DOCKETED	
Docket Number:	22-SPPE-01
Project Title:	Bowers Backup Generating Facility
TN #:	245767
Document Title:	BBGF SPPE App Appendix A
Description:	N/A
Filer:	Scott Galati
Organization:	DayZenLLC
Submitter Role:	Applicant Representative
Submission Date:	8/31/2022 4:29:22 PM
Docketed Date:	8/31/2022

Appendix AQ-1

Emission Calculations

Table AQ1-1 Emissions Estimates for Emergency Standby Generators

Engine Mfg:	**Cummins**	# of Units:	32		Max # of Engines Tested per Day:	10		# Redundant Engines:	0							
Model #:	**QSK95**				*(engines are not tested concurrently)*			Emer Ops Engines:	32							
Fuel:	ULSD	**Engine Data**												***METRIC UNITs***		
												Stk Flow,	**Stack Vel,**		**Stk Temp,**	
Fuel S, %wt:	0.0015	**BHP**	**kWe**	**Load %**	**RPM**	**Fuel, gph**	**Stk Ht, ft**	**Stk Diam, in**	**Stk Temp, F**	**mmbtu/hr**	**ACFM**	**f/s**	**Stk Diam, m**	**Kelvins**	**Stk Vel, m/s**	
Fuel wt, lb/gal:	7.05	4309	3000	100	1800	207	50	22	912	28.77	22806	143.9876	0.5588	762.04	43.8874	
Btu/gal:	139000															
Lbs S/1000 gal:	0.10575															
Lbs SO2/1000 gal:	0.2115	equals	0.0046	g/bhp-hr	(use 0.005 g/bhp-hr as default SO2 factor for all loads)											
EPA Tier:	4															
Control System:	Miratech Catalyst + DPF to Meet T4															
Turbocharged:	Yes							Stack Exit Area (sq.ft) =	2.63981							
Aftercooled:	Yes															

	Emissions Factor Scenarios (all values in g/bhp-hr)						**CO2e**
Scenarios	**NOx**	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**lb/mmbtu**
Emergency Ops, 100 hrs/yr, Tier 4 Controlled EFs, 100% Load	0.5	2.6	0.14	0.005	0.015	0.015	163.052
Maint/Readiness Testing, 50 hrs/yr, Weighted EFs, 100% Load	1.53	2.6	0.14	0.005	0.015	0.015	163.052
0.25 hr Uncontrolled, Tier 2 Stds Efs, 100% Load, w/DPF	4.6						
0.75 hr Controlled, T4 Efs, 100% Load, w/DPF	0.5						

	Controlled Emissions Factor Scenarios (all values in g/bhp-hr)						**CO2e**
	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**lb/mmbtu**
Emergency Ops, 100 hrs/yr, Tier 4 Controlled EFs, 100% Load	0.500	2.6	0.14	0.005	0.015	0.015	163.052
Maint/Readiness Testing, 50 hrs/yr, Weighted EFs, 100% Load	1.53	2.6	0.14	0.005	0.015	0.015	163.052

Scenario 1: **Emergency Ops, 100 hrs/yr, Tier 4 Controlled EFs, 100% Load**

Max Hourly Runtime: 1
Max Daily Runtime: 24
Max Annual Runtime: 100

Single Engine

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
lbs/hr	4.750	24.699	1.330	0.047	0.142	0.142	na
lbs/day	113.997	592.786	31.919	1.140	3.420	3.420	na
TPY	0.237	1.235	0.066	0.002	0.007	0.007	234.6

All Engines

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
lbs/hr	152.00	790.38	42.56	1.52	4.56	4.56	na
lbs/day	3647.91	18969.14	1021.42	36.48	109.44	109.44	na
TPY	7.60	39.52	2.13	0.08	0.23	0.23	7506.39

Scenario 2: **Maint/Readiness Testing, 50 hrs/yr, Weighted EFs, 100% Load**

Max Hourly Runtime: 1
Max Daily Runtime: 1
Max Annual Runtime: 50

Single Engine

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
lbs/hr	14.487	24.699	1.330	0.047	0.142	0.142	na
lbs/day	14.487	24.699	1.330	0.047	0.142	0.142	na
TPY	0.362	0.617	0.033	0.001	0.004	0.004	117.3

10 Engines

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
lbs/hr	14.487	24.699	1.330	0.047	0.142	0.142	na
lbs/day	144.871	246.994	13.300	0.475	1.425	1.425	na

All Engines

	NOx	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
TPY	11.59	19.76	1.06	0.04	0.11	0.11	3753.20

BAAQMD 150 Hrs/Yr Emissions Totals, TPY:	**NOx**	**CO**	**VOC**	**SO2**	**PM10**	**PM2.5**	**CO2e**
	19.190	59.279	3.192	0.114	0.342	0.342	11259.6

DPM = PM10 for purposes of the HRA evaluation.

Table AQ1-2 Fixed Roof Tank Emissions Estimates

Ref: AP-42, Section 7.1, 11/2006

indicates input

Standing Storage Losses			***Comments***	**Note**
Type of organic liquid:	#2 ULS Diesel			
Vapor molecular weight:	Mw	130	AP-42	
Vapor density, lbs/ft3:	Vd	0.00015243		
Liquid density, lbs/gal	Dl	7.1	AP-42	
TVP, psia @ 60F	Vp	0.0065	AP-42 (consistent with Ta below)	
Tank diameter, ft.	D	12	Dimensions estimated for a 12,500 gal tank	
Tank height, ft.	H	15	Dimensions estimated for a 12,500 gal tank	
Tank capacity, gals	Tc	12500	of approx. equivalent capacity.	2
Avg vapor space height, ft.	Hv	3	annual avg value based on use versus tank refills	
Vapor space volume, ft3	Vv	339.29		
Total tank volume, ft3	Tv	1671	Based on actual tank dimensions	
Avg Annual Temp, F	Ta	56.6	API Bulletin 2517, for SFO Airport	
Avg diurnal temp change, F	Tc	13.1	Avg max minus avg min.	
Paint factor	Pf	0.05	AP-42, Table 7.1-6, solar absorbance value	1
Product factor	Pd	1	Crude = 0.75, all others = 1	
Turnover factor	Kn	1	If turnover <36/year, the factor = 1. If >36 then calculate Kn. Per AP-42.	
Annual throughput, gals/yr	At	10350		
Vapor space expansion factor	Ke	0.04	AP-42, default value	
Vapor saturation factor	Ks	0.9990		
# of similar tanks		16	equals large and small tank combined per engine	2
Standing Loss	**Ls**	**0.75**	**lbs/yr (breathing and standing losses)**	

Working Losses			
Vapor molecular weight:	Mw	130	
Vapor pressure, psia @ 70F	Vp	0.0065	
Throughput, bbl/yr	Q	246.4	
Turnover factor	Kn	1	
Working loss product factor	Kp	1	
Working Loss	**Lw**	**0.21**	**lbs/yr (tank filling and withdrawal losses)**
Engineering Uncertainty Factor		1.2	
Uncontrolled Total Tank Losses		**1.16**	**lbs/yr each tank**
		18.48	**lbs/yr all tanks**
Control System ?	No	0	control fraction
System type, etc.	NA, no controls are required on #2 ULSD storage tanks or delivery systems		3
Controlled Total Tank Losses		**1.16**	**lbs/yr each tank**
		18.48	**lbs/yr all tanks**
		0.009	**TPY all tanks**

Note 1 - paint factor reduced due to tanks being inside the engine housing not subject to ambient sunlight exposure.

Note 2 - for conservativeness, the large tank and the "day tank" were evaluated as a single tank

Note 3 - these tanks are exempt form BAAQMD permits per Reg 2 Rule 1, section 123.

Table AQ1-3 VOC Related Air Toxics Emissions From ULSD Storage Tanks

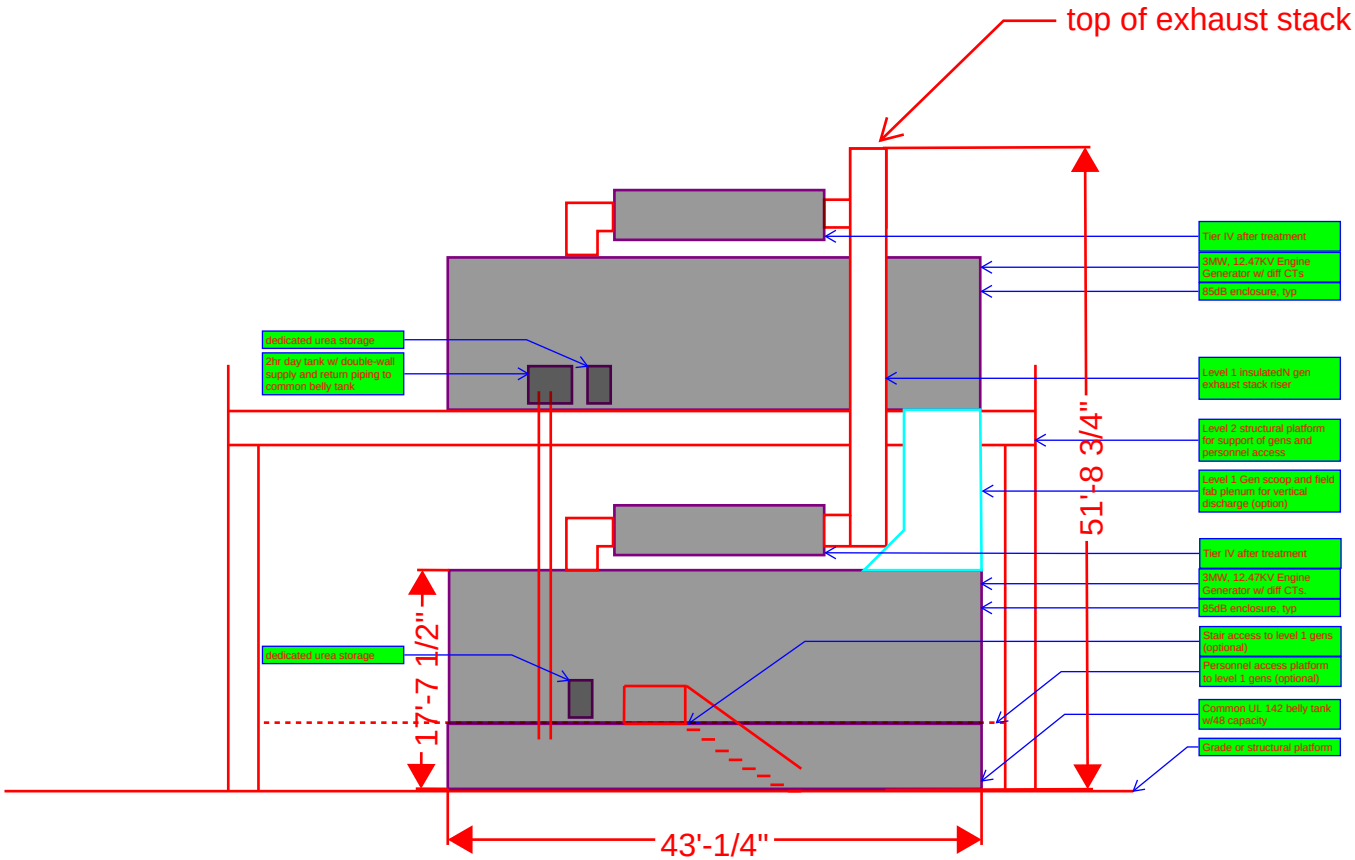
Total VOC Emissions from All Tanks, lbs/yr: 18.48

