000	3.8916						
Off-Road	0.4656	2.0175	20.8690	0.0380		0.0621	0.0621		0.0621	0.0621						
<b>Total</b>	<b>0.4656</b>	<b>2.0175</b>	<b>20.8690</b>	<b>0.0380</b>	<b>7.1692</b>	<b>0.0621</b>	<b>7.2312</b>	<b>3.8916</b>	<b>0.0621</b>	<b>3.9537</b>						

**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	1.2607	45.6862	11.1053	0.1765	4.9199	0.4401	5.3600	1.3485	0.4210	1.7696						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0525	0.0342	0.4661	1.3500e-003	0.1479	8.4000e-004	0.1487	0.0392	7.7000e-004	0.0400						
<b>Total</b>	<b>1.3132</b>	<b>45.7204</b>	<b>11.5714</b>	<b>0.1779</b>	<b>5.0678</b>	<b>0.4409</b>	<b>5.5087</b>	<b>1.3878</b>	<b>0.4218</b>	<b>1.8096</b>						

All Peoples Church - San Diego County APCD Air District, Summer

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

**3.3 Grading - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.3397	0.0000	6.3397	3.3445	0.0000	3.3445						
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656						
<b>Total</b>	<b>1.9486</b>	<b>20.8551</b>	<b>15.2727</b>	<b>0.0297</b>	<b>6.3397</b>	<b>0.9409</b>	<b>7.2806</b>	<b>3.3445</b>	<b>0.8656</b>	<b>4.2101</b>						

**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						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0438	0.0285	0.3884	1.1200e-003	0.1232	7.0000e-004	0.1239	0.0327	6.4000e-004	0.0333						
<b>Total</b>	<b>0.0438</b>	<b>0.0285</b>	<b>0.3884</b>	<b>1.1200e-003</b>	<b>0.1232</b>	<b>7.0000e-004</b>	<b>0.1239</b>	<b>0.0327</b>	<b>6.4000e-004</b>	<b>0.0333</b>						

All Peoples Church - San Diego County APCD Air District, Summer

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

**3.3 Grading - 2022**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.4725	0.0000	2.4725	1.3044	0.0000	1.3044						
Off-Road	0.3632	1.5737	17.7527	0.0297		0.0484	0.0484		0.0484	0.0484						
<b>Total</b>	<b>0.3632</b>	<b>1.5737</b>	<b>17.7527</b>	<b>0.0297</b>	<b>2.4725</b>	<b>0.0484</b>	<b>2.5209</b>	<b>1.3044</b>	<b>0.0484</b>	<b>1.3528</b>						

**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						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0438	0.0285	0.3884	1.1200e-003	0.1232	7.0000e-004	0.1239	0.0327	6.4000e-004	0.0333						
<b>Total</b>	<b>0.0438</b>	<b>0.0285</b>	<b>0.3884</b>	<b>1.1200e-003</b>	<b>0.1232</b>	<b>7.0000e-004</b>	<b>0.1239</b>	<b>0.0327</b>	<b>6.4000e-004</b>	<b>0.0333</b>						

All Peoples Church - San Diego County APCD Air District, Summer

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

**3.4 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	1.5771	14.3605	15.2079	0.0246		0.7506	0.7506		0.7045	0.7045						
<b>Total</b>	<b>1.5771</b>	<b>14.3605</b>	<b>15.2079</b>	<b>0.0246</b>		<b>0.7506</b>	<b>0.7506</b>		<b>0.7045</b>	<b>0.7045</b>						

**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						
Vendor	0.0468	1.1168	0.3736	4.4800e-003	0.1422	0.0121	0.1544	0.0409	0.0116	0.0526						
Worker	0.1547	0.1007	1.3723	3.9700e-003	0.4354	2.4600e-003	0.4378	0.1155	2.2700e-003	0.1178						
<b>Total</b>	<b>0.2015</b>	<b>1.2175</b>	<b>1.7459</b>	<b>8.4500e-003</b>	<b>0.5776</b>	<b>0.0146</b>	<b>0.5922</b>	<b>0.1564</b>	<b>0.0139</b>	<b>0.1703</b>						

All Peoples Church - San Diego County APCD Air District, Summer

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

**3.4 Building Construction - 2022**

**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	0.7336	4.5664	16.0349	0.0246		0.2020	0.2020		0.2020	0.2020						
<b>Total</b>	<b>0.7336</b>	<b>4.5664</b>	<b>16.0349</b>	<b>0.0246</b>		<b>0.2020</b>	<b>0.2020</b>		<b>0.2020</b>	<b>0.2020</b>						

**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						
Vendor	0.0468	1.1168	0.3736	4.4800e-003	0.1422	0.0121	0.1544	0.0409	0.0116	0.0526						
Worker	0.1547	0.1007	1.3723	3.9700e-003	0.4354	2.4600e-003	0.4378	0.1155	2.2700e-003	0.1178						
<b>Total</b>	<b>0.2015</b>	<b>1.2175</b>	<b>1.7459</b>	<b>8.4500e-003</b>	<b>0.5776</b>	<b>0.0146</b>	<b>0.5922</b>	<b>0.1564</b>	<b>0.0139</b>	<b>0.1703</b>						

All Peoples Church - San Diego County APCD Air District, Summer

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

**3.5 Paving - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225						
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						
<b>Total</b>	<b>1.1028</b>	<b>11.1249</b>	<b>14.5805</b>	<b>0.0228</b>		<b>0.5679</b>	<b>0.5679</b>		<b>0.5225</b>	<b>0.5225</b>						

**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						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0438	0.0285	0.3884	1.1200e-003	0.1232	7.0000e-004	0.1239	0.0327	6.4000e-004	0.0333						
<b>Total</b>	<b>0.0438</b>	<b>0.0285</b>	<b>0.3884</b>	<b>1.1200e-003</b>	<b>0.1232</b>	<b>7.0000e-004</b>	<b>0.1239</b>	<b>0.0327</b>	<b>6.4000e-004</b>	<b>0.0333</b>						

