

Appendix A

Air Quality and GHG Modeling Files



**Criteria Air Pollutant Emissions
and CalEEMod Output**

EMISSIONS SUMMARIES - SJ Muni Water Offices

UNCONTROLLED CONSTRUCTION EMISSIONS - Criteria Air Pollutants

Year	No. of Construction Wokdays	Tons over Construction Period				Average Pounds per day			
		ROG	NOx	Exhaust PM-10	Exhaust PM-2.5	ROG	NOx	Exhaust PM-10	Exhaust PM-2.5
2023		0.19	1.75	0.08	0.07				
2024		0.21	1.86	0.08	0.08				
2025		0.19	0.18	0.01	0.01				
PROJECT TOTAL	521	0.59	3.79	0.17	0.16	2.2	14.6	0.6	0.6

CONSTRUCTION EMISSIONS - Criteria Air Pollutants - Tier 4 Final for all equipment

Year	No. of Construction Wokdays ¹	Tons over Construction Period				Average Pounds per day			
		ROG	NOx	Exhaust PM-10	Exhaust PM-2.5	ROG	NOx	Exhaust PM-10	Exhaust PM-2.5
2023		0.05	0.32	0.005	0.005				
2024		0.06	0.41	0.006	0.006				
2025		0.18	0.03	0.001	0.001				
PROJECT TOTAL	521	0.28	0.76	0.012	0.012	1.1	2.9	0.05	0.05

OPERATIONAL EMISSIONS - Criteria Air Pollutants

Source	Tons per year				Pounds per day			
	ROG	NOx	Total PM-10	Total PM-2.5	ROG	NOx	Total PM-10	Total PM-2.5
Area	0.13	1.00E-05	0.00E+00	0.00E+00	0.7	0.0	0.0000	0.0000
Energy	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0
Mobile	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.0
Backup Generator	0.003	0.06	0.003	0.003	0.02	0.4	0.02	0.02
TOTAL	0.14	0.06	0.00	0.00	0.7	0.4	0.0	0.0

CONSTRUCTION EMISSIONS - GHG as MTCO₂e

2023	331
2024	388
2025	45
Total	763

OPERATIONAL EMISSIONS - GHG as MTCO₂e/year

Operational Source	CO ₂ e
Area	0.0
Energy	60.7
Mobile	0.0
Solid waste	13.2
Backup generator	14
Water & Wastewater	7
Total Project Operational Emissions	95

Construction Data

Please enter data only in highlighted cells

Data provided	CalEEMod defaults	Calculated by ESA
Proposed Land Uses	Area	Units
Office Building	28,280	sqft
Parking Lot	86,214	sqft

Total Project Site Area	3.40	acres
Building area to be demolished	19,900	sqft
Paved area to be removed	78,138	sqft
Total Proposed total building area	28,280	sqft
New paved area	86,214	sqft
Volume of infill to be brought in	0	cubic yards
Volume of material to be exported	3,469	cubic yards

1.42 acres
1.98 acres

Construction schedule

Start date of construction	4/1/2023
First year of operation	2025

Provided

Construction Phase	From	To	# of days
Demolition	4/1/2023	6/30/2023	65
Site Preparation	4/1/2023	6/30/2023	65
Grading	4/1/2023	6/30/2023	65
Building Construction	7/1/2023	8/31/2024	305
Final Landscape/Hardscape	9/1/2024	12/31/2024	87
Final Inspections/Contingency	1/1/2025	3/31/2025	64
			651

CalEEMod default

Construction Phase	From	To	# of days
Demolition	4/1/2023	4/28/2023	20
Site Preparation	4/29/2023	5/5/2023	5
Grading	5/6/2023	5/17/2023	8
Building Construction	5/18/2023	4/3/2024	230
Paving	4/4/2024	4/29/2024	18
Architectural Coatings	4/30/2024	5/23/2024	18
Final Landscape/Hardscape	4/30/2024	5/30/2024	23
Total	4/1/2023	5/30/2024	304

Proposed Schedule Used (adjusted to 24 months of construction)

Construction Phase	From	To	# of days
Communications Tower/Pole	3/29/2023	3/31/2023	3
Demolition	4/1/2023	5/18/2023	34
Site Preparation	5/19/2023	5/31/2023	9
Grading	6/1/2023	6/20/2023	14
Building Construction	6/21/2023	12/23/2024	394
Paving	12/24/2024	2/4/2025	31
Architectural Coatings	2/5/2025	3/19/2025	31
Final Landscape/Hardscape	2/5/2025	3/31/2025	39
Total	4/1/2023	3/31/2025	521

Construction Equipment

Equipment	Number	No. of Days used	Hrs/day used	Horsepower	Load factor
Communications Tower/Pole					
Forklifts	1	1	8	89	0.2
Excavators	1	2	8	158	0.38
Off-Highway Trucks	1	2	8	402	0.38
Cranes	1	2	8	231	0.29
Forklifts	1	2	8	89	0.2
Off-Highway Trucks	1	3	8	402	0.38
Off-Highway Trucks	1	3	8	402	0.38
Excavators	1	3	8	158	0.38
Cranes	1	3	8	231	0.29
Forklifts	1	3	8	89	0.2
Demolition					
Concrete/Industrial Saws	1	34	8	81	0.73
Excavators	3	34	8	158	0.38
Rubber Tired Dozers	2	34	8	247	0.4
Site Preparation					
Rubber Tired Dozers	3	9	8	247	0.4
Tractors/Loaders/Backhoes	4	9	8	97	0.37
Grading					
Excavators	1	14	8	158	0.38
Graders	1	14	8	187	0.41
Rubber Tired Dozers	1	14	8	247	0.4
Tractors/Loaders/Backhoes	3	14	8	97	0.37
Building Construction					
Cranes	1	394	7	231	0.29
Forklifts	3	394	8	89	0.2
Generator Sets	1	394	8	84	0.74
Tractors/Loaders/Backhoes	3	394	7	97	0.37
Welders	1	394	8	46	0.45

Adjusted hrs/day

Man Lift	3870 Charter Park Drive
5.3	Excavator
5.3	Dump Truck
5.3	Crane
5.3	ManLift
8.0	Concrete Truck
8.0	Dump Truck
8.0	Excavator
8.0	Crane
8.0	Man Lift

4791 Montclair

3025 Tuers Road

Paving					
Cement and Mortar Mixers	2	31	6	9	0.56
Pavers	1	31	8	130	0.42
Paving Equipment	2	31	6	132	0.36
Rollers	2	31	6	80	0.38
Tractors/Loaders/Backhoes	1	31	8	97	0.37
Architectural Coatings					
Air Compressors	1	31	6	78	0.48
Final Landscape/Hardscape					
Dumpers/Tenders	1	39	8	16	0.38
Other Material Handling Equipment	1	39	8	168	0.4
Tractors/Loaders/Backhoes	1	39	8	97	0.37

Construction Vehicle Trips

One-way trips associated with workers, material delivery and hauling during each construction phase

Construction Phase	Ave. worker trips/day	Vendor Truck Trips/day	Hauling Truck trips/phase
Communications Tower/Pole	29	0	9
Demolition	15	0	234
Site Preparation	18	0	0
Grading	15	0	434
Building Construction	45	19	0
Paving	20	0	0
Architectural Coatings	9	0	0
Final Landscape/Hardscape	6	2	0

Estimation of Demolition Waste tonnage

Building area to be demolished 19,900 sqft
 Paved area to be removed 78,138 sqft
 Thickness of concrete 6 inches

From CalEEMod Users Guide:

1 sqft floor space =	10 cuft original building volume
1 cuft building volume =	0.25 cuft waste volume
1 cuyd building waste =	0.5 ton weight
1 haul truck =	20 cuyd haul volume
1 sqft =	0.046 ton of waste material

19,900 sqft floor space of building area = 199000 cuft original building volume
 49750 cuft waste volume
 78,138 sqft paved area x 6 inches thick = 1447 cuyd
 1447 tons

Total demo tons =	2362.4 tons of waste material
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Natural Gas to Increase in Electricity Use Conversion

Title 24 (2019 - CalEEMod Default)

		Title-24 Electricity	Nontitle-24 Electricity	Lighting	Title-24 Nat Gas	Nontitle-24 Nat gas
Project Non-Residential Land Uses						
Office Building		5.45	7.84	3.88	16.14	0.06
Parking Lot		-	-	0.35	-	-
Project Residential Land Uses						
--		-	-	-	-	-

Title 24 (2019) - to account for increase in electricity use due to no natural gas

Project Non-Residential Land Uses						
Office Building		10.18	7.86	3.88	-	-
Parking Lot		-	-	0.35	-	-
Project Residential Land Uses						
--		-	-	-	-	-

1kBTu = 0.293071 kWhr

Select Project Type:

These calculations are intended to be estimates only. The actual weight and size of your project may vary.