				All Tanks	
Pollutant	**CAS**	**EF**	**EF Units**	**lbs/yr**	**lbs/hr**
Benzene	71432	0.00088	lb/lb VOC	1.63E-02	1.86E-06
Toluene	108883	0.00482	lb/lb VOC	8.91E-02	1.02E-05
Xylenes	1330207	0.0042	lb/lb VOC	7.76E-02	8.86E-06

EF Reference: SJVUAPCD AB2588 Toxics Profile #23
Lbs/hr based on 8760 hours/yr.

Appendix AQ-2

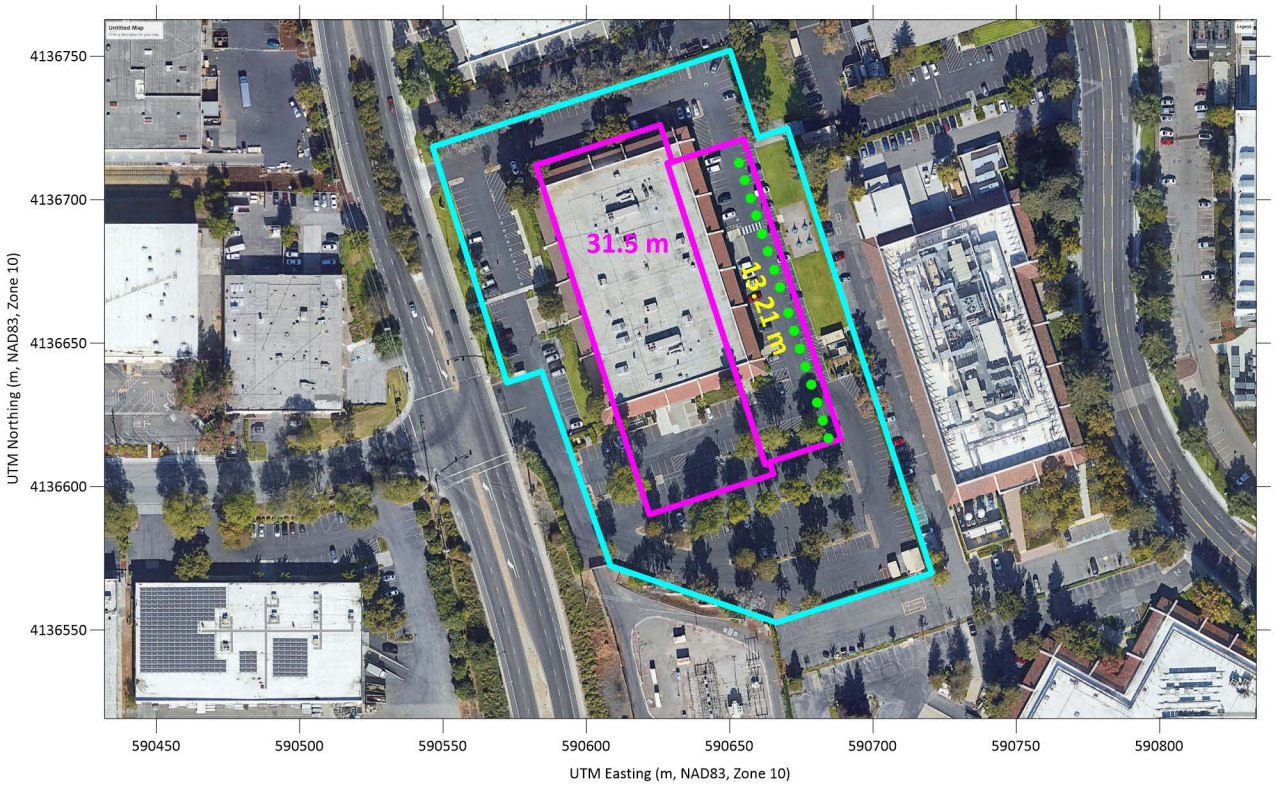
Emission Calculation Support Data


top of exhaust stack
Tier IV after treatment
3MW, 12.47kV Engine Generator w/ diff CTs
8'x8' enclosure, typ
dedicated urea storage
Level 1 insulated/4 gen exhaust stack riser
Level 2 structural platform for support of gens and personnel access
Level 1 Gen scoop and field fab plenum for vertical discharge (option)
51'-8 3/4"
17'-7 1/2"
Stair w/ cycle to level 1 gens (optional)
Personnel access platform to level 1 gens (optional)
Common UL 142 belly tank w/48 capacity
Cracle or structural platform
43'-1/4"

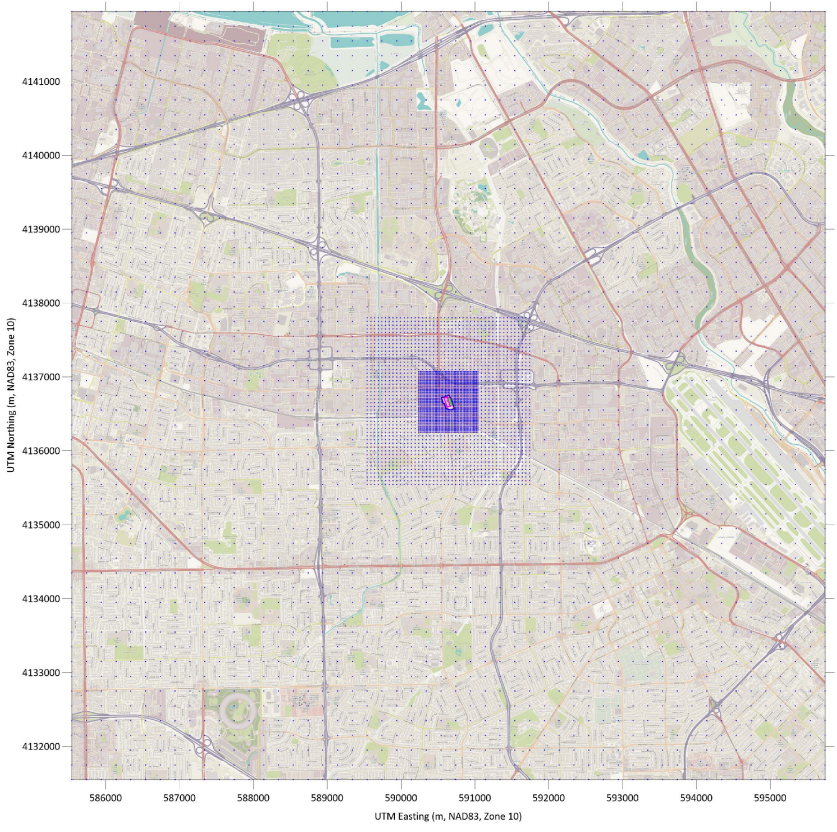
Appendix AQ-3

Modeling Data

BBGF Structure Heights and Stack Locations



BBGF Receptors Grids



Appendix 1B Table * **Air Quality Monitoring Data Summary**

Project: Walsh Bowers DC
County: Santa Clara
AQM Site: Jackson St.

			EPA AIRS			Calculated Base Value	ug/m3	Background Analysis
			2019	**2020**	**2021**			
NO2	ppb	1st Max 1 Hr	60	52	47	60	112.9	Max 1 Hr
NO2	ppb	98th Pctile	52	45	39	45.33	85.3	3 Yr Avg of 98th Pctile
NO2	ppb	AAM	10.63	9.65	8.73	10.63	20.0	3-Year Maximum
CO	ppm	1st Max 8 Hr	1.3	1.5	1.5	1.5	1680	Max 8 Hr
CO	ppm	1st Max 1 Hr	1.7	1.8	1.7	1.8	2061	Max 1 Hr
SO2	ppb	1st Max 1 Hr	14.5	2.9	1.8	14.5	38.0	Max 1 Hr (same for 3 HR Max)
SO2	ppb	99th Pctile	2	2	2	2.00	5.2	3 Yr Avg of 99th Pctile
SO2	ppb	1st Max 24 Hr	1.5	0.8	0.07	1.5	3.9	3 Yr Max Value
SO2	ppb	2nd Max 24 Hr	0.6	0.8	0.5	0.8	2.1	3 Yr Max Value
SO2	ppb	AAM	0.14	0.17	0.17	0.17	0.44	3 Yr Max Value
Ozone	ppm	1st Max 8 Hr	0.081	0.085	0.084	0.085	166.9	Max 8 Hr
Ozone	ppm	1st Max 1 Hr	0.095	0.106	0.098	0.106	208.1	Max 1 hr
Ozone	ppm	8 Hr 4th High	0.06	0.068	0.072	0.07	130.9	3 Yr Avg of 4th Highs
PM10	ug/m3	1st Max 24 Hr	75	134	41	134	134	Max 24 Hr
PM10	ug/m3	4th Max 24 Hr	74.8	52.2	58	74.8	74.8	3 Yr Max Value
		Note: No EPA data for 4th High 24 hr. No CARB data for 2021. Value is based on CARB data for 2018-2020.						
PM2.5	ug/m3	1st Max 24 Hr	27.6	120.5	38.1	120.5	120.5	Max 24 Hr
PM2.5	ug/m3	98th Pctile	21	56	23	33.33	33.3	3 Yr Avg of 98th Pctile
PM2.5	ug/m3	Weight AM	9.1	11.5	8.9	9.83	9.8	3 Yr Avg
			CARB ****					
NO2	ppb	1st Max 1 Hr	59	51	nd	59	111.0	3 Yr Max Value
NO2	ppb	AAM	10	9	nd	10	18.8	3 Yr Max Value
CO	ppm	No data						
SO2	ppb	No Data						
Ozone	ppm	1st Max 8 Hr	0.081	0.085	nd	0.085	166.9	3 Yr Max Value
Ozone	ppm	1st Max 1 Hr	0.095	0.106	nd	0.106	208.1	3 Yr Max Value
PM10	ug/m3	1st Max 24 Hr	77.1	137.1	nd	137.1	137.1	3 Yr Max Value
PM10	ug/m3	AAM	19.1	24.8	nd	24.8	24.8	3 Yr Max Value
PM2.5	ug/m3	AAM	9.1	11.5	nd	11.5	11.5	3 Yr Max Value