All Peoples Church - San Diego County APCD Air District, Summer

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

**3.5 Paving - 2022**

**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	0.2805	1.2154	17.2957	0.0228		0.0374	0.0374		0.0374	0.0374						
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						
<b>Total</b>	<b>0.2805</b>	<b>1.2154</b>	<b>17.2957</b>	<b>0.0228</b>		<b>0.0374</b>	<b>0.0374</b>		<b>0.0374</b>	<b>0.0374</b>						

**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						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0438	0.0285	0.3884	1.1200e-003	0.1232	7.0000e-004	0.1239	0.0327	6.4000e-004	0.0333						
<b>Total</b>	<b>0.0438</b>	<b>0.0285</b>	<b>0.3884</b>	<b>1.1200e-003</b>	<b>0.1232</b>	<b>7.0000e-004</b>	<b>0.1239</b>	<b>0.0327</b>	<b>6.4000e-004</b>	<b>0.0333</b>						

All Peoples Church - San Diego County APCD Air District, Summer

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

**3.6 Architectural Coating - 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					
Archit. Coating	13.6123					0.0000	0.0000		0.0000	0.0000						
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817						
<b>Total</b>	<b>13.8168</b>	<b>1.4085</b>	<b>1.8136</b>	<b>2.9700e-003</b>		<b>0.0817</b>	<b>0.0817</b>		<b>0.0817</b>	<b>0.0817</b>						

**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						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0321	0.0209	0.2848	8.2000e-004	0.0904	5.1000e-004	0.0909	0.0240	4.7000e-004	0.0244						
<b>Total</b>	<b>0.0321</b>	<b>0.0209</b>	<b>0.2848</b>	<b>8.2000e-004</b>	<b>0.0904</b>	<b>5.1000e-004</b>	<b>0.0909</b>	<b>0.0240</b>	<b>4.7000e-004</b>	<b>0.0244</b>						



All Peoples Church - San Diego County APCD Air District, Summer

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

**3.6 Architectural Coating - 2022**

**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	13.6123					0.0000	0.0000		0.0000	0.0000						
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817						
<b>Total</b>	<b>13.8168</b>	<b>1.4085</b>	<b>1.8136</b>	<b>2.9700e-003</b>		<b>0.0817</b>	<b>0.0817</b>		<b>0.0817</b>	<b>0.0817</b>						

**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						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0321	0.0209	0.2848	8.2000e-004	0.0904	5.1000e-004	0.0909	0.0240	4.7000e-004	0.0244						
<b>Total</b>	<b>0.0321</b>	<b>0.0209</b>	<b>0.2848</b>	<b>8.2000e-004</b>	<b>0.0904</b>	<b>5.1000e-004</b>	<b>0.0909</b>	<b>0.0240</b>	<b>4.7000e-004</b>	<b>0.0244</b>						

All Peoples Church - San Diego County APCD Air District, Summer

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

**4.0 Operational Detail - Mobile**

**4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.3812	3.4601	29.4581	0.0550	5.4414	0.0448	5.4862	1.4495	0.0418	1.4913						
Unmitigated	4.3812	3.4601	29.4581	0.0550	5.4414	0.0448	5.4862	1.4495	0.0418	1.4913						

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Place of Worship	280.03	280.03	1975.99	683,244	683,244
Unenclosed Parking Structure	0.00	0.00	0.00		
<b>Total</b>	<b>280.03</b>	<b>280.03</b>	<b>1,975.99</b>	<b>683,244</b>	<b>683,244</b>

**4.3 Trip Type Information**

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Place of Worship	5.10	5.10	5.10	0.00	95.00	5.00	64	25	11
Unenclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

**4.4 Fleet Mix**

All Peoples Church - San Diego County APCD Air District, Summer

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

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Place of Worship	0.553514	0.062792	0.181046	0.120736	0.024419	0.006214	0.008493	0.006184	0.000715	0.000556	0.029185	0.000982	0.005164
Unenclosed Parking Structure	0.553514	0.062792	0.181046	0.120736	0.024419	0.006214	0.008493	0.006184	0.000715	0.000556	0.029185	0.000982	0.005164

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0185	0.1686	0.1416	1.0100e-003		0.0128	0.0128		0.0128	0.0128						
NaturalGas Unmitigated	0.0185	0.1686	0.1416	1.0100e-003		0.0128	0.0128		0.0128	0.0128						

All Peoples Church - San Diego County APCD Air District, Summer

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

**5.2 Energy by Land Use - NaturalGas**

**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Place of Worship	1719.35	0.0185	0.1686	0.1416	1.0100e-003		0.0128	0.0128		0.0128	0.0128						
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						
<b>Total</b>		<b>0.0185</b>	<b>0.1686</b>	<b>0.1416</b>	<b>1.0100e-003</b>		<b>0.0128</b>	<b>0.0128</b>		<b>0.0128</b>	<b>0.0128</b>						

**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Place of Worship	1.71935	0.0185	0.1686	0.1416	1.0100e-003		0.0128	0.0128		0.0128	0.0128						
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						
<b>Total</b>		<b>0.0185</b>	<b>0.1686</b>	<b>0.1416</b>	<b>1.0100e-003</b>		<b>0.0128</b>	<b>0.0128</b>		<b>0.0128</b>	<b>0.0128</b>						

**6.0 Area Detail**

All Peoples Church - San Diego County APCD Air District, Summer

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

**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.2667	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005						
Unmitigated	1.2667	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005						

**6.2 Area by SubCategory**

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0746					0.0000	0.0000		0.0000	0.0000						
Consumer Products	1.1909					0.0000	0.0000		0.0000	0.0000						
Landscaping	1.1900e-003	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005						
<b>Total</b>	<b>1.2667</b>	<b>1.2000e-004</b>	<b>0.0128</b>	<b>0.0000</b>		<b>5.0000e-005</b>	<b>5.0000e-005</b>		<b>5.0000e-005</b>	<b>5.0000e-005</b>						

