

#### Memorandum

**To:** Kim Baranek, Principal, Baranek Consulting Group

From: James Westbrook, BlueScape Environmental

**Date:** June 1, 2022

**Subject:** Greenhouse Gas Study Results, for Project:

Neighborhood Healthcare Medical Professional Offices,

470 Mollison Ave. El Cajon, California

This memo outlines the greenhouse gas study performed for the Neighborhood Healthcare (Neighborhood) Medical Professional Offices project (Project), proposed to be located on 470 Mollison Avenue, in El Cajon, California in an existing building that was a church. The information contained in this memo is intended to accompany the environmental documentation in accordance with the California Environmental Quality Act (CEQA) for the initial study.

#### **Project Description**

Neighborhood Healthcare is a non-profit healthcare service organization dedicated to serving the general public in El Cajon. Neighborhood has a clinic at 855 E. Madison Ave. That location serves approximately 50,000 patient visits annually. Neighborhood has been in El Cajon since 1994.

Adjacent to Neighborhood's clinic is 470 N. Mollison, the site of a former church which Neighborhood leased as an overflow parking lot. An electric gate, owned by Neighborhood, separates the western church parking lot from Neighborhood's western parking lot as well. Neighborhood purchased the church parcel in July of 2020. Neighborhood proposes to remodel the interior of the former church to incorporate multiple professional and medical offices, with the primary use as a medical clinic and any associated patient/social services limited to 15% of floor area.

The existing property currently has a 12,504 square foot building, formerly occupying a church, and a 121-space parking lot associated with the building; the total lot area is 77,101.2 square feet. Neighborhood is seeking a General Plan Amendment and zoning reclassification to change the former church property's land use designation from Medium-Density to Office-Medical/Professional and zoning from Residential Multi-family (RM-2200) to

Office-Medical/Professional. Neighborhood is requesting to allow for by-right use of the property as a medical clinic.

#### **GHG Study Methodology**

This Project is analyzed using the California Air Pollution Control Officers Association (CAPCOA) guidelines, which aims to streamline the review process for discretionary projects that require environmental review pursuant to CEQA, and CAPCOA's 900 metric tons (MT) of carbon dioxide equivalent (CO<sub>2</sub>e). The 900 MT CO<sub>2</sub>e screening threshold was determined by CAPCOA as an emission level that would indicate project emissions would result in less than cumulatively significant impacts and would not interfere with the ability of the state to achieve state reduction targets, identified by Assembly Bill No. 32 (AB 32). Under AB 32, the state has reviewed its commitment to also reduce its GHG emissions to 40% below 1990 levels by 2030. Based on a linear regression, under the assumption that CAPCOA's 900 MT CO2e threshold is applicable for projects up to operational year 2020, an annual reduction of 5% is applied to projects with operational years of 2021 to 2030, to demonstrate compliance with the SB 32 target by 2030. Based on the annual reduction rate, the 2023 project-specific screening level would be 765 MT CO<sub>2</sub>e, a 15% reduction for operational year 2023.

GHG emission estimates were calculated using the California Emissions Estimator Model (CalEEMod), software version 2020.4.0. CalEEMod results are included as an attachment to this memo. An operational GHG emissions comparison was performed for the old land use type of "Place of Worship" and the new land use type of "Medical Office Building" to determine the difference in operational GHG emissions between the two land uses. The Project's estimated GHG emissions were compared to a project specific 2023 threshold of 765 MT  $CO_2e$ .

#### **CalEEMod Assumptions**

#### Construction Scenario

Construction of the Project would generate temporary GHG emissions primarily from vehicles transporting construction workers to and from the site, with minimal indoor equipment use. Although all demolition activities will be done on the inside of the building, and emissions will be minimal, 32 cubic yards of demolition debris was input into CalEEMod as a conservative estimate for truck hauling emissions. Grading, site preparation, and paving phases of construction are not included in CalEEMod, due to the fact that the building will only be renovated on the interior and the parking lot is already constructed. Construction may commence in June 2022 and it is estimated to take approximately 5 months to complete. The modeled construction schedule, which assumes a 5-day work week, is as follows:

- Interior Demolition (25 days)
- Building Renovation and Remodeling Construction (60 days)

Architectural Coating (20 days)

#### <u>Operational Scenario – New Professional Offices</u>

The first year of Project operations will be 2023. The land use types selected in CalEEMod for the Project were General Office Building, 12,504 sq. ft. and Parking Lot, 121 spaces. Because Neighborhood Healthcare will be providing both professional and medical services at the 470 Mollison Avenue building, default traffic volumes for a Medical Office Building were assumed in CalEEMod and are consistent with the characteristics of a medical office building.