NAAQS data from EPA AIRS 03/23/2022
CAAQS data form CARB ADAM 03/23/2022
** No CARB data for 2021, therefore CARB data was not used for any background values.

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Construction Data

Bowers - Santa Clara County, Annual

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

Bowers

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	244.07	1000sqft	5.12	244,068.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2026
Utility Company	Silicon Valley Power				
CO2 Intensity (lb/MWhr)	307.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Applicant data

Land Use - Site acreage from Applicant. Bldg data from Applicant.

Construction Phase - Applicant best estimate of construction schedule and phases.

Off-road Equipment - Best estimate

Off-road Equipment - Best estimate

Off-road Equipment - Best estimate

Off-road Equipment - Best estimate

Off-road Equipment - Best estimate

Off-road Equipment - Best estimate

Trips and VMT - Grading haul trips: 16000 yd3 / 20 yd2 haul = 800 trips
Bldg haul trips: cement + misc materials = 1373
Paving haul trips: 830 yd3 asphalt / 20yd3 per haul = 42 trips

On-road Fugitive Dust - defaults used

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

Demolition - Demo of bldg at 2805 Bowers. Applicant data.

Grading - Applicant engineer best estimate

Architectural Coating - defaults used

Vehicle Trips - 20 employees X 1.5 = 30 trips/day
30 trips/day divided by 244.068 (1000 sq ft) = 0.123 trips/day/1000 ft2, used 0.13

Vehicle Emission Factors - defaults used

Vehicle Emission Factors - defaults used

Vehicle Emission Factors - defaults used

Road Dust - No unpaved roads. Defaults used.

Woodstoves - NA

Consumer Products - defaults used

Area Coating - defaults used

Landscape Equipment - defaults used

Energy Use - defaults used

Water And Wastewater - 2 AFY for bldg use, and 1 AFY for landscaping.

Solid Waste - 20 employees @ 10.53 lbd/day/employee @ 365 days/yr = 38.43 tpy
38.43 tpy divided by 244.068 = 0.158 tpy/1000 sqft, used 0.16

Land Use Change - defaults used

Sequestration - defaults used

Construction Off-road Equipment Mitigation - Best estimate

Mobile Land Use Mitigation - NA

Mobile Commute Mitigation - NA

Area Mitigation - defaults used

Energy Mitigation - NA

Water Mitigation - NA

Waste Mitigation - NA

Operational Off-Road Equipment - NA

Fleet Mix - defaults used

Stationary Sources - Emergency Generators and Fire Pumps - NA. See SPPE application for engine emissions.

Stationary Sources - Process Boilers - NA

Bowers - Santa Clara County, Annual

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

Stationary Sources - User Defined - NA

Stationary Sources - Emergency Generators and Fire Pumps EF - NA

Stationary Sources - Process Boilers EF - NA

Table Name	Column Name	Default Value	New Value
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
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tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim

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 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	20.00	33.00
tblConstructionPhase	NumDays	230.00	328.00
tblConstructionPhase	NumDays	20.00	44.00
tblConstructionPhase	NumDays	20.00	65.00
tblConstructionPhase	NumDays	20.00	30.00
tblConstructionPhase	NumDays	10.00	44.00
tblGrading	AcresOfGrading	24.78	5.12
tblGrading	AcresOfGrading	31.90	5.12
tblGrading	MaterialExported	0.00	16,000.00
tblLandUse	LandUseSquareFeet	244,070.00	244,068.00
tblLandUse	LotAcreage	5.60	5.12
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	UsageHours	6.00	9.70
tblOffRoadEquipment	UsageHours	8.00	6.80
tblOffRoadEquipment	UsageHours	7.00	1.80

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

tblOffRoadEquipment	UsageHours	8.00	6.80
tblOffRoadEquipment	UsageHours	8.00	8.50
tblOffRoadEquipment	UsageHours	8.00	4.60
tblOffRoadEquipment	UsageHours	8.00	3.40
tblOffRoadEquipment	UsageHours	8.00	1.50
tblOffRoadEquipment	UsageHours	8.00	8.30
tblOffRoadEquipment	UsageHours	8.00	8.30
tblOffRoadEquipment	UsageHours	8.00	8.30
tblOffRoadEquipment	UsageHours	8.00	6.80
tblOffRoadEquipment	UsageHours	8.00	4.60
tblOffRoadEquipment	UsageHours	8.00	5.80
tblOffRoadEquipment	UsageHours	7.00	1.50
tblOffRoadEquipment	UsageHours	8.00	4.60
tblOffRoadEquipment	UsageHours	8.00	7.00
tblOffRoadEquipment	UsageHours	8.00	1.80
tblSolidWaste	SolidWasteGenerationRate	226.99	0.16
tblTripsAndVMT	HaulingTripNumber	2,000.00	800.00
tblTripsAndVMT	HaulingTripNumber	0.00	1,373.00
tblTripsAndVMT	HaulingTripNumber	0.00	42.00
tblTripsAndVMT	VendorTripNumber	40.00	20.00
tblVehicleTrips	ST_TR	2.21	0.13
tblVehicleTrips	SU_TR	0.70	0.13
tblVehicleTrips	WD_TR	9.74	0.13
tblWater	IndoorWaterUseRate	43,379,475.87	670,000.00
tblWater	OutdoorWaterUseRate	26,587,420.70	330,000.00

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					
2023	0.1346	1.3533	1.1797	2.8000e-003	0.2850	0.0586	0.3435	0.1311	0.0543	0.1854						256.1717
2024	0.0782	0.6616	0.7982	2.4200e-003	0.1076	0.0229	0.1305	0.0291	0.0217	0.0508						227.0102
2025	1.2859	0.1097	0.1866	3.2000e-004	3.8100e-003	4.8600e-003	8.6700e-003	1.0200e-003	4.5800e-003	5.6000e-003						28.7081
Maximum	**1.2859**	**1.3533**	**1.1797**	**2.8000e-003**	**0.2850**	**0.0586**	**0.3435**	**0.1311**	**0.0543**	**0.1854**						**256.1717**

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	0.0425	0.8696	1.4426	2.8000e-003	0.1519	4.6300e-003	0.1565	0.0654	4.5800e-003	0.0700						256.1714
2024	0.0456	0.5662	0.8594	2.4200e-003	0.1076	4.3300e-003	0.1119	0.0291	4.2400e-003	0.0333						227.0101
2025	1.2783	0.1238	0.2109	3.2000e-004	3.8100e-003	9.4000e-004	4.7500e-003	1.0200e-003	9.3000e-004	1.9500e-003						28.7080
Maximum	**1.2783**	**0.8696**	**1.4426**	**2.8000e-003**	**0.1519**	**4.6300e-003**	**0.1565**	**0.0654**	**4.5800e-003**	**0.0700**						**256.1714**

Bowers - 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	N20	CO2e
Percent Reduction	**8.84**	**26.59**	**-16.09**	**0.00**	**33.58**	**88.52**	**43.40**	**40.76**	**87.89**	**56.46**	**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	**3-1-2023**	**5-31-2023**	0.6588	0.3493
2	**6-1-2023**	**8-31-2023**	0.4802	0.3015
3	**9-1-2023**	**11-30-2023**	0.2873	0.2122
4	**12-1-2023**	**2-29-2024**	0.1888	0.1539
5	**3-1-2024**	**5-31-2024**	0.1850	0.1529
6	**6-1-2024**	**8-31-2024**	0.1838	0.1517
7	**9-1-2024**	**11-30-2024**	0.1842	0.1524
8	**12-1-2024**	**2-28-2025**	1.4240	1.4198
9	**3-1-2025**	**5-31-2025**	0.0285	0.0285
		Highest	1.4240	1.4198

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

2.2 Overall Operational

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	1.0807	2.0000e-005	2.2400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						4.6400e-003
Energy	0.0213	0.1938	0.1628	1.1600e-003		0.0147	0.0147		0.0147	0.0147						801.5056
Mobile	0.0115	0.0123	0.1108	2.4000e-004	0.0280	1.7000e-004	0.0282	7.4800e-003	1.5000e-004	7.6300e-003						22.2276
Waste						0.0000	0.0000		0.0000	0.0000						0.0805
Water						0.0000	0.0000		0.0000	0.0000						1.5842
Total	**1.1135**	**0.2062**	**0.2758**	**1.4000e-003**	**0.0280**	**0.0149**	**0.0429**	**7.4800e-003**	**0.0149**	**0.0224**						**825.4024**