All Peoples Church - San Diego County APCD Air District, Summer

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

**6.2 Area by SubCategory**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0746					0.0000	0.0000		0.0000	0.0000						
Consumer Products	1.1909					0.0000	0.0000		0.0000	0.0000						
Landscaping	1.1900e-003	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005						
<b>Total</b>	<b>1.2667</b>	<b>1.2000e-004</b>	<b>0.0128</b>	<b>0.0000</b>		<b>5.0000e-005</b>	<b>5.0000e-005</b>		<b>5.0000e-005</b>	<b>5.0000e-005</b>						

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower
- Use Water Efficient Irrigation System

All Peoples Church - San Diego County APCD Air District, Summer

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

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

Institute Recycling and Composting Services

**9.0 Operational Offroad**

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Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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**10.0 Stationary Equipment**

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**Fire Pumps and Emergency Generators**

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

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

Equipment Type	Number
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**11.0 Vegetation**

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All Peoples Church - San Diego County APCD Air District, Winter

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

**All Peoples Church**  
**San Diego County APCD Air District, Winter**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Place of Worship	54.48	1000sqft	4.36	54,476.00	0
Unenclosed Parking Structure	71.01	1000sqft	1.63	71,010.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.6	<b>Precipitation Freq (Days)</b>	40
<b>Climate Zone</b>	13			<b>Operational Year</b>	2023
<b>Utility Company</b>	San Diego Gas & Electric				
<b>CO2 Intensity (lb/MWhr)</b>	539.98	<b>CH4 Intensity (lb/MWhr)</b>	0.033	<b>N2O Intensity (lb/MWhr)</b>	0.004

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics -

Land Use - Total site area = 5.99 acres

Construction Phase - Building phase schedule demonstrates a conservative estimate, where all phases are shown within one calendar year.

Off-road Equipment - Arch Coating equipment is consistent with default from CalEEMod.

Off-road Equipment - Default equipment, with select equipment hours adjusted to be more consistent with the overall building construction phase.

Off-road Equipment - Grading equipment is consistent with default from CalEEMod.

Off-road Equipment - Paving equipment is consistent with default from CalEEMod.



All Peoples Church - San Diego County APCD Air District, Winter

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

Off-road Equipment - Site prep equipment is consistent with default from CalEEMod.

Grading - Total acres graded: 5.99; Soil import 22,500 CY

Architectural Coating - SDAPCD Rule 67.0.1: 50 g/L flat coatings and 100 g/L traffic markings

Vehicle Trips - Trip Rates based on ADT in LMA, July 6, 2021. Weekday:  $5.14 \times 54.476 = 280$  and Sunday:  $36.27 \times 54.476 = 1976$ . Trip length based on TIA = avg 5.1 miles.

Area Coating - SDAPCD Rule 67.0.1: 50 g/L flat coatings; 100 g/L traffic markings

Construction Off-road Equipment Mitigation - Construction equipment is assumed to meet Tier 4 engine standards. Tier 4 is not necessary for smaller equipment, such as generator set, welders, and air compressors.

Area Mitigation - SDAPCD Rule 67.0.1: 50 g/L flat coatings, 100 g/L traffic markings

Energy Mitigation - Incorporates 2019 Title 24 Building Standards

Water Mitigation - Low-flow bathroom faucet, kitchen faucet, toilet, and shower. Use water-efficient irrigation systems.

Waste Mitigation - 50% reduction in waste for recycling and composting services.

Trips and VMT -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	50.00
tblArchitecturalCoating	EF_Parking	250.00	100.00
tblArchitecturalCoating	EF_Residential_Exterior	250.00	50.00
tblArchitecturalCoating	EF_Residential_Interior	250.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	50
tblAreaCoating	Area_EF_Nonresidential_Interior	250	50
tblAreaCoating	Area_EF_Parking	250	100
tblAreaCoating	Area_EF_Residential_Exterior	250	50
tblAreaCoating	Area_EF_Residential_Interior	250	50
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

All Peoples Church - San Diego County APCD Air District, Winter

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

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	10.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	230.00	190.00
tblGrading	AcresOfGrading	20.00	5.99
tblGrading	AcresOfGrading	15.00	0.00
tblGrading	MaterialImported	0.00	22,500.00
tblLandUse	LandUseSquareFeet	54,480.00	54,476.00
tblLandUse	LotAcreage	1.25	4.36
tblOffRoadEquipment	UsageHours	7.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblVehicleTrips	CC_TL	7.30	5.10
tblVehicleTrips	CNW_TL	7.30	5.10
tblVehicleTrips	CW_TL	9.50	5.10
tblVehicleTrips	ST_TR	5.99	5.14
tblVehicleTrips	SU_TR	27.63	36.27
tblVehicleTrips	WD_TR	6.95	5.14



All Peoples Church - San Diego County APCD Air District, Winter

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

All Peoples Church - San Diego County APCD Air District, Winter

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

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.2667	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005						
Energy	0.0185	0.1686	0.1416	1.0100e-003		0.0128	0.0128		0.0128	0.0128						
Mobile	4.2129	3.7679	31.3801	0.0526	5.4414	0.0449	5.4863	1.4495	0.0418	1.4913						
<b>Total</b>	<b>5.4982</b>	<b>3.9366</b>	<b>31.5345</b>	<b>0.0537</b>	<b>5.4414</b>	<b>0.0577</b>	<b>5.4991</b>	<b>1.4495</b>	<b>0.0547</b>	<b>1.5042</b>						

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.2667	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005						
Energy	0.0185	0.1686	0.1416	1.0100e-003		0.0128	0.0128		0.0128	0.0128						
Mobile	4.2129	3.7679	31.3801	0.0526	5.4414	0.0449	5.4863	1.4495	0.0418	1.4913						
<b>Total</b>	<b>5.4982</b>	<b>3.9366</b>	<b>31.5345</b>	<b>0.0537</b>	<b>5.4414</b>	<b>0.0577</b>	<b>5.4991</b>	<b>1.4495</b>	<b>0.0547</b>	<b>1.5042</b>						