Pavement / Driveway

Concrete / Brick

Drywall

Roofing Shingles

Structure Demolition

Concrete Pavement / Asphalt Driveway Estimator

Estimate the weight and volume of an asphalt driveway or concrete disposal project.

Square Feet of Driveway *

78138

Length (in feet) x Width (in feet)

Thickness of Driveway (in inches) *

6

Output

Estimated Cubic Yards

1,447

Estimated Weight in Pounds

2,894,000

Estimated Weight in Tons

1,447

SJ Muni Water Offices - Emergency Generator

Generator Emissions

Conversion Factors

HP/kW	1.3410	
lb/g	0.0022	
lb/ton	2,000	
Metric ton/ton	0.90719	
PM ₁₀ Fraction of Total PM	0.960	Table A - Updated CEIDARS Table with PM2.5 Fractions, INTERNAL COMBUSTION - DISTILLATE AND DIESEL-ELECTRIC GENERATION
PM _{2.5} Fraction of Total PM	0.937	Table A - Updated CEIDARS Table with PM2.5 Fractions, INTERNAL COMBUSTION - DISTILLATE AND DIESEL-ELECTRIC GENERATION
CO ₂ kg/gal	10.21	Climate Registry, Table 13.1: https://www.theclimateregistry.org/wp-content/uploads/2014/11/2016-Climate-Registry-Default-Emission-Factors.pdf
CH ₄ g/gal	0.58	Climate Registry, Table 13.7: https://www.theclimateregistry.org/wp-content/uploads/2014/11/2016-Climate-Registry-Default-Emission-Factors.pdf
N ₂ O g/gal	0.26	Climate Registry, Table 13.7: https://www.theclimateregistry.org/wp-content/uploads/2014/11/2016-Climate-Registry-Default-Emission-Factors.pdf
GWP CH ₄	25	IPCC AR4, https://ww2.arb.ca.gov/ghg-gwps
GWP N ₂ O	298	IPCC AR4, https://ww2.arb.ca.gov/ghg-gwps
CO ₂ e g/gal	10,302	
CO ₂ g/gal	10,210	
CO ₂ /CO ₂ e	0.9911	

Generator Rating:	400 kW	(Source: Project Description)
	536 HP	(based on conservative engineering assumptions; conversion from kW to hp)
Load Factor:	0.74	(based on CalEEMod Generator Set Load Factor)
Engine Emissions Tier:		(compliance with CARB diesel regulations)
Operating Hours per Unit:	50 hours/year	
	1.00 hours/day - maximum	
	0.14 hours/day - average	

Units	Criteria Pollutants ^{1, 2}					Greenhouse Gases ³	
	VOC	NO _x	CO	PM ₁₀	PM _{2.5}	CO ₂	CO ₂ e
g/kW-hr	—	—	3.50	—	—	—	—
g/HP-hr	0.15	2.85	2.61	0.1440	0.1406	526.17	530.91
lbs/hr	0.13	2.49	2.28	0.13	0.12	621.76	627.36
lbs/day(maximum daily)	0.13	2.49	2.28	0.13	0.12	621.76	627.36
lbs/day (average daily)	0.02	0.34	0.31	0.02	0.02	85.17	85.94
lbs/yr	6.56	124.61	114.11	6.30	6.15	31,088.00	31,368.07
tons/yr	0.00	0.06	0.06	0.003	0.003	15.54	15.68
metric tons/yr	—	—	—	—	—	14.10	14.23

Notes:

- Emission factors for VOC and NO_x: ARB 2011 Final Regulation Order for the ATCM for stationary engines, Table 1, Model year 2008+: <https://www.arb.ca.gov/regact/2010/atcm2010/finalregorder.pdf>; Policy: CARB Emission Factors for CI Diesel Engines – Percent HC in Relation to NMHC + NO_x: http://www.baaqmd.gov/~media/Files/Engineering/policy_and_procedures/Engines/EmissionFactorsforDieselEngines.ashx
- Emission factors for CO, PM₁₀, and PM_{2.5}: ARB 2011 Final Regulation Order for the ATCM for stationary engines, Table 1, Model year 2008+: <https://www.arb.ca.gov/regact/2010/atcm2010/finalregorder.pdf>
- Emission factor for CO₂: U.S. Environmental Protection Agency, AP-42 Compilation of Air Pollutant Emission Factors, Fifth Edition, Section 3.4, Table 3.4-1. Emissions of GHGs assume 99.11% of the CO₂e emissions occur as CO₂, based on Climate Registry emission factors as referenced above.

Table 1: Emission Standards for New Stationary Emergency Standby Diesel-Fueled CI Engines g/bhp-hr (g/kW-hr)

<u>Maximum Engine Power</u>	<u>Model year(s)</u>	<u>PM</u>	<u>NMHC+NOx</u>	<u>CO</u>
50 ≤ HP < 75 (37 ≤ kW < 56)	2007	0.15 (0.20)	5.6 (7.5)	3.7 (5.0)
	2008+		3.5 (4.7)	
75 ≤ HP < 100 (56 ≤ kW < 75)	2007	0.15 (0.20)	5.6 (7.5)	3.7 (5.0)
	2008+		3.5 (4.7)	
100 ≤ HP < 175 (75 ≤ kW < 130)	2007	0.15 (0.20)	3.0 (4.0)	3.7 (5.0)
	2008+			
175 ≤ HP < 300 (130 ≤ kW < 225)	2007	0.15 (0.20)	3.0 (4.0)	2.6 (3.5)
	2008+			
300 ≤ HP < 600 (225 ≤ kW < 450)	2007	0.15 (0.20)	3.0 (4.0)	2.6 (3.5)
	2008+			
600 ≤ HP < 750 (450 ≤ kW < 560)	2007	0.15 (0.20)	3.0 (4.0)	2.6 (3.5)
	2008+			
HP > 750 (kW > 560)	2007	0.15 (0.20)	4.8 (6.4)	2.6 (3.5)
	2008+			

1. May be subject to additional emission limitations as specified in current applicable district rules, regulations or policies.

San Jose Muni Water Offices - Santa Clara County, Annual

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

**San Jose Muni Water Offices
Santa Clara County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	28.28	1000sqft	1.42	28,280.00	0
Parking Lot	86.21	1000sqft	1.98	86,210.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	58
Climate Zone	4			Operational Year	2025
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

- Project Characteristics -
- Land Use - Project site area total 3.4 acres
- Construction Phase - Project schedule
- Off-road Equipment - Data from applicant
- Off-road Equipment -
- Grading -
- Demolition -
- Trips and VMT - Based on data from applicant
- Vehicle Trips - No increase in vehicle trips
- Energy Use - Electricity use adjusted for no natural gas in new construction
- Water And Wastewater - 100% aerobic treatment of wastewater assumed
- Construction Off-road Equipment Mitigation - Tier 4 Final equipment used as BACT for mitigation

San Jose Muni Water Offices - Santa Clara County, Annual

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

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	18.00	31.00
tblConstructionPhase	NumDays	230.00	394.00
tblConstructionPhase	NumDays	20.00	34.00
tblConstructionPhase	NumDays	8.00	14.00
tblConstructionPhase	NumDays	18.00	31.00
tblConstructionPhase	NumDays	5.00	9.00
tblConstructionPhase	NumDays	230.00	3.00
tblConstructionPhase	NumDays	18.00	39.00
tblConstructionPhase	PhaseEndDate	5/20/2024	3/19/2025
tblConstructionPhase	PhaseEndDate	3/29/2024	12/23/2024
tblConstructionPhase	PhaseEndDate	4/25/2023	5/18/2023
tblConstructionPhase	PhaseEndDate	5/12/2023	6/20/2023
tblConstructionPhase	PhaseEndDate	4/24/2024	2/4/2025
tblConstructionPhase	PhaseEndDate	5/2/2023	5/31/2023
tblConstructionPhase	PhaseStartDate	4/25/2024	2/5/2025
tblConstructionPhase	PhaseStartDate	5/13/2023	6/21/2023
tblConstructionPhase	PhaseStartDate	3/29/2023	4/1/2023
tblConstructionPhase	PhaseStartDate	5/3/2023	6/1/2023
tblConstructionPhase	PhaseStartDate	3/30/2024	12/24/2024
tblConstructionPhase	PhaseStartDate	4/26/2023	5/19/2023
tblEnergyUse	NT24E	7.84	7.86
tblEnergyUse	NT24NG	0.06	0.00
tblEnergyUse	T24E	5.45	10.18
tblEnergyUse	T24NG	16.14	0.00
tblGrading	MaterialExported	0.00	3,469.00
tblLandUse	LotAcreage	0.65	1.42
tblOffRoadEquipment	LoadFactor	0.40	0.40