Residential solid waste emissions are associated with municipal solid waste activities. In 2016, the California legislature adopted SB 1383 which targets a 50 percent reduction in the landfilling of organic waste in 2022, by recycling, composting, and other diversion measures. Since the Project operations begin in 2023, a 50% reduction in landfill organic waste generation was applied as a Project design feature.

#### <u>Operational Scenario – Former Church</u>

The church was modeled in CalEEMod as an existing operational source of emissions. The year of church operations was entered into CalEEMod as 2023 to demonstrate an equivalent annual comparison. The land use types selected in CalEEMod were Place of Worship, 12,504 sq. ft. and Parking Lot, 121 spaces. Default traffic volumes for Place of Worship were applied in CalEEMod.

As with the offices, a 50% reduction in landfill organic waste generation was applied as a Project design feature in CalEEMod.

#### **Construction Emissions**

Table 1 shows the greenhouse gas emissions associated with construction.

TABLE CONSTRUCTION GREENHO	
Year	Annual Emissions (MT CO₂e/yr)
2022	32.3
Amortized over 30 years	1.08

The estimated greenhouse gas emissions for building remodeling construction activity would generate an estimated 32.3 MT of  $CO_2e$  in 2022. When amortized over a 30-year period, construction of the project would generate about 1.08 MT  $CO_2e$  per year.

#### **Operational Emission Sources**

Operational emissions include energy use, solid waste, water use, and transportation. The majority of operational emissions are associated with

vehicle trips. Area emissions include landscaping equipment, architectural coatings, and consumer products.

#### **Combined Operational and Construction Emissions**

Table 2 shows the combined operational and construction GHG emissions associated with the Project and the operational GHG emissions for the former church, for comparison purposes.

	TABLE 2. CHURCH AND PROJECT GREENHOUSE GAS EMISSIONS												
Emission Source	Former Church Emissions (MT CO2 <sub>e</sub> /yr)	Project Emissions (MT CO <sub>2</sub> e/yr)											
Area	0.003	0.003											
Energy	38.4	58.8											
Mobile Source	78.7	223.5											
Solid Waste	17.9	33.9											
Water Use	3.46	8.0											
Total Operational	138.5	324.2											
Amortized Construction		1.08											
Total Operation + Construction	138.5	325.3											
Adjusted Screening Threshold		765											
Exceeds Threshold?		No											

The combined total GHG emissions for the Project are approximately 325.3 MT  $CO_2e$ . These emissions would not exceed the adjusted screening threshold of 765 MT  $CO_2e$ , per year. The proposed medical office building is estimated to have higher total GHG emissions than the existing church, due to the increased potential for vehicle trips, energy and water usage. However, the medical offices are still well below the significance threshold.

#### Conclusions

GHG emissions associated with the 470 Mollison Avenue medical office building are estimated to be 325.3 MT  $CO_2e$ . Since Project emissions would not exceed CAPCOA's 900 MT  $CO_2e$  threshold and the adjusted 765 MT  $CO_2e$  screening threshold annually, the Project would not generate a substantial increase in GHG emissions and Project impacts on climate change would be considered less than significant.

# ATTACHMENT A CALEEMOD RESULTS

#### EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

#### 470 Mollison Ave Medical Offices

#### San Diego County APCD Air District, Annual

# 1.0 Project Characteristics

#### 1.1 Land Usage

Urbanization

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Medical Office Building	12.50	1000sqft	0.29	12,500.00	0
Parking Lot	121.00	Space	1.48	64,597.20	0

Precipitation Freq (Davs)

40

#### 1.2 Other Project Characteristics

Urban

Climate Zone	13			Operational Year	2023
Utility Company	San Diego Gas & Electric	c			
CO2 Intensity (lb/MWhr)	539.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

2.6

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

Project Characteristics -

Land Use - Lot acreage per site plan = 1.77 acres. Parking lot area = 77,101.2 sq ft - 12,504 sq ft = 64,597.2 sq ft.