All Peoples Church - San Diego County APCD Air District, Winter

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

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

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/2/2022	1/14/2022	5	10	
2	Grading	Grading	1/15/2022	2/11/2022	5	20	
3	Building Construction	Building Construction	2/12/2022	11/4/2022	5	190	
4	Paving	Paving	11/5/2022	12/2/2022	5	20	
5	Architectural Coating	Architectural Coating	12/2/2022	12/29/2022	5	20	

**Acres of Grading (Site Preparation Phase): 0**

**Acres of Grading (Grading Phase): 5.99**

**Acres of Paving: 1.63**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 81,714; Non-Residential Outdoor: 27,238; Striped Parking Area: 4,261 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
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

All Peoples Church - San Diego County APCD Air District, Winter

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

Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	6.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
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
Site Preparation	7	18.00	0.00	2,813.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	53.00	21.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	11.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Use Cleaner Engines for Construction Equipment

Water Exposed Area

All Peoples Church - San Diego County APCD Air District, Winter

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

**3.2 Site Preparation - 2022**

**Unmitigated Construction 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					18.3824	0.0000	18.3824	9.9786	0.0000	9.9786						
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836						
<b>Total</b>	<b>3.1701</b>	<b>33.0835</b>	<b>19.6978</b>	<b>0.0380</b>	<b>18.3824</b>	<b>1.6126</b>	<b>19.9950</b>	<b>9.9786</b>	<b>1.4836</b>	<b>11.4621</b>						

**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	1.2283	47.4015	11.2745	0.1766	4.9199	0.4408	5.3607	1.3485	0.4217	1.7703						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0568	0.0385	0.4419	1.2700e-003	0.1479	8.4000e-004	0.1487	0.0392	7.7000e-004	0.0400						
<b>Total</b>	<b>1.2851</b>	<b>47.4400</b>	<b>11.7163</b>	<b>0.1779</b>	<b>5.0678</b>	<b>0.4417</b>	<b>5.5094</b>	<b>1.3878</b>	<b>0.4225</b>	<b>1.8103</b>						



All Peoples Church - San Diego County APCD Air District, Winter

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

**3.2 Site Preparation - 2022**

**Mitigated Construction 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					7.1692	0.0000	7.1692	3.8916	0.0000	3.8916						
Off-Road	0.4656	2.0175	20.8690	0.0380		0.0621	0.0621		0.0621	0.0621						
<b>Total</b>	<b>0.4656</b>	<b>2.0175</b>	<b>20.8690</b>	<b>0.0380</b>	<b>7.1692</b>	<b>0.0621</b>	<b>7.2312</b>	<b>3.8916</b>	<b>0.0621</b>	<b>3.9537</b>						

**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	1.2283	47.4015	11.2745	0.1766	4.9199	0.4408	5.3607	1.3485	0.4217	1.7703						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0568	0.0385	0.4419	1.2700e-003	0.1479	8.4000e-004	0.1487	0.0392	7.7000e-004	0.0400						
<b>Total</b>	<b>1.2851</b>	<b>47.4400</b>	<b>11.7163</b>	<b>0.1779</b>	<b>5.0678</b>	<b>0.4417</b>	<b>5.5094</b>	<b>1.3878</b>	<b>0.4225</b>	<b>1.8103</b>						

All Peoples Church - San Diego County APCD Air District, Winter

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

**3.3 Grading - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.3397	0.0000	6.3397	3.3445	0.0000	3.3445						
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656						
<b>Total</b>	<b>1.9486</b>	<b>20.8551</b>	<b>15.2727</b>	<b>0.0297</b>	<b>6.3397</b>	<b>0.9409</b>	<b>7.2806</b>	<b>3.3445</b>	<b>0.8656</b>	<b>4.2101</b>						

**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						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0474	0.0321	0.3682	1.0600e-003	0.1232	7.0000e-004	0.1239	0.0327	6.4000e-004	0.0333						
<b>Total</b>	<b>0.0474</b>	<b>0.0321</b>	<b>0.3682</b>	<b>1.0600e-003</b>	<b>0.1232</b>	<b>7.0000e-004</b>	<b>0.1239</b>	<b>0.0327</b>	<b>6.4000e-004</b>	<b>0.0333</b>						

All Peoples Church - San Diego County APCD Air District, Winter

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

**3.3 Grading - 2022**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.4725	0.0000	2.4725	1.3044	0.0000	1.3044						
Off-Road	0.3632	1.5737	17.7527	0.0297		0.0484	0.0484		0.0484	0.0484						
<b>Total</b>	<b>0.3632</b>	<b>1.5737</b>	<b>17.7527</b>	<b>0.0297</b>	<b>2.4725</b>	<b>0.0484</b>	<b>2.5209</b>	<b>1.3044</b>	<b>0.0484</b>	<b>1.3528</b>						

**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						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0474	0.0321	0.3682	1.0600e-003	0.1232	7.0000e-004	0.1239	0.0327	6.4000e-004	0.0333						
<b>Total</b>	<b>0.0474</b>	<b>0.0321</b>	<b>0.3682</b>	<b>1.0600e-003</b>	<b>0.1232</b>	<b>7.0000e-004</b>	<b>0.1239</b>	<b>0.0327</b>	<b>6.4000e-004</b>	<b>0.0333</b>						

All Peoples Church - San Diego County APCD Air District, Winter

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

**3.4 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	1.5771	14.3605	15.2079	0.0246		0.7506	0.7506		0.7045	0.7045						
<b>Total</b>	<b>1.5771</b>	<b>14.3605</b>	<b>15.2079</b>	<b>0.0246</b>		<b>0.7506</b>	<b>0.7506</b>		<b>0.7045</b>	<b>0.7045</b>						