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

tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.20	0.20
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.29	0.29
tblOffRoadEquipment	LoadFactor	0.20	0.20
tblOffRoadEquipment	OffRoadEquipmentType		Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentType		Other Material Handling Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Forklifts
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Cranes
tblOffRoadEquipment	OffRoadEquipmentType		Forklifts
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	UsageHours	7.00	5.30
tblOffRoadEquipment	UsageHours	8.00	2.70
tblOffRoadEquipment	UsageHours	8.00	5.30
tblOffRoadEquipment	UsageHours	7.00	8.00
tblTripsAndVMT	HaulingTripNumber	0.00	9.00
tblTripsAndVMT	VendorTripNumber	19.00	0.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	WorkerTripNumber	45.00	29.00
tblTripsAndVMT	WorkerTripNumber	8.00	6.00
tblVehicleTrips	ST_TR	2.21	0.00
tblVehicleTrips	SU_TR	0.70	0.00
tblVehicleTrips	WD_TR	9.74	0.00

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

tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.1858	1.7484	1.7787	3.69E-03	0.2064	0.0785	0.2849	0.0849	0.0734	0.1584	0	326.4991	326.4991	0.0693	7.65E-03	330.5098
2024	0.2077	1.863	2.2608	4.37E-03	0.0622	0.0806	0.1427	0.0169	0.0758	0.0927	0	383.3428	383.3428	0.0737	7.90E-03	387.5381
2025	0.1925	0.1813	0.3114	5.10E-04	4.27E-03	8.28E-03	0.0126	1.14E-03	7.73E-03	8.87E-03	0	44.2498	44.2498	0.0118	1.80E-04	44.5984
Maximum	0.2077	1.863	2.2608	4.37E-03	0.2064	0.0806	0.2849	0.0849	0.0758	0.1584	0	383.3428	383.3428	0.0737	7.90E-03	387.5381

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.0473	0.3235	1.9715	3.69E-03	0.2064	5.48E-03	0.2118	0.0849	5.43E-03	0.0904	0	326.4988	326.4988	0.0693	7.65E-03	330.5095
2024	0.0594	0.4063	2.4302	4.37E-03	0.0622	6.17E-03	0.0683	0.0169	6.12E-03	0.023	0	383.3425	383.3425	0.0737	7.90E-03	387.5377
2025	0.1766	0.0255	0.3382	5.10E-04	4.27E-03	7.40E-04	5.01E-03	1.14E-03	7.40E-04	1.88E-03	0	44.2497	44.2497	0.0118	1.80E-04	44.5983
Maximum	0.1766	0.4063	2.4302	4.37E-03	0.2064	6.17E-03	0.2118	0.0849	6.12E-03	0.0904	0	383.3425	383.3425	0.0737	7.90E-03	387.5377

San Jose Muni Water Offices - Santa Clara County, Annual

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	51.68	80.09	-8.94	0.00	0.00	92.60	35.21	0.00	92.17	55.65	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)
1	3-29-2023	6-28-2023	0.8083	0.1295
2	6-29-2023	9-28-2023	0.5581	0.1179
3	9-29-2023	12-28-2023	0.5541	0.1187
4	12-29-2023	3-28-2024	0.5208	0.1182
5	3-29-2024	6-28-2024	0.5234	0.1175
6	6-29-2024	9-28-2024	0.5233	0.1174
7	9-29-2024	12-28-2024	0.5079	0.1142
8	12-29-2024	3-28-2025	0.3786	0.2015
9	3-29-2025	6-28-2025	0.0044	0.0009
		Highest	0.8083	0.2015

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	0.1327	1.00E-05	1.05E-03	0		0	0		0	0	0	2.05E-03	2.05E-03	1.00E-05	0	2.18E-03
Energy	0	0	0	0		0	0		0	0	0	60.147	60.147	9.73E-03	1.18E-03	60.7418
Mobile	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Waste						0	0		0	0	5.3387	0	5.3387	0.3155	0	13.2263
Water						0	0		0	0	1.7783	3.514	5.2923	6.69E-03	3.94E-03	6.6325
Total	0.1327	1.00E-05	1.05E-03	0	0	0	0	0	0	0	7.117	63.6631	70.7801	0.3319	5.12E-03	80.6028

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

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	0.1327	1.00E-05	1.05E-03	0		0	0		0	0	0	2.05E-03	2.05E-03	1.00E-05	0	2.18E-03
Energy	0.0000	0	0	0		0	0		0	0	0	60.147	60.147	9.73E-03	1.18E-03	60.7418
Mobile	0.0000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Waste						0	0		0	0	5.3387	0	5.3387	0.3155	0	13.2263
Water						0	0		0	0	1.7783	3.514	5.2923	6.69E-03	3.94E-03	6.6325
Total	0.1327	1.00E-05	1.05E-03	0	0	0	0	0	0	0	7.117	63.6631	70.7801	0.3319	5.12E-03	80.6028

	ROG	NOx	CO	SO2	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	Demolition	Demolition	4/1/2023	5/18/2023	5	34	
2	Site Preparation	Site Preparation	5/19/2023	5/31/2023	5	9	
3	Grading	Grading	6/1/2023	6/20/2023	5	14	
4	Building Construction	Building Construction	6/21/2023	12/23/2024	5	394	
5	Paving	Paving	12/24/2024	2/4/2025	5	31	
6	Architectural Coating	Architectural Coating	2/5/2025	3/19/2025	5	31	
7	Communications Towers/Pole	Building Construction	3/29/2023	3/31/2023	5	3	
8	Final Landscape/Hardscape	Paving	2/5/2025	3/31/2025	5	39	

Acres of Grading (Site Preparation Phase): 13.5

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

Acres of Grading (Grading Phase): 14

Acres of Paving: 1.98

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 42,420; Non-Residential Outdoor: 14,140; Striped Parking Area: 5,173 (Architectural

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	7.00	231	0.29
Demolition	Excavators	3	8.00	158	0.38
Grading	Excavators	1	8.00	158	0.38
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Grading	Graders	1	8.00	187	0.41
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Communications Towers/Pole	Cranes	1	5.30	231	0.29
Communications Towers/Pole	Forklifts	1	2.70	89	0.20
Final Landscape/Hardscape	Dumpers/Tenders	1	8.00	16	0.38
Final Landscape/Hardscape	Other Material Handling Equipment	1	8.00	168	0.40
Final Landscape/Hardscape	Tractors/Loaders/Backhoes	1	8.00	97	0.37

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Communications Towers/Pole	Excavators	1	5.30	158	0.38
Communications Towers/Pole	Off-Highway Trucks	1	5.30	402	0.38
Communications Towers/Pole	Forklifts	1	5.30	89	0.20
Communications Towers/Pole	Off-Highway Trucks	2	8.00	402	0.38
Communications Towers/Pole	Excavators	1	8.00	158	0.38
Communications Towers/Pole	Cranes	1	8.00	231	0.29
Communications Towers/Pole	Forklifts	1	8.00	89	0.20

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	6	15.00	0.00	234.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	434.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	45.00	19.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	9.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Communications Towers/Pole	10	29.00	0.00	9.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Final Landscape/Hardscape	3	6.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

3.2 Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0253	0	0.0253	3.83E-03	0	3.83E-03	0	0	0	0	0	0

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

Worker	6.40E-04	4.40E-04	5.69E-03	2.00E-05	2.02E-03	1.00E-05	2.03E-03	5.40E-04	1.00E-05	5.50E-04	0	1.5397	1.5397	4.00E-05	4.00E-05	1.5536
Total	8.80E-04	0.0163	9.38E-03	9.00E-05	4.01E-03	1.40E-04	4.14E-03	1.09E-03	1.30E-04	1.22E-03	0	8.5462	8.5462	2.80E-04	1.15E-03	8.8971