Construction Phase - Assume no site prep, grading or paving construction phases. Demolition will be interior only. Per client: Construction to begin June 2022 and completed in 5 months.

Off-road Equipment - Architectural coating phase will not include heavy equipment, but may include an air compressor for paint application.

Off-road Equipment - Building construction will be interior only, so no outdoor heavy equipment use.

Wind Speed (m/s)

Off-road Equipment - Interior demolition, so no heavy equipment use, but may include an industrial saw.

Trips and VMT - Demolition may include 2 trips to haul debris from project site.

Demolition - Assume 32 cubic yards of haul away demo debris, at 0.2 tons/cubic yard.

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

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

# EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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

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

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		
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True		
tblConstructionPhase	NumDays	10.00	20.00		
tblConstructionPhase	NumDays	200.00	60.00		
tblConstructionPhase	NumDays	20.00	25.00		
tblConstructionPhase	PhaseEndDate	4/21/2023	10/27/2022		
tblConstructionPhase	PhaseEndDate	4/7/2023	9/30/2022		
tblConstructionPhase	PhaseEndDate	7/1/2022	7/8/2022		
tblConstructionPhase	PhaseStartDate	4/8/2023	9/30/2022		
tblConstructionPhase	PhaseStartDate	7/2/2022	7/9/2022		
tblLandUse	LandUseSquareFeet	48,400.00	64,597.20		
tblLandUse	LotAcreage	1.09	1.48		
tblOffRoadEquipment	UsageHours	6.00	8.00		
tblTripsAndVMT	HaulingTripNumber	1.00	2.00		

# 2.0 Emissions Summary

# EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

# 2.1 Overall Construction

# **Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year					ton	s/yr							МТ	/yr		
	11 11 11		i i	 	i i i	 		 			0.0000	31.8471	31.8471	3.2300e- 003	1.3900e- 003	32.3412
Maximum											0.0000	31.8471	31.8471	3.2300e- 003	1.3900e- 003	32.3412

# **Mitigated Construction**

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year					ton	s/yr							MT	/yr		
	1 11 11										0.0000	31.8470	31.8470	3.2300e- 003	1.3900e- 003	32.3412
Maximum											0.0000	31.8470	31.8470	3.2300e- 003	1.3900e- 003	32.3412

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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

# EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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Hignest		Highest	

# 2.2 Overall Operational

**Unmitigated Operational** 

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e		
Category	tons/yr											MT/yr						
Area											0.0000	2.3900e- 003	2.3900e- 003	1.0000e- 005	0.0000	2.5400e- 003		
Energy									·		0.0000	58.5162	58.5162	3.0200e- 003	5.8000e- 004	58.7642		
Mobile	,				, ! ! !				,		0.0000	219.8023	219.8023	0.0177	0.0109	223.4908		
Waste	n				,				,		27.4038	0.0000	27.4038	1.6195	0.0000	67.8917		
Water					,				,		0.4976	5.8153	6.3130	0.0515	1.2500e- 003	7.9721		
Total											27.9014	284.1362	312.0376	1.6917	0.0127	358.1213		

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# 470 Mollison Ave Medical Offices - San Diego County APCD Air District, Annual

# EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

# 2.2 Overall Operational

# **Mitigated Operational**

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e		
Category	tons/yr											MT/yr						
Area											0.0000	2.3900e- 003	2.3900e- 003	1.0000e- 005	0.0000	2.5400e- 003		
Energy	1										0.0000	58.5162	58.5162	3.0200e- 003	5.8000e- 004	58.7642		
Mobile	1										0.0000	219.8023	219.8023	0.0177	0.0109	223.4908		
Waste	1										13.7019	0.0000	13.7019	0.8098	0.0000	33.9459		
Water	1										0.4976	5.8153	6.3130	0.0515	1.2500e- 003	7.9721		
Total											14.1995	284.1362	298.3357	0.8820	0.0127	324.1755		

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.11	0.00	4.39	47.87	0.00	9.48

# 3.0 Construction Detail

# **Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/6/2022	7/8/2022	5	25	Interior demolition
2	Building Construction	Building Construction	7/9/2022	9/30/2022	5	60	
3	Architectural Coating	Architectural Coating	9/30/2022	10/27/2022	5	20	