**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						
Vendor	0.0464	1.1589	0.3851	4.4800e-003	0.1422	0.0122	0.1544	0.0409	0.0117	0.0526						
Worker	0.1673	0.1132	1.3011	3.7500e-003	0.4354	2.4600e-003	0.4378	0.1155	2.2700e-003	0.1178						
<b>Total</b>	<b>0.2137</b>	<b>1.2722</b>	<b>1.6863</b>	<b>8.2300e-003</b>	<b>0.5776</b>	<b>0.0146</b>	<b>0.5922</b>	<b>0.1564</b>	<b>0.0139</b>	<b>0.1704</b>						

All Peoples Church - San Diego County APCD Air District, Winter

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

**3.4 Building Construction - 2022**

**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	0.7336	4.5664	16.0349	0.0246		0.2020	0.2020		0.2020	0.2020						
<b>Total</b>	<b>0.7336</b>	<b>4.5664</b>	<b>16.0349</b>	<b>0.0246</b>		<b>0.2020</b>	<b>0.2020</b>		<b>0.2020</b>	<b>0.2020</b>						

**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						
Vendor	0.0464	1.1589	0.3851	4.4800e-003	0.1422	0.0122	0.1544	0.0409	0.0117	0.0526						
Worker	0.1673	0.1132	1.3011	3.7500e-003	0.4354	2.4600e-003	0.4378	0.1155	2.2700e-003	0.1178						
<b>Total</b>	<b>0.2137</b>	<b>1.2722</b>	<b>1.6863</b>	<b>8.2300e-003</b>	<b>0.5776</b>	<b>0.0146</b>	<b>0.5922</b>	<b>0.1564</b>	<b>0.0139</b>	<b>0.1704</b>						

All Peoples Church - San Diego County APCD Air District, Winter

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

**3.5 Paving - 2022**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225						
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						
<b>Total</b>	<b>1.1028</b>	<b>11.1249</b>	<b>14.5805</b>	<b>0.0228</b>		<b>0.5679</b>	<b>0.5679</b>		<b>0.5225</b>	<b>0.5225</b>						

**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						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0474	0.0321	0.3682	1.0600e-003	0.1232	7.0000e-004	0.1239	0.0327	6.4000e-004	0.0333						
<b>Total</b>	<b>0.0474</b>	<b>0.0321</b>	<b>0.3682</b>	<b>1.0600e-003</b>	<b>0.1232</b>	<b>7.0000e-004</b>	<b>0.1239</b>	<b>0.0327</b>	<b>6.4000e-004</b>	<b>0.0333</b>						

All Peoples Church - San Diego County APCD Air District, Winter

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

**3.5 Paving - 2022**

**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	0.2805	1.2154	17.2957	0.0228		0.0374	0.0374		0.0374	0.0374						
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						
<b>Total</b>	<b>0.2805</b>	<b>1.2154</b>	<b>17.2957</b>	<b>0.0228</b>		<b>0.0374</b>	<b>0.0374</b>		<b>0.0374</b>	<b>0.0374</b>						

**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						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0474	0.0321	0.3682	1.0600e-003	0.1232	7.0000e-004	0.1239	0.0327	6.4000e-004	0.0333						
<b>Total</b>	<b>0.0474</b>	<b>0.0321</b>	<b>0.3682</b>	<b>1.0600e-003</b>	<b>0.1232</b>	<b>7.0000e-004</b>	<b>0.1239</b>	<b>0.0327</b>	<b>6.4000e-004</b>	<b>0.0333</b>						

All Peoples Church - San Diego County APCD Air District, Winter

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

**3.6 Architectural Coating - 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					
Archit. Coating	13.6123					0.0000	0.0000		0.0000	0.0000						
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817						
<b>Total</b>	<b>13.8168</b>	<b>1.4085</b>	<b>1.8136</b>	<b>2.9700e-003</b>		<b>0.0817</b>	<b>0.0817</b>		<b>0.0817</b>	<b>0.0817</b>						

**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						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0347	0.0235	0.2700	7.8000e-004	0.0904	5.1000e-004	0.0909	0.0240	4.7000e-004	0.0244						
<b>Total</b>	<b>0.0347</b>	<b>0.0235</b>	<b>0.2700</b>	<b>7.8000e-004</b>	<b>0.0904</b>	<b>5.1000e-004</b>	<b>0.0909</b>	<b>0.0240</b>	<b>4.7000e-004</b>	<b>0.0244</b>						



All Peoples Church - San Diego County APCD Air District, Winter

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

**3.6 Architectural Coating - 2022**

**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	13.6123					0.0000	0.0000		0.0000	0.0000						
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817						
<b>Total</b>	<b>13.8168</b>	<b>1.4085</b>	<b>1.8136</b>	<b>2.9700e-003</b>		<b>0.0817</b>	<b>0.0817</b>		<b>0.0817</b>	<b>0.0817</b>						

**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						
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						
Worker	0.0347	0.0235	0.2700	7.8000e-004	0.0904	5.1000e-004	0.0909	0.0240	4.7000e-004	0.0244						
<b>Total</b>	<b>0.0347</b>	<b>0.0235</b>	<b>0.2700</b>	<b>7.8000e-004</b>	<b>0.0904</b>	<b>5.1000e-004</b>	<b>0.0909</b>	<b>0.0240</b>	<b>4.7000e-004</b>	<b>0.0244</b>						

All Peoples Church - San Diego County APCD Air District, Winter

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

**4.0 Operational Detail - Mobile**

**4.1 Mitigation Measures Mobile**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.2129	3.7679	31.3801	0.0526	5.4414	0.0449	5.4863	1.4495	0.0418	1.4913						
Unmitigated	4.2129	3.7679	31.3801	0.0526	5.4414	0.0449	5.4863	1.4495	0.0418	1.4913						