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	1.0807	2.0000e-005	2.2400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						4.6400e-003
Energy	0.0213	0.1938	0.1628	1.1600e-003		0.0147	0.0147		0.0147	0.0147						801.5056
Mobile	0.0115	0.0123	0.1108	2.4000e-004	0.0280	1.7000e-004	0.0282	7.4800e-003	1.5000e-004	7.6300e-003						22.2276
Waste						0.0000	0.0000		0.0000	0.0000						0.0805
Water						0.0000	0.0000		0.0000	0.0000						1.5842
Total	**1.1135**	**0.2062**	**0.2758**	**1.4000e-003**	**0.0280**	**0.0149**	**0.0429**	**7.4800e-003**	**0.0149**	**0.0224**						**825.4024**

	ROG	NOx	CO	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**

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	3/1/2023	5/1/2023	5	44	
2	Site Preparation	Site Preparation	5/2/2023	7/1/2023	5	44	
3	Grading	Grading	7/2/2023	10/1/2023	5	65	

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

4	Building Construction	Building Construction	10/2/2023	1/1/2025	5	328	
5	Paving	Paving	1/2/2025	2/12/2025	5	30	
6	Architectural Coating	Architectural Coating	1/15/2025	3/1/2025	5	33	

Acres of Grading (Site Preparation Phase): 5.12

Acres of Grading (Grading Phase): 5.12

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 366,102; Non-Residential Outdoor: 122,034; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	6.80	81	0.73
Demolition	Excavators	1	6.80	158	0.38
Demolition	Other Construction Equipment	1	9.10	172	0.42
Demolition	Rubber Tired Dozers	2	6.80	247	0.40
Site Preparation	Graders	1	5.80	187	0.41
Site Preparation	Other Construction Equipment	1	9.30	172	0.42
Site Preparation	Rubber Tired Dozers	1	5.80	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Excavators	1	8.50	158	0.38
Grading	Graders	1	1.50	187	0.41
Grading	Other Construction Equipment	1	9.20	172	0.42
Grading	Rubber Tired Dozers	1	4.60	247	0.40
Grading	Tractors/Loaders/Backhoes	1	4.60	97	0.37
Building Construction	Cranes	1	1.80	231	0.29
Building Construction	Forklifts	2	4.60	89	0.20
Building Construction	Generator Sets	1	3.40	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	1.50	97	0.37

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

Building Construction	Welders	1	1.80	46	0.45
Paving	Pavers	1	8.30	130	0.42
Paving	Paving Equipment	1	8.30	132	0.36
Paving	Rollers	1	8.30	80	0.38
Architectural Coating	Aerial Lifts	1	6.10	63	0.31
Architectural Coating	Air Compressors	1	9.70	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	5	13.00	0.00	250.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	5	13.00	0.00	800.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	6	78.00	20.00	1,373.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	3	8.00	0.00	42.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	2	16.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

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

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					0.0271	0.0000	0.0271	4.1000e-003	0.0000	4.1000e-003						0.0000
Off-Road	0.0441	0.4299	0.3457	6.9000e-004		0.0203	0.0203		0.0189	0.0189						60.5968
Total	**0.0441**	**0.4299**	**0.3457**	**6.9000e-004**	**0.0271**	**0.0203**	**0.0474**	**4.1000e-003**	**0.0189**	**0.0230**						**60.5968**

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	2.6000e-004	0.0170	3.9400e-003	8.0000e-005	2.1200e-003	1.4000e-004	2.2600e-003	5.8000e-004	1.3000e-004	7.1000e-004						7.8457
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	7.1000e-004	5.0000e-004	6.3800e-003	2.0000e-005	2.2700e-003	1.0000e-005	2.2800e-003	6.0000e-004	1.0000e-005	6.1000e-004						1.7424
Total	**9.7000e-004**	**0.0175**	**0.0103**	**1.0000e-004**	**4.3900e-003**	**1.5000e-004**	**4.5400e-003**	**1.1800e-003**	**1.4000e-004**	**1.3200e-003**						**9.5881**

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

3.2 Demolition - 2023

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					0.0122	0.0000	0.0122	1.8400e-003	0.0000	1.8400e-003						0.0000
Off-Road	0.0105	0.2369	0.4328	6.9000e-004		1.0900e-003	1.0900e-003		1.0900e-003	1.0900e-003						60.5967
Total	**0.0105**	**0.2369**	**0.4328**	**6.9000e-004**	**0.0122**	**1.0900e-003**	**0.0133**	**1.8400e-003**	**1.0900e-003**	**2.9300e-003**						**60.5967**

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	2.6000e-004	0.0170	3.9400e-003	8.0000e-005	2.1200e-003	1.4000e-004	2.2600e-003	5.8000e-004	1.3000e-004	7.1000e-004						7.8457
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	7.1000e-004	5.0000e-004	6.3800e-003	2.0000e-005	2.2700e-003	1.0000e-005	2.2800e-003	6.0000e-004	1.0000e-005	6.1000e-004						1.7424
Total	**9.7000e-004**	**0.0175**	**0.0103**	**1.0000e-004**	**4.3900e-003**	**1.5000e-004**	**4.5400e-003**	**1.1800e-003**	**1.4000e-004**	**1.3200e-003**						**9.5881**

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

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					0.0988	0.0000	0.0988	0.0531	0.0000	0.0531						0.0000
Off-Road	0.0289	0.3054	0.2219	4.6000e-004		0.0136	0.0136		0.0125	0.0125						40.7128
Total	**0.0289**	**0.3054**	**0.2219**	**4.6000e-004**	**0.0988**	**0.0136**	**0.1123**	**0.0531**	**0.0125**	**0.0656**						**40.7128**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	5.5000e-004	3.8000e-004	4.9100e-003	1.0000e-005	1.7400e-003	1.0000e-005	1.7500e-003	4.6000e-004	1.0000e-005	4.7000e-004						1.3403
Total	**5.5000e-004**	**3.8000e-004**	**4.9100e-003**	**1.0000e-005**	**1.7400e-003**	**1.0000e-005**	**1.7500e-003**	**4.6000e-004**	**1.0000e-005**	**4.7000e-004**						**1.3403**

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

3.3 Site Preparation - 2023

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					0.0445	0.0000	0.0445	0.0239	0.0000	0.0239						0.0000
Off-Road	7.2400e-003	0.1598	0.2940	4.6000e-004		7.5000e-004	7.5000e-004		7.5000e-004	7.5000e-004						40.7127
Total	**7.2400e-003**	**0.1598**	**0.2940**	**4.6000e-004**	**0.0445**	**7.5000e-004**	**0.0452**	**0.0239**	**7.5000e-004**	**0.0246**						**40.7127**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	5.5000e-004	3.8000e-004	4.9100e-003	1.0000e-005	1.7400e-003	1.0000e-005	1.7500e-003	4.6000e-004	1.0000e-005	4.7000e-004						1.3403
Total	**5.5000e-004**	**3.8000e-004**	**4.9100e-003**	**1.0000e-005**	**1.7400e-003**	**1.0000e-005**	**1.7500e-003**	**4.6000e-004**	**1.0000e-005**	**4.7000e-004**						**1.3403**

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

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					0.1162	0.0000	0.1162	0.0623	0.0000	0.0623						0.0000
Off-Road	0.0375	0.3722	0.3722	6.7000e-004		0.0176	0.0176		0.0162	0.0162						59.1007
Total	**0.0375**	**0.3722**	**0.3722**	**6.7000e-004**	**0.1162**	**0.0176**	**0.1338**	**0.0623**	**0.0162**	**0.0785**						**59.1007**

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	8.4000e-004	0.0544	0.0126	2.4000e-004	6.7900e-003	4.4000e-004	7.2300e-003	1.8700e-003	4.2000e-004	2.2900e-003						25.1062
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	1.0600e-003	7.4000e-004	9.4300e-003	3.0000e-005	3.3500e-003	2.0000e-005	3.3700e-003	8.9000e-004	2.0000e-005	9.1000e-004						2.5740
Total	**1.9000e-003**	**0.0551**	**0.0220**	**2.7000e-004**	**0.0101**	**4.6000e-004**	**0.0106**	**2.7600e-003**	**4.4000e-004**	**3.2000e-003**						**27.6803**

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

3.4 Grading - 2023

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					0.0523	0.0000	0.0523	0.0280	0.0000	0.0280						0.0000
Off-Road	9.6200e-003	0.2590	0.4613	6.7000e-004		1.0900e-003	1.0900e-003		1.0900e-003	1.0900e-003						59.1006
Total	**9.6200e-003**	**0.2590**	**0.4613**	**6.7000e-004**	**0.0523**	**1.0900e-003**	**0.0534**	**0.0280**	**1.0900e-003**	**0.0291**						**59.1006**

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	8.4000e-004	0.0544	0.0126	2.4000e-004	6.7900e-003	4.4000e-004	7.2300e-003	1.8700e-003	4.2000e-004	2.2900e-003						25.1062
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	1.0600e-003	7.4000e-004	9.4300e-003	3.0000e-005	3.3500e-003	2.0000e-005	3.3700e-003	8.9000e-004	2.0000e-005	9.1000e-004						2.5740
Total	**1.9000e-003**	**0.0551**	**0.0220**	**2.7000e-004**	**0.0101**	**4.6000e-004**	**0.0106**	**2.7600e-003**	**4.4000e-004**	**3.2000e-003**						**27.6803**

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

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					
Off-Road	0.0134	0.1210	0.1328	2.3000e-004		6.0200e-003	6.0200e-003		5.7100e-003	5.7100e-003						19.6731
Total	**0.0134**	**0.1210**	**0.1328**	**2.3000e-004**		**6.0200e-003**	**6.0200e-003**		**5.7100e-003**	**5.7100e-003**						**19.6731**

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	2.8000e-004	0.0185	4.2900e-003	8.0000e-005	2.3100e-003	1.5000e-004	2.4600e-003	6.3000e-004	1.4000e-004	7.8000e-004						8.5389
Vendor	7.1000e-004	0.0290	9.1200e-003	1.3000e-004	4.2800e-003	1.7000e-004	4.4500e-003	1.2400e-003	1.6000e-004	1.4000e-003						13.4966
Worker	6.3300e-003	4.4100e-003	0.0566	1.7000e-004	0.0201	1.0000e-004	0.0202	5.3500e-003	9.0000e-005	5.4400e-003						15.4442
Total	**7.3200e-003**	**0.0519**	**0.0700**	**3.8000e-004**	**0.0267**	**4.2000e-004**	**0.0271**	**7.2200e-003**	**3.9000e-004**	**7.6200e-003**						**37.4797**