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#### EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 1.48

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 18,750; Non-Residential Outdoor: 6,250; Striped Parking Area: 3,876

(Architectural Coating - sqft)

#### OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Other General Industrial Equipment	1	8.00	88	0.34
Architectural Coating	Air Compressors	1	8.00	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
Demolition	1	3.00	0.00	2.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	1	31.00	13.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	6.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

# **3.1 Mitigation Measures Construction**

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# EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

# 3.2 Demolition - 2022

# **Unmitigated Construction On-Site**

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	/yr		
l againe 2 dec											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	11 11 11				 			       			0.0000	6.7207	6.7207	3.7000e- 004	0.0000	6.7299
Total											0.0000	6.7207	6.7207	3.7000e- 004	0.0000	6.7299

# **Unmitigated Construction Off-Site**

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	/yr		
Hauling											0.0000	0.0627	0.0627	0.0000	1.0000e- 005	0.0657
Vendor			 		,						0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker			 		,						0.0000	0.2473	0.2473	1.0000e- 005	1.0000e- 005	0.2496
Total											0.0000	0.3100	0.3100	1.0000e- 005	2.0000e- 005	0.3154

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# EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

# 3.2 Demolition - 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					ton	s/yr							MT	/yr		
l againe 2 dec											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	11 11 11				       			       			0.0000	6.7207	6.7207	3.7000e- 004	0.0000	6.7299
Total											0.0000	6.7207	6.7207	3.7000e- 004	0.0000	6.7299

# **Mitigated Construction Off-Site**

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	/yr		
Hauling											0.0000	0.0627	0.0627	0.0000	1.0000e- 005	0.0657
Vendor			i			   					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker					1       						0.0000	0.2473	0.2473	1.0000e- 005	1.0000e- 005	0.2496
Total											0.0000	0.3100	0.3100	1.0000e- 005	2.0000e- 005	0.3154

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# EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

# 3.3 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					ton	s/yr							MT	/yr		
0								 			0.0000	6.7500	6.7500	2.1800e- 003	0.0000	6.8045
Total											0.0000	6.7500	6.7500	2.1800e- 003	0.0000	6.8045

# **Unmitigated Construction Off-Site**

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/уг		
Hauling											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	,,				,						0.0000	8.1330	8.1330	2.5000e- 004	1.1800e- 003	8.4913
Worker	,,				1       						0.0000	6.1333	6.1333	1.9000e- 004	1.8000e- 004	6.1909
Total											0.0000	14.2664	14.2664	4.4000e- 004	1.3600e- 003	14.6822

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# EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

# 3.3 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					ton	s/yr							МТ	/yr		
J								1 1 1			0.0000	6.7499	6.7499	2.1800e- 003	0.0000	6.8045
Total											0.0000	6.7499	6.7499	2.1800e- 003	0.0000	6.8045

# **Mitigated Construction Off-Site**

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							МТ	/уг		
Hauling											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	,,				,						0.0000	8.1330	8.1330	2.5000e- 004	1.1800e- 003	8.4913
Worker	,,				1       						0.0000	6.1333	6.1333	1.9000e- 004	1.8000e- 004	6.1909
Total											0.0000	14.2664	14.2664	4.4000e- 004	1.3600e- 003	14.6822

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# EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

# 3.4 Architectural Coating - 2022 <u>Unmitigated Construction On-Site</u>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	-/yr		
Archit. Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road					       						0.0000	3.4043	3.4043	2.2000e- 004	0.0000	3.4099
Total											0.0000	3.4043	3.4043	2.2000e- 004	0.0000	3.4099

# **Unmitigated Construction Off-Site**

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	/yr		
Hauling											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
Worker											0.0000	0.3957	0.3957	1.0000e- 005	1.0000e- 005	0.3994
Total											0.0000	0.3957	0.3957	1.0000e- 005	1.0000e- 005	0.3994

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# EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

# 3.4 Architectural Coating - 2022

# **Mitigated Construction On-Site**

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	/yr		
Archit. Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	11 11 11							       			0.0000	3.4043	3.4043	2.2000e- 004	0.0000	3.4099
Total											0.0000	3.4043	3.4043	2.2000e- 004	0.0000	3.4099