3.3 Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0885	0	0.0885	0.0455	0	0.0455	0	0	0	0	0	0
Off-Road	0.012	0.1239	0.0821	1.70E-04		5.70E-03	5.70E-03		5.24E-03	5.24E-03	0	15.0528	15.0528	4.87E-03	0	15.1745
Total	0.012	0.1239	0.0821	1.70E-04	0.0885	5.70E-03	0.0942	0.0455	5.24E-03	0.0507	0	15.0528	15.0528	4.87E-03	0	15.1745

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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worker	2.00E-04	1.40E-04	1.81E-03	1.00E-05	6.40E-04	0	6.50E-04	1.70E-04	0	1.70E-04	0	0.4891	0.4891	1.00E-05	1.00E-05	0.4935
Total	2.00E-04	1.40E-04	1.81E-03	1.00E-05	6.40E-04	0	6.50E-04	1.70E-04	0	1.70E-04	0	0.4891	0.4891	1.00E-05	1.00E-05	0.4935

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					0.0885	0	0.0885	0.0455	0	0.0455	0	0	0	0	0	0

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

Off-Road	2.10E-03	9.08E-03	0.0939	1.70E-04		2.80E-04	2.80E-04		2.80E-04	2.80E-04	0	15.0528	15.0528	4.87E-03	0	15.1745
Total	2.10E-03	9.08E-03	0.0939	1.70E-04	0.0885	2.80E-04	0.0887	0.0455	2.80E-04	0.0457	0	15.0528	15.0528	4.87E-03	0	15.1745

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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worker	2.00E-04	1.40E-04	1.81E-03	1.00E-05	6.40E-04	0	6.50E-04	1.70E-04	0	1.70E-04	0	0.4891	0.4891	1.00E-05	1.00E-05	0.4935
Total	2.00E-04	1.40E-04	1.81E-03	1.00E-05	6.40E-04	0	6.50E-04	1.70E-04	0	1.70E-04	0	0.4891	0.4891	1.00E-05	1.00E-05	0.4935

3.4 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0498	0	0.0498	0.024	0	0.024	0	0	0	0	0	0
Off-Road	0.012	0.1256	0.1033	2.10E-04		5.42E-03	5.42E-03		4.99E-03	4.99E-03	0	18.2424	18.2424	5.90E-03	0	18.3899
Total	0.012	0.1256	0.1033	2.10E-04	0.0498	5.42E-03	0.0552	0.024	4.99E-03	0.029	0	18.2424	18.2424	5.90E-03	0	18.3899

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.50E-04	0.0295	6.84E-03	1.30E-04	3.68E-03	2.40E-04	3.92E-03	1.01E-03	2.30E-04	1.24E-03	0	12.9951	12.9951	4.40E-04	2.06E-03	13.6201

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

Vendor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worker	2.60E-04	1.80E-04	2.34E-03	1.00E-05	8.30E-04	0	8.40E-04	2.20E-04	0	2.30E-04	0	0.634	0.634	2.00E-05	2.00E-05	0.6397
Total	7.10E-04	0.0297	9.18E-03	1.40E-04	4.51E-03	2.40E-04	4.76E-03	1.23E-03	2.30E-04	1.47E-03	0	13.6291	13.6291	4.60E-04	2.08E-03	14.2598

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					0.0498	0	0.0498	0.024	0	0.024	0	0	0	0	0	0
Off-Road	2.54E-03	0.011	0.1243	2.10E-04		3.40E-04	3.40E-04		3.40E-04	3.40E-04	0	18.2424	18.2424	5.90E-03	0	18.3899
Total	2.54E-03	0.011	0.1243	2.10E-04	0.0498	3.40E-04	0.0501	0.024	3.40E-04	0.0243	0	18.2424	18.2424	5.90E-03	0	18.3899

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	4.50E-04	0.0295	6.84E-03	1.30E-04	3.68E-03	2.40E-04	3.92E-03	1.01E-03	2.30E-04	1.24E-03	0	12.9951	12.9951	4.40E-04	2.06E-03	13.6201
Vendor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worker	2.60E-04	1.80E-04	2.34E-03	1.00E-05	8.30E-04	0	8.40E-04	2.20E-04	0	2.30E-04	0	0.634	0.634	2.00E-05	2.00E-05	0.6397
Total	7.10E-04	0.0297	9.18E-03	1.40E-04	4.51E-03	2.40E-04	4.76E-03	1.23E-03	2.30E-04	1.47E-03	0	13.6291	13.6291	4.60E-04	2.08E-03	14.2598

3.5 Building Construction - 2023

Unmitigated Construction On-Site

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

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Off-Road	0.1085	0.9926	1.1208	1.86E-03		0.0483	0.0483		0.0454	0.0454	0	159.9453	159.9453	0.0381	0	160.8965
Total	0.1085	0.9926	1.1208	1.86E-03		0.0483	0.0483		0.0454	0.0454	0	159.9453	159.9453	0.0381	0	160.8965

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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vendor	1.44E-03	0.0584	0.0184	2.70E-04	8.63E-03	3.40E-04	8.97E-03	2.49E-03	3.30E-04	2.82E-03	0	26.0667	26.0667	5.50E-04	3.83E-03	27.2216
Worker	7.76E-03	5.40E-03	0.0693	2.00E-04	0.0246	1.20E-04	0.0248	6.55E-03	1.10E-04	6.66E-03	0	18.7477	18.7477	5.40E-04	5.20E-04	18.9168
Total	9.20E-03	0.0638	0.0877	4.70E-04	0.0333	4.60E-04	0.0337	9.04E-03	4.40E-04	9.48E-03	0	44.8144	44.8144	1.09E-03	4.35E-03	46.1384

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	0.0226	0.1542	1.2048	1.86E-03		2.81E-03	2.81E-03		2.81E-03	2.81E-03	0	159.9451	159.9451	0.0381	0	160.8963
Total	0.0226	0.1542	1.2048	1.86E-03		2.81E-03	2.81E-03		2.81E-03	2.81E-03	0	159.9451	159.9451	0.0381	0	160.8963

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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vendor	1.44E-03	0.0584	0.0184	2.70E-04	8.63E-03	3.40E-04	8.97E-03	2.49E-03	3.30E-04	2.82E-03	0	26.0667	26.0667	5.50E-04	3.83E-03	27.2216
Worker	7.76E-03	5.40E-03	0.0693	2.00E-04	0.0246	1.20E-04	0.0248	6.55E-03	1.10E-04	6.66E-03	0	18.7477	18.7477	5.40E-04	5.20E-04	18.9168

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Total	9.20E-03	0.0638	0.0877	4.70E-04	0.0333	4.60E-04	0.0337	9.04E-03	4.40E-04	9.48E-03	0	44.8144	44.8144	1.09E-03	4.35E-03	46.1384
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3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1884	1.7208	2.0694	3.45E-03		0.0785	0.0785		0.0738	0.0738	0	296.7669	296.7669	0.0702	0	298.5213
Total	0.1884	1.7208	2.0694	3.45E-03		0.0785	0.0785		0.0738	0.0738	0	296.7669	296.7669	0.0702	0	298.5213

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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vendor	2.60E-03	0.1084	0.0335	4.90E-04	0.016	6.40E-04	0.0167	4.63E-03	6.10E-04	5.24E-03	0	47.6444	47.6444	1.01E-03	6.99E-03	49.7516
Worker	0.0135	8.96E-03	0.12	3.70E-04	0.0457	2.20E-04	0.0459	0.0122	2.00E-04	0.0124	0	33.6668	33.6668	9.10E-04	9.00E-04	33.9588
Total	0.0161	0.1173	0.1535	8.60E-04	0.0617	8.60E-04	0.0626	0.0168	8.10E-04	0.0176	0	81.3112	81.3112	1.92E-03	7.89E-03	83.7104

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	0.042	0.286	2.2349	3.45E-03		5.22E-03	5.22E-03		5.22E-03	5.22E-03	0	296.7665	296.7665	0.0702	0	298.5209
Total	0.042	0.286	2.2349	3.45E-03		5.22E-03	5.22E-03		5.22E-03	5.22E-03	0	296.7665	296.7665	0.0702	0	298.5209

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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vendor	2.60E-03	0.1084	0.0335	4.90E-04	0.016	6.40E-04	0.0167	4.63E-03	6.10E-04	5.24E-03	0	47.6444	47.6444	1.01E-03	6.99E-03	49.7516
Worker	0.0135	8.96E-03	0.12	3.70E-04	0.0457	2.20E-04	0.0459	0.0122	2.00E-04	0.0124	0	33.6668	33.6668	9.10E-04	9.00E-04	33.9588
Total	0.0161	0.1173	0.1535	8.60E-04	0.0617	8.60E-04	0.0626	0.0168	8.10E-04	0.0176	0	81.3112	81.3112	1.92E-03	7.89E-03	83.7104