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Place of Worship	280.03	280.03	1975.99	683,244	683,244
Unenclosed Parking Structure	0.00	0.00	0.00		
<b>Total</b>	<b>280.03</b>	<b>280.03</b>	<b>1,975.99</b>	<b>683,244</b>	<b>683,244</b>

**4.3 Trip Type Information**

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Place of Worship	5.10	5.10	5.10	0.00	95.00	5.00	64	25	11
Unenclosed Parking Structure	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

**4.4 Fleet Mix**

All Peoples Church - San Diego County APCD Air District, Winter

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

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Place of Worship	0.553514	0.062792	0.181046	0.120736	0.024419	0.006214	0.008493	0.006184	0.000715	0.000556	0.029185	0.000982	0.005164
Unenclosed Parking Structure	0.553514	0.062792	0.181046	0.120736	0.024419	0.006214	0.008493	0.006184	0.000715	0.000556	0.029185	0.000982	0.005164

**5.0 Energy Detail**

Historical Energy Use: N

**5.1 Mitigation Measures Energy**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0185	0.1686	0.1416	1.0100e-003		0.0128	0.0128		0.0128	0.0128						
NaturalGas Unmitigated	0.0185	0.1686	0.1416	1.0100e-003		0.0128	0.0128		0.0128	0.0128						

All Peoples Church - San Diego County APCD Air District, Winter

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

**5.2 Energy by Land Use - NaturalGas**

**Unmitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Place of Worship	1719.35	0.0185	0.1686	0.1416	1.0100e-003		0.0128	0.0128		0.0128	0.0128						
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						
<b>Total</b>		<b>0.0185</b>	<b>0.1686</b>	<b>0.1416</b>	<b>1.0100e-003</b>		<b>0.0128</b>	<b>0.0128</b>		<b>0.0128</b>	<b>0.0128</b>						

**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Place of Worship	1.71935	0.0185	0.1686	0.1416	1.0100e-003		0.0128	0.0128		0.0128	0.0128						
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000						
<b>Total</b>		<b>0.0185</b>	<b>0.1686</b>	<b>0.1416</b>	<b>1.0100e-003</b>		<b>0.0128</b>	<b>0.0128</b>		<b>0.0128</b>	<b>0.0128</b>						

**6.0 Area Detail**

All Peoples Church - San Diego County APCD Air District, Winter

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

**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.2667	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005						
Unmitigated	1.2667	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005						

**6.2 Area by SubCategory**

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0746					0.0000	0.0000		0.0000	0.0000						
Consumer Products	1.1909					0.0000	0.0000		0.0000	0.0000						
Landscaping	1.1900e-003	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005						
<b>Total</b>	<b>1.2667</b>	<b>1.2000e-004</b>	<b>0.0128</b>	<b>0.0000</b>		<b>5.0000e-005</b>	<b>5.0000e-005</b>		<b>5.0000e-005</b>	<b>5.0000e-005</b>						

All Peoples Church - San Diego County APCD Air District, Winter

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

**6.2 Area by SubCategory**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0746					0.0000	0.0000		0.0000	0.0000						
Consumer Products	1.1909					0.0000	0.0000		0.0000	0.0000						
Landscaping	1.1900e-003	1.2000e-004	0.0128	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005						
<b>Total</b>	<b>1.2667</b>	<b>1.2000e-004</b>	<b>0.0128</b>	<b>0.0000</b>		<b>5.0000e-005</b>	<b>5.0000e-005</b>		<b>5.0000e-005</b>	<b>5.0000e-005</b>						

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

All Peoples Church - San Diego County APCD Air District, Winter

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

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

Institute Recycling and Composting Services

**9.0 Operational Offroad**

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Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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**10.0 Stationary Equipment**

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**Fire Pumps and Emergency Generators**

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

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

Equipment Type	Number
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**11.0 Vegetation**

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**ATTACHMENT B**

**HRA RISK CALCULATIONS**

**AERMOD MODELING FILES (Provided Electronically)**



## All Peoples Church Construction Project

5551 College Ave., San Diego, CA

Screening Health Risk Assessment Results

Construction Year 2022

October 27, 2021

### Construction Diesel Particulate Matter

<b>Risk Type</b>	<b>Receptor Type</b>	<b>Risk Results</b>	<b>Threshold</b>	<b>Exceed?</b>
Maximum Individual Cancer Risk	Resident	9.70E-06	1.00E-05	NO
	Sensitive #1	1.02E-06		NO
	Sensitive #2	2.93E-07		NO
Chronic Hazard Index	Resident	0.014	1.0	NO
	Sensitive #1	0.001		NO
	Sensitive #2	0.0004		NO
Acute Hazard Index	Resident	0.15	1.0	NO
	Sensitive #1	0.05		NO
	Sensitive #2	0.03		NO

**All Peoples Church Construction Project**

5551 College Ave., San Diego, CA  
 Screening Health Risk Assessment  
 Construction Year 2022  
 October 27, 2021

**AERMOD Run Name (Cancer/Chronic Risk):** All Peoples HRA\_100121.isc  
**AERMOD Run Name (Acute Risk):** All Peoples HRA\_Acute\_100121.isc

Data Inputs	Value	Units	Reference
Source Type	AREA POLY	--	Area source over entire construction area
Source ID	APC_CONST	--	
Emission Rate	1.28E-04	g/sec-m <sup>2</sup>	1 g/sec spread out over entire area source
Release Height	5.0	m	SCAQMD Localized Significance Threshold Methodology (July 2008)
Initial Vertical Dimension	1.16	m	Release ht. / 4.3
Meteorological Data	Kearny Mesa (KVR) (2014-2016)	--	Version 19191
Terrain	Flat	--	
Urban/Rural	Urban	--	Based on surrounding land characteristics - >50% urban in 3 km radius; Population = 3,338,330 (Census pop. est. of SD County)
Hours of Operation	7 AM - 5 PM	--	