# **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					ton	s/yr							МТ	/yr		
Hauling											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	ii ii ii							,			0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	ii ii							1 1 1 1			0.0000	0.3957	0.3957	1.0000e- 005	1.0000e- 005	0.3994
Total											0.0000	0.3957	0.3957	1.0000e- 005	1.0000e- 005	0.3994

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# EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

# 4.0 Operational Detail - Mobile

# **4.1 Mitigation Measures Mobile**

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	/yr		
Mitigated	 										0.0000	219.8023	219.8023	0.0177	0.0109	223.4908
Unmitigated	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,										0.0000	219.8023	219.8023	0.0177	0.0109	223.4908

# **4.2 Trip Summary Information**

	Avei	age Daily Trip Ra	ate	Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Medical Office Building	435.00	107.13	17.75	643,061	643,061
Parking Lot	0.00	0.00	0.00		
Total	435.00	107.13	17.75	643,061	643,061

# 4.3 Trip Type Information

		Miles			Trip %			Trip Purpos	e %
Land Use	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
Medical Office Building	9.50	7.30	7.30	29.60	51.40	19.00	60	30	10
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

#### 4.4 Fleet Mix

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# EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	МН
Medical Office Building	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
Parking Lot	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	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	/yr		
Electricity Mitigated											0.0000	45.1552	45.1552	2.7600e- 003	3.3000e- 004	45.3239
Electricity Unmitigated					 						0.0000	45.1552	45.1552	2.7600e- 003	3.3000e- 004	45.3239
NaturalGas Mitigated					 						0.0000	13.3610	13.3610	2.6000e- 004	2.4000e- 004	13.4404
NaturalGas Unmitigated				i i	1						0.0000	13.3610	13.3610	2.6000e- 004	2.4000e- 004	13.4404

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# EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

# **5.2 Energy by Land Use - NaturalGas**

# **Unmitigated**

	NaturalGa s 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					ton	s/yr							MT	7/yr		
Medical Office Building	250375			 								0.0000	13.3610	13.3610	2.6000e- 004	2.4000e- 004	13.4404
Parking Lot	0	i i		       	i i			i i	 	 		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total												0.0000	13.3610	13.3610	2.6000e- 004	2.4000e- 004	13.4404

# **Mitigated**

	NaturalGa s Use	ROG	NOx	СО	SO2	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					ton	s/yr							MT	/yr		
Medical Office Building	250375											0.0000	13.3610	13.3610	2.6000e- 004	2.4000e- 004	13.4404
Parking Lot	0	i i				 		     				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total												0.0000	13.3610	13.3610	2.6000e- 004	2.4000e- 004	13.4404

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# EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

# 5.3 Energy by Land Use - Electricity <u>Unmitigated</u>

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr		MT	-/yr	
Medical Office Building	161750	39.6176	2.4200e- 003	2.9000e- 004	39.7655
Parking Lot	22609	5.5377	3.4000e- 004	4.0000e- 005	5.5583
Total		45.1552	2.7600e- 003	3.3000e- 004	45.3239

# **Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr		MT	-/yr	
Medical Office Building	161750	39.6176	2.4200e- 003	2.9000e- 004	39.7655
Parking Lot	22609	5.5377	3.4000e- 004	4.0000e- 005	5.5583
Total		45.1552	2.7600e- 003	3.3000e- 004	45.3239

# 6.0 Area Detail

# EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

# **6.1 Mitigation Measures Area**

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	/yr		
Mitigated	11 11 11							1			0.0000	2.3900e- 003	2.3900e- 003	1.0000e- 005	0.0000	2.5400e- 003
Unmitigated											0.0000	2.3900e- 003	2.3900e- 003	1.0000e- 005	0.0000	2.5400e- 003

# EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

# 6.2 Area by SubCategory

# **Unmitigated**

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr							MT	/yr							
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1										0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping						 		       			0.0000	2.3900e- 003	2.3900e- 003	1.0000e- 005	0.0000	2.5400e- 003
Total											0.0000	2.3900e- 003	2.3900e- 003	1.0000e- 005	0.0000	2.5400e- 003

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# EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