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.64E-03	0.0248	0.0367	6.00E-05		1.20E-03	1.20E-03		1.11E-03	1.11E-03	0	4.9141	4.9141	1.54E-03	0	4.9527
Paving	5.00E-04					0	0		0	0	0	0	0	0	0	0
Total	3.14E-03	0.0248	0.0367	6.00E-05		1.20E-03	1.20E-03		1.11E-03	1.11E-03	0	4.9141	4.9141	1.54E-03	0	4.9527

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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worker	1.40E-04	9.00E-05	1.25E-03	0	4.80E-04	0	4.80E-04	1.30E-04	0	1.30E-04	0	0.3507	0.3507	1.00E-05	1.00E-05	0.3537
Total	1.40E-04	9.00E-05	1.25E-03	0	4.80E-04	0	4.80E-04	1.30E-04	0	1.30E-04	0	0.3507	0.3507	1.00E-05	1.00E-05	0.3537

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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	6.60E-04	2.85E-03	0.0406	6.00E-05		9.00E-05	9.00E-05		9.00E-05	9.00E-05	0	4.9141	4.9141	1.54E-03	0	4.9527
Paving	5.00E-04					0	0		0	0	0	0	0	0	0	0
Total	1.16E-03	2.85E-03	0.0406	6.00E-05		9.00E-05	9.00E-05		9.00E-05	9.00E-05	0	4.9141	4.9141	1.54E-03	0	4.9527

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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worker	1.40E-04	9.00E-05	1.25E-03	0	4.80E-04	0	4.80E-04	1.30E-04	0	1.30E-04	0	0.3507	0.3507	1.00E-05	1.00E-05	0.3537
Total	1.40E-04	9.00E-05	1.25E-03	0	4.80E-04	0	4.80E-04	1.30E-04	0	1.30E-04	0	0.3507	0.3507	1.00E-05	1.00E-05	0.3537

3.6 Paving - 2025

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	0.0103	0.0942	0.1522	2.40E-04		4.40E-03	4.40E-03		4.07E-03	4.07E-03	0	20.4728	20.4728	6.43E-03	0	20.6336
Paving	2.09E-03					0	0		0	0	0	0	0	0	0	0
Total	0.0123	0.0942	0.1522	2.40E-04		4.40E-03	4.40E-03		4.07E-03	4.07E-03	0	20.4728	20.4728	6.43E-03	0	20.6336

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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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worker	5.50E-04	3.50E-04	4.88E-03	2.00E-05	1.98E-03	1.00E-05	1.99E-03	5.30E-04	1.00E-05	5.40E-04	0	1.4129	1.4129	4.00E-05	4.00E-05	1.4248
Total	5.50E-04	3.50E-04	4.88E-03	2.00E-05	1.98E-03	1.00E-05	1.99E-03	5.30E-04	1.00E-05	5.40E-04	0	1.4129	1.4129	4.00E-05	4.00E-05	1.4248

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	2.74E-03	0.0119	0.1692	2.40E-04		3.70E-04	3.70E-04		3.70E-04	3.70E-04	0	20.4728	20.4728	6.43E-03	0	20.6336
Paving	2.09E-03					0	0		0	0	0	0	0	0	0	0
Total	4.83E-03	0.0119	0.1692	2.40E-04		3.70E-04	3.70E-04		3.70E-04	3.70E-04	0	20.4728	20.4728	6.43E-03	0	20.6336

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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worker	5.50E-04	3.50E-04	4.88E-03	2.00E-05	1.98E-03	1.00E-05	1.99E-03	5.30E-04	1.00E-05	5.40E-04	0	1.4129	1.4129	4.00E-05	4.00E-05	1.4248
Total	5.50E-04	3.50E-04	4.88E-03	2.00E-05	1.98E-03	1.00E-05	1.99E-03	5.30E-04	1.00E-05	5.40E-04	0	1.4129	1.4129	4.00E-05	4.00E-05	1.4248

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3.7 Architectural Coating - 2025

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	0.1655					0	0		0	0	0	0	0	0	0	0
Off-Road	2.65E-03	0.0178	0.028	5.00E-05		8.00E-04	8.00E-04		8.00E-04	8.00E-04	0	3.9575	3.9575	2.20E-04	0	3.9629
Total	0.1681	0.0178	0.028	5.00E-05		8.00E-04	8.00E-04		8.00E-04	8.00E-04	0	3.9575	3.9575	2.20E-04	0	3.9629

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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worker	3.10E-04	2.00E-04	2.72E-03	1.00E-05	1.11E-03	0	1.11E-03	2.90E-04	0	3.00E-04	0	0.7884	0.7884	2.00E-05	2.00E-05	0.795
Total	3.10E-04	2.00E-04	2.72E-03	1.00E-05	1.11E-03	0	1.11E-03	2.90E-04	0	3.00E-04	0	0.7884	0.7884	2.00E-05	2.00E-05	0.795

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	0.1655					0	0		0	0	0	0	0	0	0	0
Off-Road	4.60E-04	2.00E-03	0.0284	5.00E-05		6.00E-05	6.00E-05		6.00E-05	6.00E-05	0	3.9575	3.9575	2.20E-04	0	3.9629
Total	0.1659	2.00E-03	0.0284	5.00E-05		6.00E-05	6.00E-05		6.00E-05	6.00E-05	0	3.9575	3.9575	2.20E-04	0	3.9629

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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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vendor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worker	3.10E-04	2.00E-04	2.72E-03	1.00E-05	1.11E-03	0	1.11E-03	2.90E-04	0	3.00E-04	0	0.7884	0.7884	2.00E-05	2.00E-05	0.795
Total	3.10E-04	2.00E-04	2.72E-03	1.00E-05	1.11E-03	0	1.11E-03	2.90E-04	0	3.00E-04	0	0.7884	0.7884	2.00E-05	2.00E-05	0.795

3.8 Communications Towers/Pole - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.68E-03	0.0306	0.0294	8.00E-05		1.28E-03	1.28E-03		1.18E-03	1.18E-03	0	7.4611	7.4611	2.41E-03	0	7.5215
Total	3.68E-03	0.0306	0.0294	8.00E-05		1.28E-03	1.28E-03		1.18E-03	1.18E-03	0	7.4611	7.4611	2.41E-03	0	7.5215

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	1.00E-05	6.10E-04	1.40E-04	0	8.00E-05	0	8.00E-05	2.00E-05	0	3.00E-05	0	0.2695	0.2695	1.00E-05	4.00E-05	0.2825
Vendor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worker	1.10E-04	8.00E-05	9.70E-04	0	3.50E-04	0	3.50E-04	9.00E-05	0	9.00E-05	0	0.2627	0.2627	1.00E-05	1.00E-05	0.265
Total	1.20E-04	6.90E-04	1.11E-03	0	4.30E-04	0	4.30E-04	1.10E-04	0	1.20E-04	0	0.5321	0.5321	2.00E-05	5.00E-05	0.5475

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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	1.04E-03	4.51E-03	0.0436	8.00E-05		1.40E-04	1.40E-04		1.40E-04	1.40E-04	0	7.4611	7.4611	2.41E-03	0	7.5215
Total	1.04E-03	4.51E-03	0.0436	8.00E-05		1.40E-04	1.40E-04		1.40E-04	1.40E-04	0	7.4611	7.4611	2.41E-03	0	7.5215

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.00E-05	6.10E-04	1.40E-04	0	8.00E-05	0	8.00E-05	2.00E-05	0	3.00E-05	0	0.2695	0.2695	1.00E-05	4.00E-05	0.2825
Vendor	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Worker	1.10E-04	8.00E-05	9.70E-04	0	3.50E-04	0	3.50E-04	9.00E-05	0	9.00E-05	0	0.2627	0.2627	1.00E-05	1.00E-05	0.265
Total	1.20E-04	6.90E-04	1.11E-03	0	4.30E-04	0	4.30E-04	1.10E-04	0	1.20E-04	0	0.5321	0.5321	2.00E-05	5.00E-05	0.5475

3.9 Final Landscape/Hardscape - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.33E-03	0.067	0.1207	1.90E-04		3.04E-03	3.04E-03		2.83E-03	2.83E-03	0	16.2058	16.2058	5.01E-03	0	16.3311
Paving	2.59E-03					0	0		0	0	0	0	0	0	0	0
Total	0.0109	0.067	0.1207	1.90E-04		3.04E-03	3.04E-03		2.83E-03	2.83E-03	0	16.2058	16.2058	5.01E-03	0	16.3311