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

3.5 Building Construction - 2023

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	4.3900e-003	0.0891	0.1471	2.3000e-004		6.6000e-004	6.6000e-004		6.6000e-004	6.6000e-004						19.6730
Total	**4.3900e-003**	**0.0891**	**0.1471**	**2.3000e-004**		**6.6000e-004**	**6.6000e-004**		**6.6000e-004**	**6.6000e-004**						**19.6730**

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	2.8000e-004	0.0185	4.2900e-003	8.0000e-005	2.3100e-003	1.5000e-004	2.4600e-003	6.3000e-004	1.4000e-004	7.8000e-004						8.5389
Vendor	7.1000e-004	0.0290	9.1200e-003	1.3000e-004	4.2800e-003	1.7000e-004	4.4500e-003	1.2400e-003	1.6000e-004	1.4000e-003						13.4966
Worker	6.3300e-003	4.4100e-003	0.0566	1.7000e-004	0.0201	1.0000e-004	0.0202	5.3500e-003	9.0000e-005	5.4400e-003						15.4442
Total	**7.3200e-003**	**0.0519**	**0.0700**	**3.8000e-004**	**0.0267**	**4.2000e-004**	**0.0271**	**7.2200e-003**	**3.9000e-004**	**7.6200e-003**						**37.4797**

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

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	0.0503	0.4543	0.5319	9.2000e-004		0.0212	0.0212		0.0201	0.0201						79.2978
Total	**0.0503**	**0.4543**	**0.5319**	**9.2000e-004**		**0.0212**	**0.0212**		**0.0201**	**0.0201**						**79.2978**

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	1.1400e-003	0.0746	0.0174	3.3000e-004	9.3100e-003	6.1000e-004	9.9200e-003	2.5600e-003	5.8000e-004	3.1400e-003						33.8733
Vendor	2.8000e-003	0.1167	0.0361	5.3000e-004	0.0173	6.9000e-004	0.0179	4.9900e-003	6.6000e-004	5.6500e-003						53.5975
Worker	0.0239	0.0159	0.2129	6.5000e-004	0.0810	3.8000e-004	0.0814	0.0216	3.5000e-004	0.0219						60.2416
Total	**0.0279**	**0.2072**	**0.2664**	**1.5100e-003**	**0.1076**	**1.6800e-003**	**0.1093**	**0.0291**	**1.5900e-003**	**0.0307**						**147.7124**

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

3.5 Building Construction - 2024

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	0.0177	0.3590	0.5930	9.2000e-004		2.6500e-003	2.6500e-003		2.6500e-003	2.6500e-003						79.2977
Total	**0.0177**	**0.3590**	**0.5930**	**9.2000e-004**		**2.6500e-003**	**2.6500e-003**		**2.6500e-003**	**2.6500e-003**						**79.2977**

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	1.1400e-003	0.0746	0.0174	3.3000e-004	9.3100e-003	6.1000e-004	9.9200e-003	2.5600e-003	5.8000e-004	3.1400e-003						33.8733
Vendor	2.8000e-003	0.1167	0.0361	5.3000e-004	0.0173	6.9000e-004	0.0179	4.9900e-003	6.6000e-004	5.6500e-003						53.5975
Worker	0.0239	0.0159	0.2129	6.5000e-004	0.0810	3.8000e-004	0.0814	0.0216	3.5000e-004	0.0219						60.2416
Total	**0.0279**	**0.2072**	**0.2664**	**1.5100e-003**	**0.1076**	**1.6800e-003**	**0.1093**	**0.0291**	**1.5900e-003**	**0.0307**						**147.7124**

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

3.5 Building Construction - 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	1.8000e-004	1.6100e-003	2.0200e-003	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005						0.3027
Total	**1.8000e-004**	**1.6100e-003**	**2.0200e-003**	**0.0000**		**7.0000e-005**	**7.0000e-005**		**7.0000e-005**	**7.0000e-005**						**0.3027**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	2.8000e-004	7.0000e-005	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005						0.1268
Vendor	1.0000e-005	4.4000e-004	1.4000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005						0.2011
Worker	9.0000e-005	5.0000e-005	7.6000e-004	0.0000	3.1000e-004	0.0000	3.1000e-004	8.0000e-005	0.0000	8.0000e-005						0.2223
Total	**1.0000e-004**	**7.7000e-004**	**9.7000e-004**	**0.0000**	**4.2000e-004**	**0.0000**	**4.2000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**						**0.5502**

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

3.5 Building Construction - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.0000e-005	1.3700e-003	2.2600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						0.3027
Total	**7.0000e-005**	**1.3700e-003**	**2.2600e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**						**0.3027**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	2.8000e-004	7.0000e-005	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005						0.1268
Vendor	1.0000e-005	4.4000e-004	1.4000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005						0.2011
Worker	9.0000e-005	5.0000e-005	7.6000e-004	0.0000	3.1000e-004	0.0000	3.1000e-004	8.0000e-005	0.0000	8.0000e-005						0.2223
Total	**1.0000e-004**	**7.7000e-004**	**9.7000e-004**	**0.0000**	**4.2000e-004**	**0.0000**	**4.2000e-004**	**1.1000e-004**	**0.0000**	**1.1000e-004**						**0.5502**

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

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	7.1200e-003	0.0668	0.1134	1.8000e-004		3.2600e-003	3.2600e-003		3.0000e-003	3.0000e-003						15.7034
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						0.0000
Total	**7.1200e-003**	**0.0668**	**0.1134**	**1.8000e-004**		**3.2600e-003**	**3.2600e-003**		**3.0000e-003**	**3.0000e-003**						**15.7034**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.0000e-005	2.8400e-003	6.7000e-004	1.0000e-005	3.6000e-004	2.0000e-005	3.8000e-004	1.0000e-004	2.0000e-005	1.2000e-004						1.2722
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	2.6000e-004	1.7000e-004	2.3400e-003	1.0000e-005	9.5000e-004	0.0000	9.6000e-004	2.5000e-004	0.0000	2.6000e-004						0.6839
Total	**3.0000e-004**	**3.0100e-003**	**3.0100e-003**	**2.0000e-005**	**1.3100e-003**	**2.0000e-005**	**1.3400e-003**	**3.5000e-004**	**2.0000e-005**	**3.8000e-004**						**1.9561**

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

3.6 Paving - 2025

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	2.6000e-003	0.0781	0.1346	1.8000e-004		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004						15.7034
Paving	0.0000					0.0000	0.0000		0.0000	0.0000						0.0000
Total	**2.6000e-003**	**0.0781**	**0.1346**	**1.8000e-004**		**2.9000e-004**	**2.9000e-004**		**2.9000e-004**	**2.9000e-004**						**15.7034**

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	4.0000e-005	2.8400e-003	6.7000e-004	1.0000e-005	3.6000e-004	2.0000e-005	3.8000e-004	1.0000e-004	2.0000e-005	1.2000e-004						1.2722
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	2.6000e-004	1.7000e-004	2.3400e-003	1.0000e-005	9.5000e-004	0.0000	9.6000e-004	2.5000e-004	0.0000	2.6000e-004						0.6839
Total	**3.0000e-004**	**3.0100e-003**	**3.0100e-003**	**2.0000e-005**	**1.3100e-003**	**2.0000e-005**	**1.3400e-003**	**3.5000e-004**	**2.0000e-005**	**3.8000e-004**						**1.9561**

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

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	1.2727					0.0000	0.0000		0.0000	0.0000						0.0000
Off-Road	4.9900e-003	0.0371	0.0620	1.0000e-004		1.4900e-003	1.4900e-003		1.4800e-003	1.4800e-003						8.6912
Total	**1.2777**	**0.0371**	**0.0620**	**1.0000e-004**		**1.4900e-003**	**1.4900e-003**		**1.4800e-003**	**1.4800e-003**						**8.6912**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	5.8000e-004	3.7000e-004	5.1600e-003	2.0000e-005	2.0900e-003	1.0000e-005	2.1000e-003	5.6000e-004	1.0000e-005	5.7000e-004						1.5045
Total	**5.8000e-004**	**3.7000e-004**	**5.1600e-003**	**2.0000e-005**	**2.0900e-003**	**1.0000e-005**	**2.1000e-003**	**5.6000e-004**	**1.0000e-005**	**5.7000e-004**						**1.5045**

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

3.7 Architectural Coating - 2025

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	1.2727					0.0000	0.0000		0.0000	0.0000						0.0000
Off-Road	1.9700e-003	0.0401	0.0649	1.0000e-004		5.9000e-004	5.9000e-004		5.9000e-004	5.9000e-004						8.6912
Total	**1.2746**	**0.0401**	**0.0649**	**1.0000e-004**		**5.9000e-004**	**5.9000e-004**		**5.9000e-004**	**5.9000e-004**						**8.6912**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000						0.0000
Worker	5.8000e-004	3.7000e-004	5.1600e-003	2.0000e-005	2.0900e-003	1.0000e-005	2.1000e-003	5.6000e-004	1.0000e-005	5.7000e-004						1.5045
Total	**5.8000e-004**	**3.7000e-004**	**5.1600e-003**	**2.0000e-005**	**2.0900e-003**	**1.0000e-005**	**2.1000e-003**	**5.6000e-004**	**1.0000e-005**	**5.7000e-004**						**1.5045**

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0115	0.0123	0.1108	2.4000e-004	0.0280	1.7000e-004	0.0282	7.4800e-003	1.5000e-004	7.6300e-003						22.2276
Unmitigated	0.0115	0.0123	0.1108	2.4000e-004	0.0280	1.7000e-004	0.0282	7.4800e-003	1.5000e-004	7.6300e-003						22.2276

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Office Building	31.73	31.73	31.73	75,825	75,825
Total	31.73	31.73	31.73	75,825	75,825

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
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
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Office Building	0.574685	0.056097	0.185093	0.115164	0.020188	0.005209	0.008091	0.006312	0.000884	0.000364	0.024358	0.000887	0.002668