# 6.2 Area by SubCategory

# **Mitigated**

	ROG	NOx	СО	SO2	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										
Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	ii ii ii			       							0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	ii ii ii			       							0.0000	2.3900e- 003	2.3900e- 003	1.0000e- 005	0.0000	2.5400e- 003
Total											0.0000	2.3900e- 003	2.3900e- 003	1.0000e- 005	0.0000	2.5400e- 003

# 7.0 Water Detail

# 7.1 Mitigation Measures Water

# EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category		МТ	-/yr	
ga.ea	6.3130	0.0515	1.2500e- 003	7.9721
Unmitigated	6.3130	0.0515	1.2500e- 003	7.9721

# 7.2 Water by Land Use <u>Unmitigated</u>

	Indoor/Out door Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal		МТ	/yr	
	1.56851 / 0.298763	6.3130	0.0515	1.2500e- 003	7.9721
Parking Lot	0/0	0.0000	0.0000	0.0000	0.0000
Total		6.3130	0.0515	1.2500e- 003	7.9721

# EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

# 7.2 Water by Land Use

#### **Mitigated**

	Indoor/Out door Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal		МТ	/yr	
Medical Office Building	1.56851 / 0.298763	0.0100	0.0515	1.2500e- 003	7.9721
Parking Lot	0/0	0.0000	0.0000	0.0000	0.0000
Total		6.3130	0.0515	1.2500e- 003	7.9721

# 8.0 Waste Detail

# 8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

# EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

# Category/Year

	Total CO2	CH4	N2O	CO2e
		МТ	-/yr	
ga.oa	13.7019	0.8098	0.0000	33.9459
Unmitigated	27.4038	1.6195	0.0000	67.8917

# 8.2 Waste by Land Use <u>Unmitigated</u>

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons		МТ	√yr	
Medical Office Building	135	27.4038	1.6195	0.0000	67.8917
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		27.4038	1.6195	0.0000	67.8917

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# EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

# 8.2 Waste by Land Use

# **Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons		MT	/yr	
Medical Office Building	67.5	13.7019	0.8098	0.0000	33.9459
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		13.7019	0.8098	0.0000	33.9459

# 9.0 Operational Offroad

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

# **10.0 Stationary Equipment**

# **Fire Pumps and Emergency Generators**

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

#### **Boilers**

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

# **User Defined Equipment**

Equipment Type	Number

# 11.0 Vegetation

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EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

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

# **470 Mollison Ave Church Operations**

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	12.50	1000sqft	0.29	12,504.00	0
Parking Lot	121.00	Space	1.48	64,597.20	0

#### 1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	40
Climate Zone	13			Operational Year	2023

Utility Company San Diego Gas & Electric

 CO2 Intensity
 539.98
 CH4 Intensity
 0.033
 N20 Intensity
 0.004

 (lb/MWhr)
 (lb/MWhr)
 (lb/MWhr)
 (lb/MWhr)

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

Project Characteristics -

Land Use - Lot acreage per site plan = 1.77 acres; Parking lot area = 77,101.2 sq ft - 12,504 sq ft = 64,597.2 sq ft

Construction Phase - No construction emissions. Operational GHG only.

Trips and VMT - No construction emissions. Operational GHG only.

Architectural Coating - No construction emissions. Operational GHG only.

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

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

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

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	6,252.00	0.00

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

tblArchitecturalCoating	ConstArea_Nonresidential_Interior	18,756.00	0.00
tblArchitecturalCoating	ConstArea_Parking	3,876.00	0.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	50
tblAreaCoating	Area_EF_Nonresidential_Interior	250	50
tblAreaCoating	Area_EF_Parking	250	100
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstructionPhase	NumDays	10.00	0.00
tblLandUse	LandUseSquareFeet	12,500.00	12,504.00
tblLandUse	LandUseSquareFeet	48,400.00	64,597.20
tblLandUse	LotAcreage	1.09	1.48
tblTripsAndVMT	WorkerTripNumber	6.00	0.00

# 2.0 Emissions Summary

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

# 2.1 Overall Construction

# **Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
								1 1 1			0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

# <u>Mitigated Construction</u>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
								1 1 1			0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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