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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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vendor	4.00E-05	1.73E-03	5.30E-04	1.00E-05	2.60E-04	1.00E-05	2.70E-04	7.00E-05	1.00E-05	8.00E-05	0	0.7511	0.7511	2.00E-05	1.10E-04	0.7842
Worker	2.60E-04	1.60E-04	2.29E-03	1.00E-05	9.30E-04	0	9.30E-04	2.50E-04	0	2.50E-04	0	0.6612	0.6612	2.00E-05	2.00E-05	0.6668
Total	3.00E-04	1.89E-03	2.82E-03	2.00E-05	1.19E-03	1.00E-05	1.20E-03	3.20E-04	1.00E-05	3.30E-04	0	1.4123	1.4123	4.00E-05	1.30E-04	1.451

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	2.11E-03	9.15E-03	0.1302	1.90E-04		2.80E-04	2.80E-04		2.80E-04	2.80E-04	0	16.2058	16.2058	5.01E-03	0	16.331
Paving	2.59E-03					0	0		0	0	0	0	0	0	0	0
Total	4.70E-03	9.15E-03	0.1302	1.90E-04		2.80E-04	2.80E-04		2.80E-04	2.80E-04	0	16.2058	16.2058	5.01E-03	0	16.331

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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vendor	4.00E-05	1.73E-03	5.30E-04	1.00E-05	2.60E-04	1.00E-05	2.70E-04	7.00E-05	1.00E-05	8.00E-05	0	0.7511	0.7511	2.00E-05	1.10E-04	0.7842
Worker	2.60E-04	1.60E-04	2.29E-03	1.00E-05	9.30E-04	0	9.30E-04	2.50E-04	0	2.50E-04	0	0.6612	0.6612	2.00E-05	2.00E-05	0.6668
Total	3.00E-04	1.89E-03	2.82E-03	2.00E-05	1.19E-03	1.00E-05	1.20E-03	3.20E-04	1.00E-05	3.30E-04	0	1.4123	1.4123	4.00E-05	1.30E-04	1.451

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4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4
Parking Lot	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
General Office Building	0.573651	0.055882	0.186012	0.115369	0.020252	0.005158	0.008030	0.006377	0.000893	0.000372	0.024386	0.000900	0.002720
Parking Lot	0.573651	0.055882	0.186012	0.115369	0.020252	0.005158	0.008030	0.006377	0.000893	0.000372	0.024386	0.000900	0.002720

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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
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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			
General Office Building	619898	57.3553	9.2800e-003	1.1200e-003	57.9224
Parking Lot	30173.5	2.7918	4.5000e-004	5.0000e-005	2.8194
Total		60.1470	9.7300e-003	1.1700e-003	60.7418

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	619898	57.3553	9.2800e-003	1.1200e-003	57.9224
Parking Lot	30173.5	2.7918	4.5000e-004	5.0000e-005	2.8194
Total		60.1470	9.7300e-003	1.1700e-003	60.7418

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1327	1.0000e-005	1.0500e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0500e-003	2.0500e-003	1.0000e-005	0.0000	2.1800e-003
Unmitigated	0.1327	1.0000e-005	1.0500e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0500e-003	2.0500e-003	1.0000e-005	0.0000	2.1800e-003

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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	0.0165					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1160					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-004	1.0000e-005	1.0500e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0500e-003	2.0500e-003	1.0000e-005	0.0000	2.1800e-003	
Total	0.1327	1.0000e-005	1.0500e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0500e-003	2.0500e-003	1.0000e-005	0.0000	2.1800e-003	

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	0.0165					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1160					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-004	1.0000e-005	1.0500e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0500e-003	2.0500e-003	1.0000e-005	0.0000	2.1800e-003
Total	0.1327	1.0000e-005	1.0500e-003	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0500e-003	2.0500e-003	1.0000e-005	0.0000	2.1800e-003

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7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	5.2923	6.6900e-003	3.9400e-003	6.6325
Unmitigated	5.2923	6.6900e-003	3.9400e-003	6.6325

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	5.02631 / 3.08064	5.2923	6.6900e-003	3.9400e-003	6.6325
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		5.2923	6.6900e-003	3.9400e-003	6.6325

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	5.02631 / 3.08064	5.2923	6.6900e-003	3.9400e-003	6.6325
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		5.2923	6.6900e-003	3.9400e-003	6.6325

8.0 Waste Detail

8.1 Mitigation Measures Waste

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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	5.3387	0.3155	0.0000	13.2263
Unmitigated	5.3387	0.3155	0.0000	13.2263

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	26.3	5.3387	0.3155	0.0000	13.2263
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		5.3387	0.3155	0.0000	13.2263

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	26.3	5.3387	0.3155	0.0000	13.2263
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		5.3387	0.3155	0.0000	13.2263

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Health Risk Assessment Calculations and AERMOD Output

SJ Muni Water Offices - Construction Health Risk Assessment

Residential Risk

Onsite DPM Emissions per Year (tons)

Year	Uncontrolled	Tier 4F
2023	0.08	5.48E-03
2024	0.08	6.17E-03
2025	0.01	7.40E-04

PM_{2.5} Concentration

Total tons/year	Emission Rate (g/s)	PM _{2.5} Conc. (µg/m ³)	
0.08	0.002	0.07	Uncontrolled
0.006	0.0002	0.006	Tier 4F

Emission Rates - Scaling Factors (g/s)

Year	Uncontrolled	Tier 4F
2023	0.0118	0.0008
2024	0.0090	0.0007
2025	0.0038	0.0003

Exposure Duration in seconds

6017143
8084571
1974857

AERMOD Output [µg/m³]/[g/s]

Annual Average	Resident	32.39876 µg/m ³	UTM X	UTM Y
			604089.81	4128892.21

Residence at 3084 Tuers Road

Emission Impact - (µg/m³)

Year	Uncontrolled	Tier 4F
2023	3.83E-01	2.68E-02
2024	2.93E-01	2.24E-02
2025	1.23E-01	1.10E-02

Age Group	3rd Trimester	Age 0<2	Age 2<16
Exposure Duration	91	639	5110
2023	0.25	0.75	0.00
2024	0.00	1.00	0.00
2025	0.00	0.00	0.00

$$\text{Cancer Risk} = \text{Dose inhalation} \times \text{Inhalation CPF} \times \text{ASF} \times \text{ED/AT} \times \text{FAH} \quad (\text{Equation 8.2.4 A})$$

Where:

Cancer Risk = residential inhalation cancer risk

$$\text{Dose inhalation (mg/kg-day)} = C_{\text{AIR}} \times \text{DBR} \times A \times \text{EF} \times 10^{-6} \quad (\text{Equation 2})$$

Inhalation CPF = inhalation cancer potency factor ([mg/kg/day]⁻¹)

ASF = age sensitivity factor for a specified age group (unitless)

ED = exposure duration for a specified age group (years)

AT = averaging time period over which exposure is averaged in days (years)

FAH = fraction of time at home (unitless)

Where:

C_{AIR} = concentration of compound in air in micrograms per cubic meter (µg/m³)

DBR = daily breathing rate in liter per kilogram of body weight per day (L/kg-body weight/day)

A = inhalation absorption factor (1 for DPM, unitless)

EF = exposure frequency in days per year (unitless, days/365 days)

10⁻⁶ = micrograms to milligrams conversion, liters to cubic meters conversion

Dose Inhalation Inputs

Receptor Type	Exposure Scenario	Receptor Group Age	Uncontrolled		Tier 4F		
			C_{AIR} ($\mu\text{g}/\text{m}^3$)	DBR (L/kg-day)	A (unitless)	EF (days/year)	
Off-Site Child Resident	Construction	3rd Trimester	3.83E-01	2.68E-02	361	1	0.96
		Age 0<2	3.32E-01	2.43E-02	1090	1	0.96
		Age 2<16	0.00E+00	0.00E+00	745	1	0.96

Dose Inhalation Outputs

Receptor Type	Exposure Scenario	Receptor Group Age	Uncontrolled		Tier 4F	
			Dose inhalation (mg/kg-day)			
Off-Site Child Resident	Construction	3rd Trimester	1.33E-04	9.27E-06		
		Age 0<2	3.47E-04	2.54E-05		
		Age 2<16	0.00E+00	0.00E+00		

Risk Inputs

Receptor Type	Exposure Scenario	Receptor Group Age	CPF ($\text{mg}/\text{kg}\cdot\text{day}^{-1}$)	ASF (unitless)	ED (years)	AT (years)	FAH (unitless)	REL ($\mu\text{g}/\text{m}^3$)
Off-Site Child Resident	Construction	3rd Trimester	1.1	10	0.25	70.00	1	5
		Age 0<2	1.1	10	1.75	70.00	1	5
		Age 2<16	1.1	3	0.00	70.00	1	5

Risk Outputs

Receptor Type	Exposure Scenario	Receptor Group Age	Uncontrolled		Tier 4F	
			Cancer Risk		Chronic Non-Cancer Risk	
Off-Site Child Resident	Construction	3rd Trimester	5.21E-06	3.64E-07		
		Age 0<2	9.54E-05	6.98E-06		
		Age 2<16	0.00E+00	0.00E+00		
Total Risk			1.01E-04	7.35E-06	0.077	0.005
Risk per Million			100.58	7.35	NA	NA

SOURCE: Office of Environmental Health Hazard Assessment, 2015. *Air Toxics Hot Spots Program Guidance Manual for the Preparation of Health Risk Assessments*. February.