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

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000						589.2565
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000						589.2565
NaturalGas Mitigated	0.0213	0.1938	0.1628	1.1600e-003		0.0147	0.0147		0.0147	0.0147						212.2491
NaturalGas Unmitigated	0.0213	0.1938	0.1628	1.1600e-003		0.0147	0.0147		0.0147	0.0147						212.2491

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

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	3.9539e+006	0.0213	0.1938	0.1628	1.1600e-003		0.0147	0.0147		0.0147	0.0147						212.2491
Total		**0.0213**	**0.1938**	**0.1628**	**1.1600e-003**		**0.0147**	**0.0147**		**0.0147**	**0.0147**						**212.2491**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Office Building	3.9539e+006	0.0213	0.1938	0.1628	1.1600e-003		0.0147	0.0147		0.0147	0.0147						212.2491
Total		**0.0213**	**0.1938**	**0.1628**	**1.1600e-003**		**0.0147**	**0.0147**		**0.0147**	**0.0147**						**212.2491**

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

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	4.19065e +006				589.2565
Total					**589.2565**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Office Building	4.19065e +006				589.2565
Total					**589.2565**

6.0 Area Detail

6.1 Mitigation Measures Area

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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.0807	2.0000e-005	2.2400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						4.6400e-003
Unmitigated	1.0807	2.0000e-005	2.2400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						4.6400e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1273					0.0000	0.0000		0.0000	0.0000						0.0000
Consumer Products	0.9532					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	2.1000e-004	2.0000e-005	2.2400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						4.6400e-003
Total	**1.0807**	**2.0000e-005**	**2.2400e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**						**4.6400e-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

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	0.1273					0.0000	0.0000		0.0000	0.0000						0.0000
Consumer Products	0.9532					0.0000	0.0000		0.0000	0.0000						0.0000
Landscaping	2.1000e-004	2.0000e-005	2.2400e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005						4.6400e-003
Total	**1.0807**	**2.0000e-005**	**2.2400e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**						**4.6400e-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	MT/yr			
Mitigated				1.5842
Unmitigated				1.5842

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	0.67 / 0.33				1.5842
Total					**1.5842**

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

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Office Building	0.67 / 0.33				1.5842
Total					**1.5842**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated				0.0805
Unmitigated				0.0805

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

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	0.16				0.0805
Total					**0.0805**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Office Building	0.16				0.0805
Total					**0.0805**

9.0 Operational Offroad

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

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Construction Modeling Point and Area Source Locations

Appendix AQ-5

Health Risk Support Data

Table AQ5-2 Sensitive Receptors and Distances from Site

(all sites and coordinates from Google Earth unless otherwise noted) Image Date: 9/4/2020

Walsh Bowers Data Center

Receptor ID	UTM Em	UTM Nm	Distance from Site Mid-point meters	feet	miles	Modeling Receptor #
Site (approx. mid-point)	**590610.00**	**4136667.00**	na	na		
School	590778.00	4136058.00	631.7	2072.7	0.39	
School	589978.00	4135987.00	928.3	3045.8	0.58	
School	589643.00	4135228.00	1733.7	5688.1	1.08	
School	590696.00	4135126.00	1543.4	5063.6	0.96	
School	591015.00	4135168.00	1552.7	5094.3	0.96	
School	592191.00	4135183.00	2168.4	7114.1	1.35	
School	587887.00	4135576.00	2933.4	9624.1	1.82	
School	590104.00	4138760.00	2153.3	7064.6	1.34	
School	586801.00	4138914.00	4422.4	14509.1	2.75	
Hospital	588762.00	4132601.00	4466.3	14653.1	2.78	
Residential	590549.00	4136415.00	259.3	850.6	0.16	
Residential	590737.00	4136363.00	329.5	1080.9	0.20	
Residential	591044.00	4137524.00	960.6	3151.7	0.60	

This list represents identified sensitive receptors that are located close to the site. It should not be assumed that the PMI, MEIR or MEIW will be a receptor on this list. These important HRA locations will be determined from the modeling grid and HRA output. With respect to the MEIS, this location will most likely be one of the receptors on the above list, since the list contains the identified nearfield hospitals, daycare centers, schools, convalescent care facilities, etc.

Walsh Bowers Data Center, Santa Clara, CA
DPM Modeling - Rail Line Information and DPM and PM2.5 Emission Rates
Caltrain and Freight Line Diesel-Powered Trains

Year	Description	No. Lines	Link Width (ft)	Link Width (m)	Link Length (ft)	Link Length (miles)	Link Length (m)	Release Height (m)	No. Trains per Day	Train Travel Speed (mph)	DPM Emission Rates			
											Average Daily Emission Rate (g/mi/day)	Average Daily Emission Rate (g/day)	Link Emission Rate (g/s)	Link Emission Rate (lb/hr)
2026+	Caltrain	1	12	3.7	2,902	0.55	885	5.0	19	40	34.3	18.9	2.18E-04	1.73E-03
	Freight Trains	1	12	3.7	2,902	0.55	885	5.0	4	40	14.1	7.8	8.98E-05	7.13E-04
	Total	**1**	-	-	-	-	-	-	-	-	**48.5**	**26.6**	**3.08E-04**	**2.45E-03**

Notes: Emission based on Emission Factors for Locomotives, USEPA 2009 (EPA-420-F-09-025)
Emissions calculated for 2026.
Fuel correction factors from Offroad Modeling Change Technical memo, Changes to the Locomotive Inventory, CARB July 2006.
PM2.5 calculated as 97% of PM emissions
Passenger trains assumed to operate for 24 hours per day
Freight trains assumed to operate for 24 hours per day

Caltrain	***2026+***	
Passenger Trains	***Diesel Trains***	
Near Project Site		
Passenger trains - weekday =	24	
Passenger trains - weekend =	8	
Passenger trains - Sat only =	0	
Total Trains =	32	
Annual average daily trains =	19	
Locomotive horsepower =	3467	(2025 on)
Locomotives per train =	1	
Locomotive engine load =	0.5	
Freight		
Freight trains per day =	4	7 days/week
Locomotive horsepower =	2300	
Locomotives per train =	2	
Total horsepower =	4600	
Locomotive engine load =	0.5	

Locomotive DPM Emission Factors (g/hp-hr)

Train Type	2026
Passenger	0.0577
Freight	0.072

PM2.5 to PM ratio = 0.97
DPM to PM ratio = 1

	CARB Fuel Adj Factor	
	2010	2011+
Passenger	0.717	0.709
Freight	0.851	0.840

Rail Line MEI Impacts

Walsh Bowers -Rail DPM/PM2.5 Modeling Information
AERMOD Risk Modeling Parameters and Maximum Concentrations
Maximum Impacts From Rail Line Operations
at Off-Site Residential Receptors (1.5 m receptor heights)
2026 Rail Line Emissions

Receptor Information

Number of Receptors	410
Receptor Height =	1.5 meters
Receptor spacing =	20 m grid in residential areas

Meteorological Conditions

San Jose Airport BAAQMD Hourly Data	2013-2017
Land Use Classification	Urban
Wind speed =	variable
Wind direction =	variable

MEI Maximum Concentrations

Emission Period	Maximum DPM Concentration ($\mu g/m^3$)
2026-2055	0.0211

Emission Period	Maximum PM2.5 Concentration ($\mu g/m^3$)
2026-2055	0.0204

Walsh Bowers, Santa Clara, CA - Rail Line Impacts (2026+ Emissions)
Maximum DPM Cancer Risk From Rail Line Operations
at Off-Site Residential Receptors (1.5 m receptor heights)
Residential Exposure (30-year)

Cancer Risk Calculation Method

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00

	Infant/Child			Adult
Age -->	3rd Trimester	0 - <2	2 - 16	16 - 70
Parameter				
ASF	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

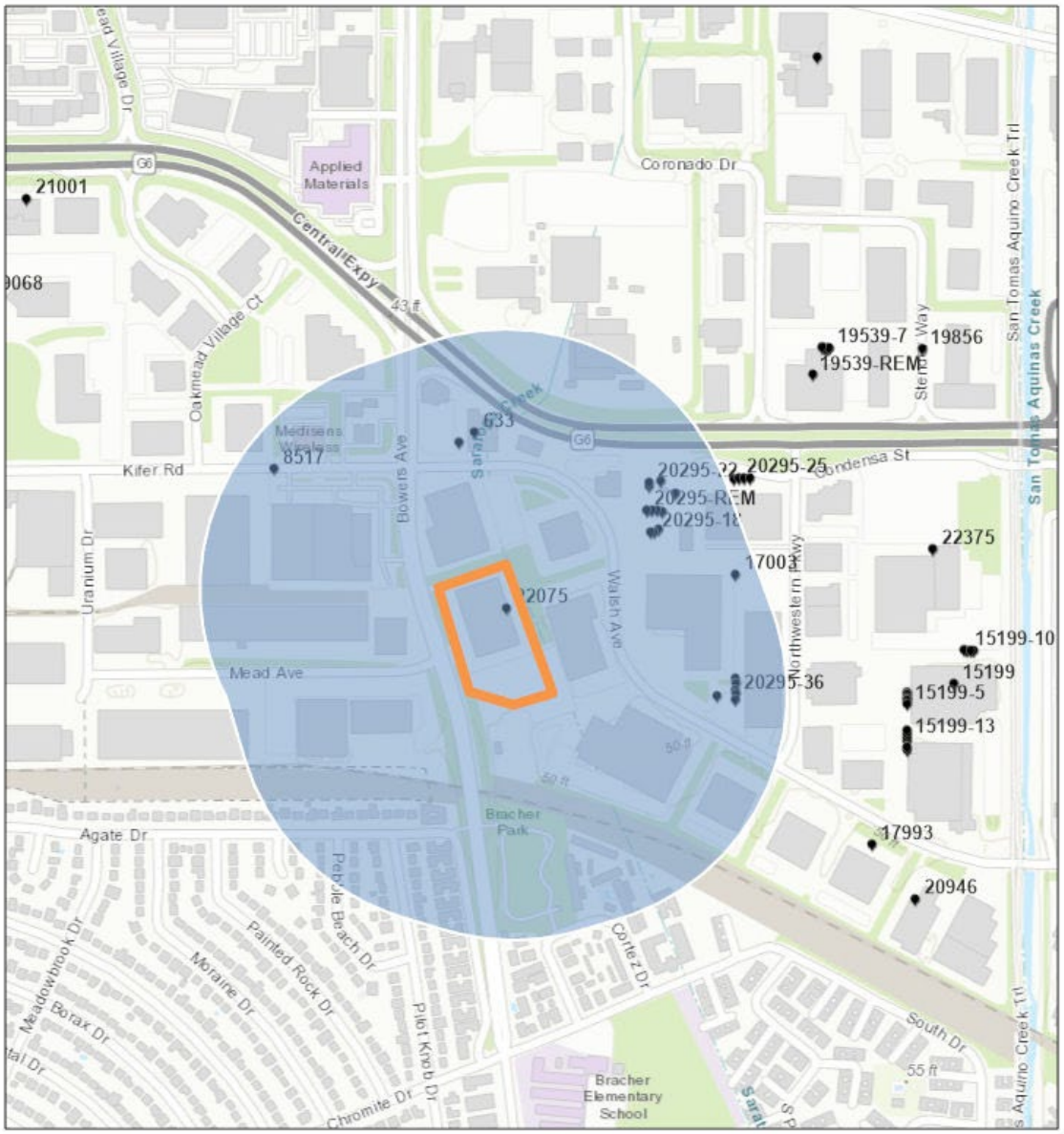
* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