**AERMOD Modeling Results**

Equation Inputs	Abbreviation	Units	Resident	Sensitive Receptor #1 Price Family Preschool	Sensitive Receptor #2 Hearst Elementary School	Reference
Combined Exposure Factor	CEF	Unitless	124.5	124.5	124.5	Calculated in tables below.
Dispersion Coefficient, annual average	X/Q	(µg/m <sup>3</sup> )/(g/sec)	99.3	10.4	3.00	Estimated from AERMOD, Annual Average
UTM Location of annual avg. PMI	--	m	Rec. # 1273 494112.5 3627012.50	Rec # 1587 494087.50 3627162.50	Rec # 1747 494037.50 3627237.50	Resident location: 5616 Marne Ave., San Diego, CA 92120 Sensitive Rec. #1 location: Price Family Preschool, 6299 Capri Dr., San Diego, CA 92120 Sensitive Rec. #2 location: Hearst Elementary School, 6250 Del Cerro Blvd., San Diego, CA 92120
Dispersion Coefficient, 1-hr	X/Q	(µg/m <sup>3</sup> )/(g/sec)	1253.6	432.2	236.2	Estimated from AERMOD, 1-hr
UTM Location of 1-hr PMI	--	m	Rec. #2797 494121.36 3627047.71	Rec # 1587 494087.50 3627162.50	Rec # 1747 494037.50 3627237.50	Resident location: Fenceline receptor near backyard of 5624 Marne Ave. San Diego, CA 92120 Sensitive Rec. #1 location: Price Family Preschool, 6299 Capri Dr., San Diego, CA 92120 Sensitive Rec. #2 location: Hearst Elementary School, 6250 Del Cerro Blvd., San Diego, CA 92120

**Cancer Risk Due to DPM in Construction Areas**

**Maximum Individual Cancer Risk**

$$MICR_R = CP \times Q_{tpy-30yrs} \times X/Q \times MWF \times CEF_R \times MP_R \times 10^{-6}$$

Abbreviation	Units	DPM
Maximum Annual TAC Emission Rate Over 30 yrs	Q <sub>tpy-30yrs</sub>	g/sec 7.13E-04
Multipathway Factor - Resident	MP <sub>R</sub>	unitless 1
Molecular Weight Adjustment Factor	MWAF	unitless 1
Cancer Potency Factor	CP	(mg/kg-day) <sup>-1</sup> 1.1E+00
<b>MICR (Resident)</b>	MICR	unitless 9.70E-06
<b>Cancer Risk Threshold</b>		<b>1.0E-05</b>
<b>Exceed Threshold?</b>		<b>NO</b>
<b>MICR (Sensitive Receptor #1)</b>	MICR	unitless 1.02E-06
<b>Exceed Threshold?</b>		<b>NO</b>
<b>MICR (Sensitive Receptor #2)</b>	MICR	unitless 2.93E-07
<b>Exceed Threshold?</b>		<b>NO</b>

**Chronic Risk Due to DPM in the Construction Area**

**Chronic Hazard Index Calculation**

$$HIC = Q_{tpy} \times X/Q \times MP \times MWF / REL$$

Abbreviation	Units	DPM
Maximum Annual TAC Emission Rate	Q <sub>tpy</sub>	g/sec 7.13E-04
Multipathway Factor - Resident	MP <sub>R</sub>	unitless 1
Molecular Weight Adjustment Factor	MWAF	unitless 1
Chronic REL	REL	µg/m <sup>3</sup> 5.0E+00
<b>Chronic Risk (Resident)</b>	MICR	unitless 1.42E-02
<b>Chronic Risk Threshold</b>		<b>1.0</b>
<b>Exceed Threshold?</b>		<b>NO</b>
<b>Chronic Risk (Sensitive Receptor #1)</b>	MICR	unitless 1.48E-03
<b>Exceed Threshold?</b>		<b>NO</b>
<b>Chronic Risk (Sensitive Receptor #2)</b>	MICR	unitless 4.28E-04
<b>Exceed Threshold?</b>		<b>NO</b>

**All Peoples Church Construction Project**

5551 College Ave., San Diego, CA  
 Screening Health Risk Assessment  
 Construction Year 2022  
 October 27, 2021

**Acute Risk Due to Diesel Exhaust in the Construction Area**

**Acute Hazard Index Calculation**

$HIA = Q_{1hr} \times X/Q \times MWF/REL$

Pollutant	Target Organs	Molecular Weight Adjustment Factor (MWF)	Acute Reference Exposure Level (REL) ( $\mu\text{g}/\text{m}^3$ )	TAC Maximum 1-hr Emissions ( $Q_{1hr}$ ) (g/sec)	Acute Risk by Organ						
					Resident Acute Risk (Receptor #1227)						
					Developmental	Cardiovascular	Central Nervous System	Respiratory	Immunity	Eyes	Blood
Arsenic	Dev, CV, CNS	1	2.00E-01	5.63E-06	3.53E-02	3.53E-02	3.53E-02	--	--	--	--
Copper	Resp	1	1.00E+02	1.44E-05	--	--	--	1.81E-04	--	--	--
Mercury	CNS, Dev	1	6.00E-01	7.03E-06	1.47E-02	--	1.47E-02	--	--	--	--
Nickel	Imm	1	2.00E-01	1.37E-05	--	--	--	--	8.60E-02	--	--
1,3-Butadiene	Dev	1	6.60E+02	7.64E-04	1.45E-03	--	--	--	--	--	--
Acetaldehyde	Eye, Resp	1	4.70E+02	2.75E-03	--	--	--	7.35E-03	--	7.35E-03	--
Acrolein	Eye, Resp	1	**	**	**	**	**	**	**	**	**
Benzene	Dev, Imm, Blood	1	2.70E+01	6.55E-04	3.04E-02	--	--	--	3.04E-02	--	3.04E-02
Formaldehyde	Eye	1	5.50E+01	6.07E-03	--	--	--	--	--	1.38E-01	--
Hydrochloric acid	Resp, Eye	1	2.10E+03	6.55E-04	--	--	--	3.91E-04	--	3.91E-04	--
Toluene	Resp, CNS, Eye	1	5.00E+03	3.71E-04	--	--	9.29E-05	9.29E-05	--	9.29E-05	--
Xylenes (mixed)	CNS, Resp Eye	1	2.20E+04	1.49E-04	--	--	8.49E-06	8.49E-06	--	8.49E-06	--
<b>Total Acute Hazard Index</b>					<b>8.18E-02</b>	<b>3.53E-02</b>	<b>5.01E-02</b>	<b>8.02E-03</b>	<b>1.16E-01</b>	<b>1.46E-01</b>	<b>3.04E-02</b>
<b>Acute Hazard Index Threshold</b>					<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>
<b>Exceed Threshold?</b>					<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>