Daily breathing rate for residential receptor is based on the OEHHA 95th percentile moderate intensity breathing rates (OEHHA Table 5.7).

Fraction of time at home is conservatively set to 1.

Inhalation cancer potency factor from OEHHA Table 7.1

* AERMOD 2): C:\Lakes\A		ERMOD View\SJ	Muni Water Offices\	SJ Muni	Water O	ffices.isc	5/6/2002	2	
* AERMET 91):							16:18:05	0	
* MODEL INPUTS USED: Re		gDFault CONC	ELEV FLG	POL RURA	L ADJ_	U*			
* PLOT FILE OF ANNUAL		VALUES AVERA	GED ACROSS 5 YEARS		FOR SO	URCE GRO UP: ALL			
* FOR A TOTAL OF 13		3 RECEPTORS.							
* FOR IAT: (3(1X,F13.5),3(1X,F8.2),	2X,A6,2X,A8	,2X,I8.8,	2X,A8)				
* X	Y	AVERAGE CONC	ZELEV	ZHILL	ZFLAG	AVE	GRP	NUM YRS	NET ID
604109.8	4128872.21	31.25988	48.02	48.02	1.5	ANNUAL	ALL	5	
604089.8	4128892.21	32.39876	47.73	47.73	1.5	ANNUAL	ALL	5	
604109.8	4128892.21	21.88499	47.98	47.98	1.5	ANNUAL	ALL	5	
604129.8	4128892.21	15.41577	47.96	47.96	1.5	ANNUAL	ALL	5	
604069.8	4128912.21	32.21251	47.58	47.58	1.5	ANNUAL	ALL	5	
604089.8	4128912.21	21.42073	47.94	47.94	1.5	ANNUAL	ALL	5	
604109.8	4128912.21	14.87327	47.96	47.96	1.5	ANNUAL	ALL	5	
604129.8	4128912.21	10.92065	47.55	47.55	1.5	ANNUAL	ALL	5	
604149.8	4128912.21	8.26548	47.58	47.58	1.5	ANNUAL	ALL	5	
604069.8	4128932.21	19.96785	47.8	47.8	1.5	ANNUAL	ALL	5	
604089.8	4128932.21	13.70932	48.06	48.06	1.5	ANNUAL	ALL	5	
604109.8	4128932.21	10.00341	47.93	47.93	1.5	ANNUAL	ALL	5	
604129.8	4128932.21	7.66199	47.53	47.53	1.5	ANNUAL	ALL	5	
604149.8	4128932.21	6.02259	47.36	47.36	1.5	ANNUAL	ALL	5	
604169.8	4128932.21	4.86831	47.57	47.57	1.5	ANNUAL	ALL	5	
604189.8	4128932.21	4.01129	47.83	47.83	1.5	ANNUAL	ALL	5	
604089.8	4128952.21	8.91873	47.91	47.91	1.5	ANNUAL	ALL	5	
604109.8	4128952.21	6.86462	47.95	47.95	1.5	ANNUAL	ALL	5	
604129.8	4128952.21	5.50476	47.44	47.44	1.5	ANNUAL	ALL	5	
604169.8	4128952.21	3.74147	47.29	47.29	1.5	ANNUAL	ALL	5	
604189.8	4128952.21	3.17344	47.54	47.54	1.5	ANNUAL	ALL	5	
604209.8	4128952.21	2.73103	47.35	47.35	1.5	ANNUAL	ALL	5	
604229.8	4128952.21	2.37626	47.28	47.28	1.5	ANNUAL	ALL	5	
604029.8	4128972.21	13.48598	47.65	47.65	1.5	ANNUAL	ALL	5	
604049.8	4128972.21	10.12629	47.76	47.76	1.5	ANNUAL	ALL	5	
604089.8	4128972.21	6.148	47.94	47.94	1.5	ANNUAL	ALL	5	
604109.8	4128972.21	4.99981	47.7	47.7	1.5	ANNUAL	ALL	5	
604129.8	4128972.21	4.13966	47.31	47.31	1.5	ANNUAL	ALL	5	
604169.8	4128972.21	2.97235	47.35	47.35	1.5	ANNUAL	ALL	5	
604189.8	4128972.21	2.57367	47.39	47.39	1.5	ANNUAL	ALL	5	
604209.8	4128972.21	2.25318	47.13	47.13	1.5	ANNUAL	ALL	5	
604229.8	4128972.21	1.98425	46.88	46.88	1.5	ANNUAL	ALL	5	
604249.8	4128972.21	1.76925	47.16	47.16	1.5	ANNUAL	ALL	5	
604269.8	4128972.21	1.58349	47.45	47.45	1.5	ANNUAL	ALL	5	
604009.8	4128992.21	11.07118	47.26	47.26	1.5	ANNUAL	ALL	5	
604029.8	4128992.21	8.68443	47.66	47.66	1.5	ANNUAL	ALL	5	
604049.8	4128992.21	6.90989	47.78	47.78	1.5	ANNUAL	ALL	5	
604069.8	4128992.21	5.59011	47.89	47.89	1.5	ANNUAL	ALL	5	
604089.8	4128992.21	4.59586	47.97	47.97	1.5	ANNUAL	ALL	5	
604109.8	4128992.21	3.86736	47.3	47.3	1.5	ANNUAL	ALL	5	
604129.8	4128992.21	3.27606	47.05	47.05	1.5	ANNUAL	ALL	5	
604149.8	4128992.21	2.80049	46.83	46.83	1.5	ANNUAL	ALL	5	
604169.8	4128992.21	2.44819	47.22	47.22	1.5	ANNUAL	ALL	5	
604189.8	4128992.21	2.15306	47.07	47.07	1.5	ANNUAL	ALL	5	
604209.8	4128992.21	1.90497	46.89	46.89	1.5	ANNUAL	ALL	5	
604229.8	4128992.21	1.69073	46.48	46.48	1.5	ANNUAL	ALL	5	