				Maximum - Exposure Information				
Exposure Year	Year	Exposure Duration (years)	Age	Age Sensitivity Factor	Annual DPM Conc. (ug/m3)	DPM Cancer Risk (per million)	Maximum HI	Maximum PM2.5
0	2026	0.25	-0.25 - 0*	10	0.0211	0.28640		
1	2026	1	1	10	0.0211	3.45903	0.004	0.020
2	2027	1	2	10	0.0211	3.45903	0.004	0.020
3	2028	1	3	3	0.0211	0.54456	0.004	0.020
4	2029	1	4	3	0.0211	0.54456	0.004	0.020
5	2030	1	5	3	0.0211	0.54456	0.004	0.020
6	2031	1	6	3	0.0211	0.54456	0.004	0.020
7	2032	1	7	3	0.0211	0.54456	0.004	0.020
8	2033	1	8	3	0.0211	0.54456	0.004	0.020
9	2034	1	9	3	0.0211	0.54456	0.004	0.020
10	2035	1	10	3	0.0211	0.54456	0.004	0.020
11	2036	1	11	3	0.0211	0.54456	0.004	0.020
12	2037	1	12	3	0.0211	0.54456	0.004	0.020
13	2038	1	13	3	0.0211	0.54456	0.004	0.020
14	2039	1	14	3	0.0211	0.54456	0.004	0.020
15	2040	1	15	3	0.0211	0.54456	0.004	0.020
16	2041	1	16	3	0.0211	0.54456	0.004	0.020
17	2042	1	17	1	0.0211	0.06046	0.004	0.020
18	2043	1	18	1	0.0211	0.06046	0.004	0.020
19	2044	1	19	1	0.0211	0.06046	0.004	0.020
20	2045	1	20	1	0.0211	0.06046	0.004	0.020
21	2046	1	22	1	0.0211	0.06046	0.004	0.020
22	2047	1	23	1	0.0211	0.06046	0.004	0.020
23	2048	1	24	1	0.0211	0.06046	0.004	0.020
24	2049	1	25	1	0.0211	0.06046	0.004	0.020
25	2050	1	26	1	0.0211	0.06046	0.004	0.020
26	2051	1	27	1	0.0211	0.06046	0.004	0.020
27	2052	1	28	1	0.0211	0.06046	0.004	0.020
28	2053	1	29	1	0.0211	0.06046	0.004	0.020
29	2054	1	29	1	0.0211	0.06046	0.004	0.020
30	2055	1	29	1	0.0211	0.06046	0.004	0.020
Total Increased Cancer Risk						**15.67**	**0.004**	**0.020**

* Third trimester of pregnancy

2805 Bowers Ave.
Santa Clara, CA.



Permitted Facilities 2018

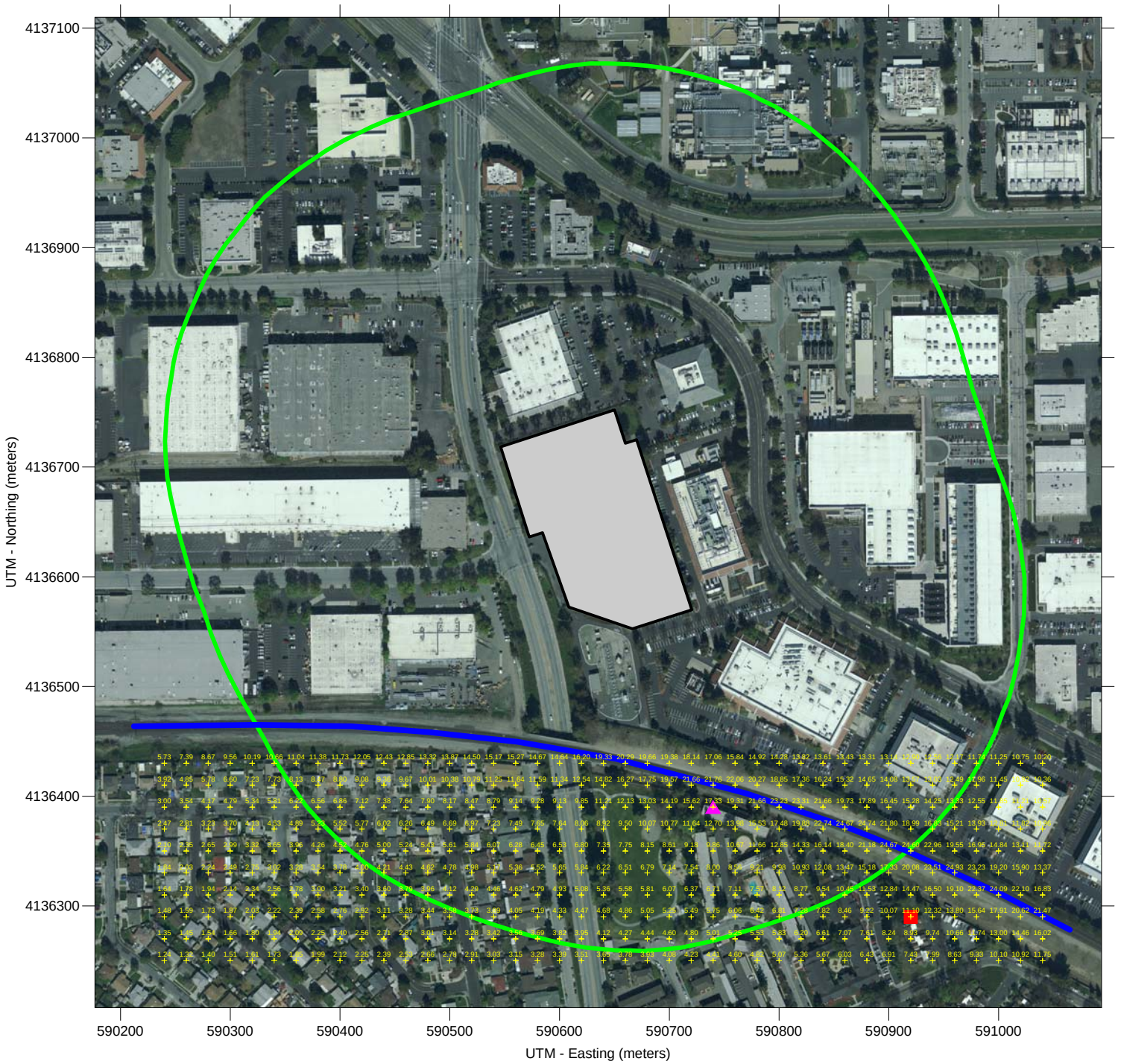
1:9,028

0 0.05 0.1 0.2 mi

0 0.07 0.15 0.3 km

City of San Jose, County of Santa Clara, Bureau of Land Management, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA, USDA