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

	Highest	
	nignest	
	•	

# 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	11 11 11							1 1 1			0.0000	2.3900e- 003	2.3900e- 003	1.0000e- 005	0.0000	2.5400e- 003				
Energy								       			0.0000	38.2767	38.2767	2.0200e- 003	3.7000e- 004	38.4366				
Mobile								       			0.0000	77.4060	77.4060	6.4000e- 003	3.9200e- 003	78.7350				
Waste								,	, ! ! !		14.4631	0.0000	14.4631	0.8548	0.0000	35.8317				
Water	n								, ! ! !		0.1241	2.9120	3.0361	0.0129	3.2000e- 004	3.4552				
Total											14.5872	118.5971	133.1843	0.8761	4.6100e- 003	156.4611				

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# 470 Mollison Ave Church Operations - 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	11 11 11		 					1 1 1	i i i		0.0000	2.3900e- 003	2.3900e- 003	1.0000e- 005	0.0000	2.5400e- 003		
Energy									     		0.0000	38.2767	38.2767	2.0200e- 003	3.7000e- 004	38.4366		
Mobile	,,		1 1 1		,						0.0000	77.4060	77.4060	6.4000e- 003	3.9200e- 003	78.7350		
Waste			,		,			<del></del>  -  -  -	       		7.2316	0.0000	7.2316	0.4274	0.0000	17.9159		
Water		<del></del>	,	<del></del>	<del>,</del> : : :	<del></del>					0.1241	2.9120	3.0361	0.0129	3.2000e- 004	3.4552		
Total											7.3556	118.5971	125.9527	0.4487	4.6100e- 003	138.5452		

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.57	0.00	5.43	48.78	0.00	11.45

# 3.0 Construction Detail

# **Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	2/15/2022	2/14/2022	5	0	

Acres of Grading (Site Preparation Phase): 0

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

Acres of Grading (Grading Phase): 0

Acres of Paving: 1.48

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural

Coating - sqft)

#### **OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1;	6.00	78	0.48

# **Trips and VMT**

Phase Name	Offroad Equipment	Worker Trip	Vendor Trip	Hauling Trip	Worker Trip	Vendor Trip	Hauling Trip	Worker Vehicle	Vendor	Hauling
	Count	Number	Number	Number	Length	Length	Length	Class	Vehicle Class	Vehicle Class
Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

# **3.1 Mitigation Measures Construction**

# 3.2 Architectural Coating - 2022

**Unmitigated Construction On-Site** 

	ROG	NOx	СО	SO2	Fugitive 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		

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# 470 Mollison Ave Church Operations - 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 Architectural Coating - 2022 <u>Unmitigated Construction Off-Site</u>

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	tons/yr										MT/yr						
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	

# **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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		

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# 3.2 Architectural Coating - 2022

**Mitigated Construction Off-Site** 

	ROG	NOx	СО	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	/yr		
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

# 4.0 Operational Detail - Mobile

# **4.1 Mitigation Measures Mobile**

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	/yr		
lgatea				 							0.0000	77.4060	77.4060	6.4000e- 003	3.9200e- 003	78.7350
Unmitigated	 	 		 		 	i i			 	0.0000	77.4060	77.4060	6.4000e- 003	3.9200e- 003	78.7350

## **4.2 Trip Summary Information**

	Ave	rage Daily Trip Ra	ate	Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
Place of Worship	86.88	74.88	345.38	228,391	228,391
Total	86.88	74.88	345.38	228,391	228,391

### 4.3 Trip Type Information

		Miles			Trip %			Trip Purpos	e %
Land Use	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
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Place of Worship	9.50	7.30	7.30	0.00	95.00	5.00	64	25	11

#### 4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	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
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

# 5.0 Energy Detail

### 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					ton	s/yr							MT	/yr		
Electricity Mitigated											0.0000	30.5898	30.5898	1.8700e- 003	2.3000e- 004	30.7041
Electricity Unmitigated	1 1 1			i							0.0000	30.5898	30.5898	1.8700e- 003	2.3000e- 004	30.7041
NaturalGas Mitigated								       	1       		0.0000	7.6869	7.6869	1.5000e- 004	1.4000e- 004	7.7325
NaturalGas Unmitigated					r			   	r		0.0000	7.6869	7.6869	1.5000e- 004	1.4000e- 004	7.7325

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# **5.2 Energy by Land Use - NaturalGas**