604249.8	4128992.21	1.53026	46.93	46.93	1.5 ANNUAL	ALL	5
604269.8	4128992.21	1.38418	47.09	47.09	1.5 ANNUAL	ALL	5
603989.8	4129012.21	9.38441	47.01	47.01	1.5 ANNUAL	ALL	5
604029.8	4129012.21	6.24664	47.15	47.15	1.5 ANNUAL	ALL	5
604049.8	4129012.21	5.16398	47.56	47.56	1.5 ANNUAL	ALL	5
604069.8	4129012.21	4.31634	47.6	47.6	1.5 ANNUAL	ALL	5
604089.8	4129012.21	3.65069	47.36	47.36	1.5 ANNUAL	ALL	5
604109.8	4129012.21	3.11724	47.07	47.07	1.5 ANNUAL	ALL	5
604149.8	4129012.21	2.34647	46.97	46.97	1.5 ANNUAL	ALL	5
604169.8	4129012.21	2.07386	47.23	47.23	1.5 ANNUAL	ALL	5
604189.8	4129012.21	1.84187	46.91	46.91	1.5 ANNUAL	ALL	5
604209.8	4129012.21	1.6438	46.62	46.62	1.5 ANNUAL	ALL	5
604229.8	4129012.21	1.47928	46.46	46.46	1.5 ANNUAL	ALL	5
604249.8	4129012.21	1.35142	46.99	46.99	1.5 ANNUAL	ALL	5
604269.8	4129012.21	1.2295	46.99	46.99	1.5 ANNUAL	ALL	5
604289.8	4129012.21	1.12388	47.13	47.13	1.5 ANNUAL	ALL	5
603969.8	4129032.21	7.59222	46.64	46.64	1.5 ANNUAL	ALL	5
603989.8	4129032.21	6.71371	47.11	47.11	1.5 ANNUAL	ALL	5
604009.8	4129032.21	5.66032	47.44	47.44	1.5 ANNUAL	ALL	5
604049.8	4129032.21	4.00204	46.91	46.91	1.5 ANNUAL	ALL	5
604069.8	4129032.21	3.43314	47.3	47.3	1.5 ANNUAL	ALL	5
604089.8	4129032.21	2.9589	47.3	47.3	1.5 ANNUAL	ALL	5
604109.8	4129032.21	2.5657	46.93	46.93	1.5 ANNUAL	ALL	5
604149.8	4129032.21	2.0004	47.05	47.05	1.5 ANNUAL	ALL	5
604169.8	4129032.21	1.78747	47.11	47.11	1.5 ANNUAL	ALL	5
604189.8	4129032.21	1.60258	46.82	46.82	1.5 ANNUAL	ALL	5
604209.8	4129032.21	1.44172	46.43	46.43	1.5 ANNUAL	ALL	5
604229.8	4129032.21	1.31246	46.44	46.44	1.5 ANNUAL	ALL	5
604249.8	4129032.21	1.20387	46.72	46.72	1.5 ANNUAL	ALL	5
603969.8	4129052.21	5.69283	46.85	46.85	1.5 ANNUAL	ALL	5
603989.8	4129052.21	5.07719	47.25	47.25	1.5 ANNUAL	ALL	5
604009.8	4129052.21	4.38518	47.6	47.6	1.5 ANNUAL	ALL	5
604029.8	4129052.21	3.76243	47.44	47.44	1.5 ANNUAL	ALL	5
604049.8	4129052.21	3.23001	47	47	1.5 ANNUAL	ALL	5
604069.8	4129052.21	2.77928	46.75	46.75	1.5 ANNUAL	ALL	5
604089.8	4129052.21	2.44249	46.99	46.99	1.5 ANNUAL	ALL	5
604129.8	4129052.21	1.91021	46.85	46.85	1.5 ANNUAL	ALL	5
604149.8	4129052.21	1.72074	47.08	47.08	1.5 ANNUAL	ALL	5
604169.8	4129052.21	1.55327	46.97	46.97	1.5 ANNUAL	ALL	5
604189.8	4129052.21	1.40606	46.69	46.69	1.5 ANNUAL	ALL	5
604209.8	4129052.21	1.27724	46.32	46.32	1.5 ANNUAL	ALL	5
603949.8	4129072.21	4.77826	46.65	46.65	1.5 ANNUAL	ALL	5
603969.8	4129072.21	4.44072	46.89	46.89	1.5 ANNUAL	ALL	5
603989.8	4129072.21	3.99978	47.02	47.02	1.5 ANNUAL	ALL	5
604009.8	4129072.21	3.51989	47.2	47.2	1.5 ANNUAL	ALL	5
604029.8	4129072.21	3.06831	47.44	47.44	1.5 ANNUAL	ALL	5
604049.8	4129072.21	2.67209	47.36	47.36	1.5 ANNUAL	ALL	5
604069.8	4129072.21	2.3332	46.99	46.99	1.5 ANNUAL	ALL	5
604109.8	4129072.21	1.81411	46.58	46.58	1.5 ANNUAL	ALL	5
604129.8	4129072.21	1.64057	46.88	46.88	1.5 ANNUAL	ALL	5
604149.8	4129072.21	1.48569	46.82	46.82	1.5 ANNUAL	ALL	5
604169.8	4129072.21	1.35141	46.6	46.6	1.5 ANNUAL	ALL	5
604269.8	4129072.21	0.91113	46.65	46.65	1.5 ANNUAL	ALL	5
604289.8	4129072.21	0.8498	46.92	46.92	1.5 ANNUAL	ALL	5
603929.8	4129092.21	4.00828	46.45	46.45	1.5 ANNUAL	ALL	5

603949.8	4129092.21	3.83602	46.73	46.73	1.5 ANNUAL	ALL	5
603969.8	4129092.21	3.58332	46.93	46.93	1.5 ANNUAL	ALL	5
603989.8	4129092.21	3.23498	46.79	46.79	1.5 ANNUAL	ALL	5
604009.8	4129092.21	2.88114	46.84	46.84	1.5 ANNUAL	ALL	5
604029.8	4129092.21	2.55549	47.13	47.13	1.5 ANNUAL	ALL	5
604049.8	4129092.21	2.25139	47.28	47.28	1.5 ANNUAL	ALL	5
604069.8	4129092.21	1.98619	47.3	47.3	1.5 ANNUAL	ALL	5
604089.8	4129092.21	1.76145	47.02	47.02	1.5 ANNUAL	ALL	5
604109.8	4129092.21	1.56313	46.55	46.55	1.5 ANNUAL	ALL	5
604129.8	4129092.21	1.41595	46.6	46.6	1.5 ANNUAL	ALL	5
604149.8	4129092.21	1.29316	46.59	46.59	1.5 ANNUAL	ALL	5
604229.8	4129092.21	0.9534	46.58	46.58	1.5 ANNUAL	ALL	5
604249.8	4129092.21	0.89176	46.75	46.75	1.5 ANNUAL	ALL	5
604269.8	4129092.21	0.83381	46.82	46.82	1.5 ANNUAL	ALL	5
604289.8	4129092.21	0.78043	46.9	46.9	1.5 ANNUAL	ALL	5
603909.8	4129112.21	3.38617	46.24	46.24	1.5 ANNUAL	ALL	5
603929.8	4129112.21	3.2975	46.59	46.59	1.5 ANNUAL	ALL	5
603949.8	4129112.21	3.16111	46.78	46.78	1.5 ANNUAL	ALL	5
603969.8	4129112.21	2.9545	46.78	46.78	1.5 ANNUAL	ALL	5
603989.8	4129112.21	2.66556	46.3	46.3	1.5 ANNUAL	ALL	5
604009.8	4129112.21	2.39951	46.47	46.47	1.5 ANNUAL	ALL	5
604029.8	4129112.21	2.14919	46.72	46.72	1.5 ANNUAL	ALL	5
604049.8	4129112.21	1.92463	47.1	47.1	1.5 ANNUAL	ALL	5
604069.8	4129112.21	1.71338	47.11	47.11	1.5 ANNUAL	ALL	5
604089.8	4129112.21	1.53085	47.2	47.2	1.5 ANNUAL	ALL	5
604109.8	4129112.21	1.37569	46.95	46.95	1.5 ANNUAL	ALL	5
604129.8	4129112.21	1.24039	46.49	46.49	1.5 ANNUAL	ALL	5
604209.8	4129112.21	0.91868	46.61	46.61	1.5 ANNUAL	ALL	5
604229.8	4129112.21	0.86335	46.79	46.79	1.5 ANNUAL	ALL	5
604249.8	4129112.21	0.81007	46.73	46.73	1.5 ANNUAL	ALL	5
604269.8	4129112.21	0.76071	46.65	46.65	1.5 ANNUAL	ALL	5
604289.8	4129112.21	0.71507	46.59	46.59	1.5 ANNUAL	ALL	5

** CONCU /m^3

** DEPUNI ^2

5131.97

5171.97

5191.97

NCUNIT ug

PUNIT g/m

Energy Calculations

Energy Calculations - Construction

Source	MT of CO ₂
Total GHG from Diesel use	695.5
Total GHG from Gasoline Use	58.6
Onsite GHG from diesel use	600.8
Onroad GHG from diesel use	94.7
Percent onsite diesel	86.4%
Percent onroad diesel	13.6%

CO₂ from diesel fuel combustion^a = 10.2 kg of CO₂/gallon of diesel

CO₂ from gasoline fuel combustion^a = 8.78 kg of CO₂/gallon of gasoline

^a Emissions factors per The Climate Registry 2019 Default Emission Factors (Table 2.1 - US Default Factors for Calculating CO₂ Emissions Conversion 1 MT = 1000 kg

Source	Fuel Use (gallons)
Onsite Diesel	58,844.8
Offsite Diesel	9,278.5
Total Diesel	68,123.3
Offsite Gasoline	6,668.9

Energy Calculations - Operation

Building electricity use 650071.5 kWh/year