\*\*ARB Policy is to exclude acrolein from risk management decisions, based upon Method 430 source test emission factors.

**Combined Exposure Factor (CEF) Calculations (for Cancer Risk):**

Inputs	Abbreviation	Units	Resident
Combined Exposure Factor	CEF	Unitless	124.5
Cancer Risk Equation Conversion Factor	--	(mg/ $\mu\text{g}$ ) x ( $\text{m}^3/\text{L}$ )	0.000001

Resident CEF = Combined CEF Calculated (Age Group -0.25 to 30 years old).

**Equation:**

$CEFR = DBR \times ASF \times ED \times FAH \times EF/AT$

**Resident/Sensitive Receptor CEF for 9 Years**

Age	Daily Breathing Rate (L/kg-day)	Age Specific Factor	Exposure Duration (years)	Fraction of Time at Home	Exposure Frequency	Averaging Time (years)	Exposure Factor	CEFR
-0.25 to 0	361	10	0.25	1	0.96	70	12.38	124.5
0 to 2	1090	10	0.75	1	0.96	70	112.11	
2 to 16	572	3	0	1	0.96	70	0.00	
16 to 30	261	1	0	0.73	0.96	70	0.00	

Reference: SCAQMD Risk Assessment Procedures for Rules 1401, 1401.1 and 212, Version 8.1, Sept. 1, 2017 for CEF calculation methodology.

**Conversions**

Hours to Seconds	--	sec/hr	3600
Pounds to Grams	--	g/lb	453.592

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**Acute Hazard Index Calculation**

$HIA = Q_{1-hr} \times X/Q \times MWA/REL$

Pollutant	Target Organs	Molecular Weight Adjustment Factor (MWA)	Acute Reference Exposure Level (REL) ( $\mu\text{g}/\text{m}^3$ )	TAC Maximum 1-hr Emissions ( $Q_{1-hr}$ ) (g/sec)	Acute Risk by Organ													
					Sensitive Receptor #1 Acute Risk (Receptor #1587)							Sensitive Receptor #2 Acute Risk (Receptor #1747)						
					Developmental	Cardiovascular	Central Nervous System	Respiratory	Immunity	Eyes	Blood	Developmental	Cardiovascular	Central Nervous System	Respiratory	Immunity	Eyes	Blood
Arsenic	Dev, CV, CNS	1	2.00E-01	5.63E-06	1.22E-02	1.22E-02	1.22E-02	--	--	--	--	6.64E-03	6.64E-03	6.64E-03	--	--	--	--
Copper	Resp	1	1.00E+02	1.44E-05	--	--	--	6.23E-05	--	--	--	--	--	--	3.41E-05	--	--	--
Mercury	CNS, Dev	1	6.00E-01	7.03E-06	5.07E-03	--	5.07E-03	--	--	--	--	2.77E-03	--	2.77E-03	--	--	--	--
Nickel	Imm	1	2.00E-01	1.37E-05	--	--	--	--	2.96E-02	--	--	--	--	--	--	1.62E-02	--	--
1,3-Butadiene	Dev	1	6.60E+02	7.64E-04	5.01E-04	--	--	--	--	--	--	2.74E-04	--	--	--	--	--	--
Acetaldehyde	Eye, Resp	1	4.70E+02	2.75E-03	--	--	--	2.53E-03	--	2.53E-03	--	--	--	--	1.38E-03	--	1.38E-03	--
Acrolein	Eye, Resp	1	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**
Benzene	Dev, Imm, Blood	1	2.70E+01	6.55E-04	1.05E-02	--	--	--	1.05E-02	--	1.05E-02	5.73E-03	--	--	--	5.73E-03	--	5.73E-03
Formaldehyde	Eye	1	5.50E+01	6.07E-03	--	--	--	--	--	4.77E-02	--	--	--	--	--	2.61E-02	--	--
Hydrochloric acid	Resp, Eye	1	2.10E+03	6.55E-04	--	--	--	1.35E-04	--	1.35E-04	--	--	--	--	7.37E-05	--	7.37E-05	--
Toluene	Resp, CNS, Eye	1	5.00E+03	3.71E-04	--	--	3.20E-05	3.20E-05	--	3.20E-05	--	--	--	1.75E-05	1.75E-05	--	1.75E-05	--
Xylenes (mixed)	CNS, Resp, Eye	1	2.20E+04	1.49E-04	--	--	2.93E-06	2.93E-06	--	2.93E-06	--	--	--	1.60E-06	1.60E-06	--	1.60E-06	--
<b>Total Acute Hazard Index</b>					<b>2.82E-02</b>	<b>1.22E-02</b>	<b>1.73E-02</b>	<b>2.76E-03</b>	<b>4.01E-02</b>	<b>5.04E-02</b>	<b>1.05E-02</b>	<b>1.54E-02</b>	<b>6.64E-03</b>	<b>9.43E-03</b>	<b>1.51E-03</b>	<b>2.19E-02</b>	<b>2.75E-02</b>	<b>5.73E-03</b>
<b>Acute Hazard Index Threshold</b>					<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>
<b>Exceed Threshold?</b>					<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>

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