#### **Unmitigated**

	NaturalGa s 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					ton	s/yr							MT	7/yr		
Parking Lot	0							 				0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	144046	i i i		i I	i i	     		       	i i	i i		0.0000	7.6869	7.6869	1.5000e- 004	1.4000e- 004	7.7325
Total												0.0000	7.6869	7.6869	1.5000e- 004	1.4000e- 004	7.7325

## **Mitigated**

	NaturalGa s 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					ton	s/yr							MT	/yr		
Parking Lot	0											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	144046	 		       					       			0.0000	7.6869	7.6869	1.5000e- 004	1.4000e- 004	7.7325
Total												0.0000	7.6869	7.6869	1.5000e- 004	1.4000e- 004	7.7325

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# 5.3 Energy by Land Use - Electricity Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr		MT	/yr	
Parking Lot	22609	5.5377	3.4000e- 004	4.0000e- 005	5.5583
Place of Worship	102283	25.0522	1.5300e- 003	1.9000e- 004	25.1458
Total		30.5898	1.8700e- 003	2.3000e- 004	30.7041

## **Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr		MT	-/yr	
Parking Lot	22609	5.5377	3.4000e- 004	4.0000e- 005	5.5583
Place of Worship	102283	25.0522	1.5300e- 003	1.9000e- 004	25.1458
Total		30.5898	1.8700e- 003	2.3000e- 004	30.7041

### 6.0 Area Detail

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

## **6.1 Mitigation Measures Area**

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					ton	s/yr							MT	/yr		
Mitigated											0.0000	2.3900e- 003	2.3900e- 003	1.0000e- 005	0.0000	2.5400e- 003
Unmitigated	i i										0.0000	2.3900e- 003	2.3900e- 003	1.0000e- 005	0.0000	2.5400e- 003

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

# 6.2 Area by SubCategory

#### **Unmitigated**

	ROG	NOx	СО	SO2	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					ton	s/yr							MT	/yr		
Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products						   					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	,,										0.0000	2.3900e- 003	2.3900e- 003	1.0000e- 005	0.0000	2.5400e- 003
Total											0.0000	2.3900e- 003	2.3900e- 003	1.0000e- 005	0.0000	2.5400e- 003

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# 6.2 Area by SubCategory

#### **Mitigated**

	ROG	NOx	СО	SO2	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						МТ	/yr								
Architectural Coating											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products											0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	ii ii ii			       							0.0000	2.3900e- 003	2.3900e- 003	1.0000e- 005	0.0000	2.5400e- 003
Total											0.0000	2.3900e- 003	2.3900e- 003	1.0000e- 005	0.0000	2.5400e- 003

# 7.0 Water Detail

# 7.1 Mitigation Measures Water

### 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		МТ	/yr	
ga.ea	3.0361	0.0129	3.2000e- 004	3.4552
Unmitigated	3.0361	0.0129	3.2000e- 004	3.4552

# 7.2 Water by Land Use <u>Unmitigated</u>

	Indoor/Out door Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal		МТ	/yr	
Parking Lot	0/0	0.0000	0.0000	0.0000	0.0000
Place of Worship	0.391111 / 0.611738		0.0129	3.2000e- 004	3.4552
Total		3.0361	0.0129	3.2000e- 004	3.4552

#### 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/Out door Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal		МТ	/yr	
Parking Lot	0/0	0.0000	0.0000	0.0000	0.0000
Place of Worship	0.391111 / 0.611738		0.0129	3.2000e- 004	3.4552
Total		3.0361	0.0129	3.2000e- 004	3.4552

### 8.0 Waste Detail

## **8.1 Mitigation Measures Waste**

Institute Recycling and Composting Services

### 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						
Miligatod	7.2316	0.4274	0.0000	17.9159			
Unmitigated	14.4631	0.8548	0.0000	35.8317			

# 8.2 Waste by Land Use <u>Unmitigated</u>

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons		MT	-/yr	
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	71.25	14.4631	0.8548	0.0000	35.8317
Total		14.4631	0.8548	0.0000	35.8317

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#### 8.2 Waste by Land Use

### **Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons		MT	-/yr	
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	35.625	7.2316	0.4274	0.0000	17.9159
Total		7.2316	0.4274	0.0000	17.9159

# 9.0 Operational Offroad

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

# **10.0 Stationary Equipment**

### **Fire Pumps and Emergency Generators**

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

#### **Boilers**

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

Equipment Type	Number

# 11.0 Vegetation

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