Project Site, Modeled Rail Line Segment and Receptors, and MEI Locations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UTM - Northing (meters)
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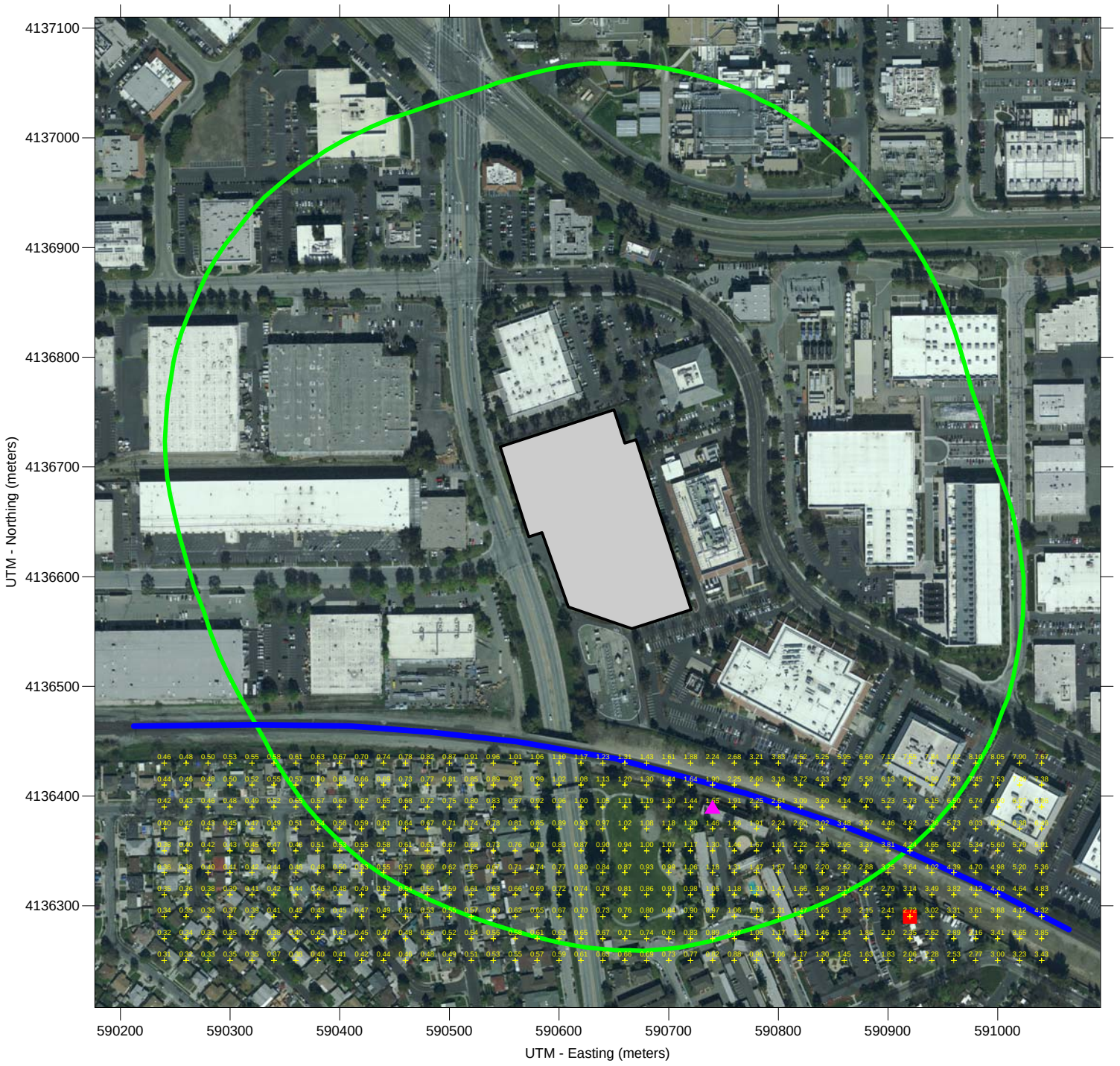
UTM - Easting (meters)
MEIR - Project Operation Cancer Risk
MEIR - Project Rail Line Cancer Risk
MEIR - Project Rail Line + Project Operation Cancer Risk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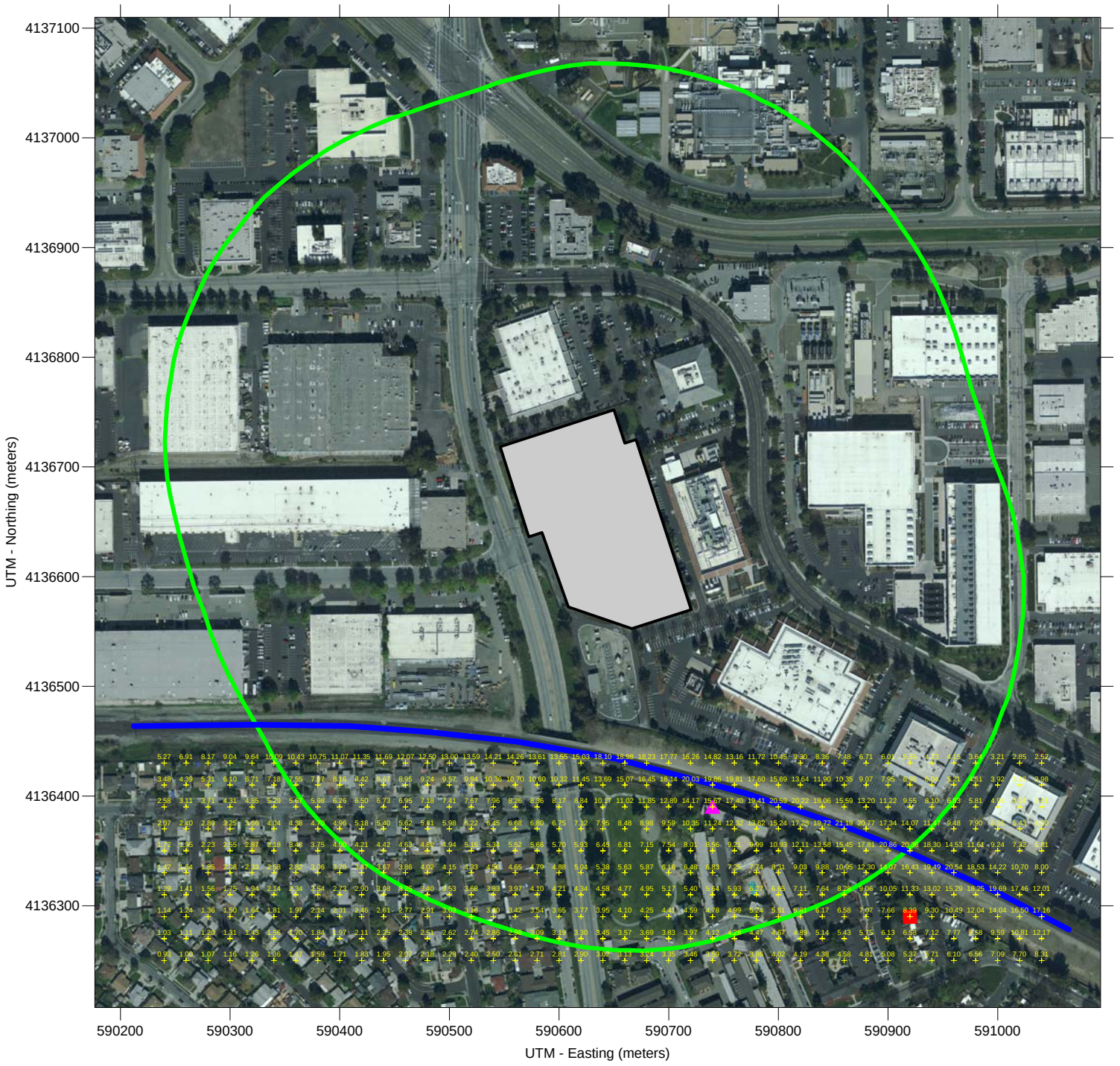
UTM - Easting (meters)
MEIR - Project Operation Cancer Risk
MEIR - Project Rail Line Cancer Risk
MEIR - Project Rail Line + Project Operation Cancer Risk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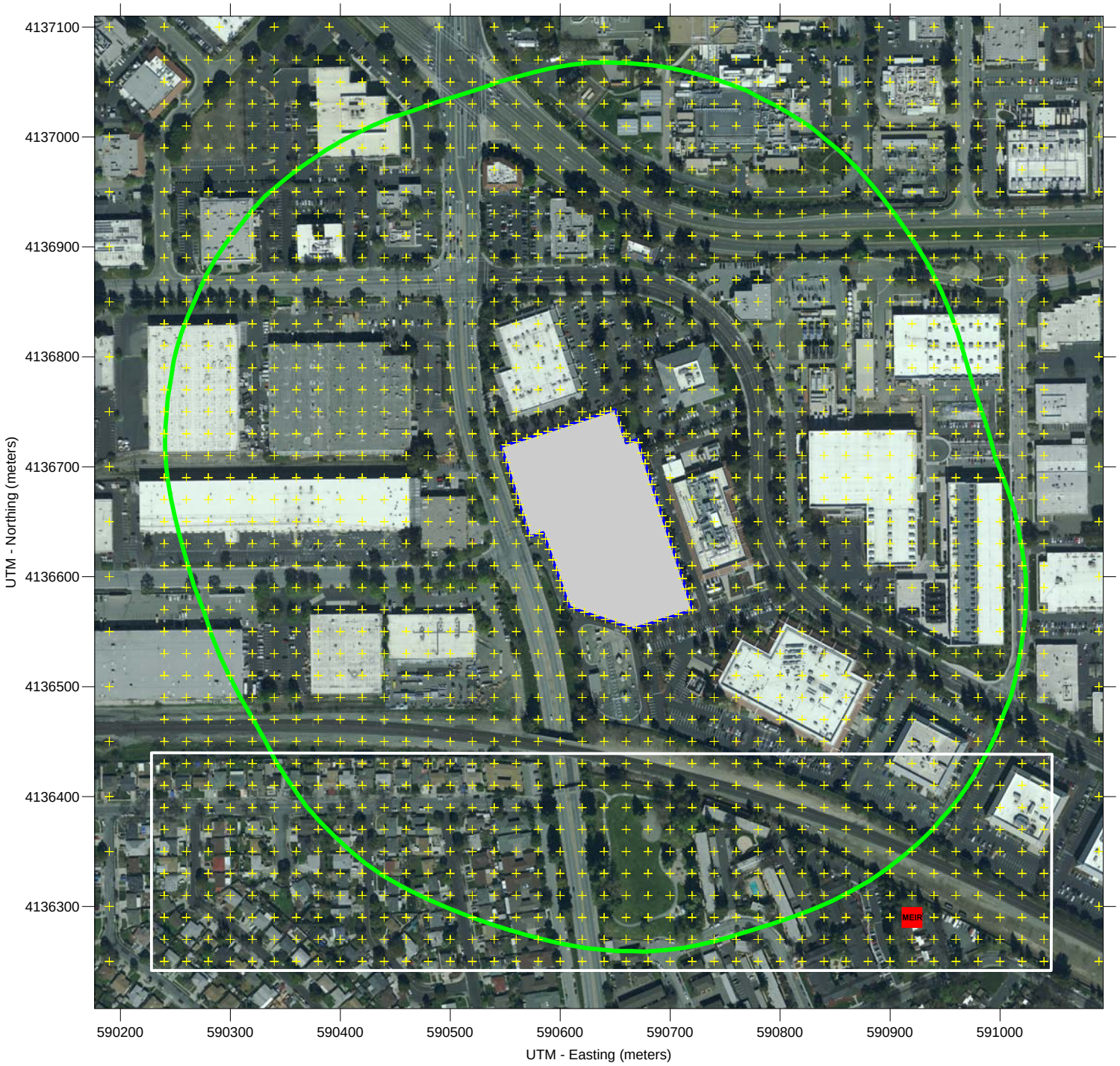
UTM - Easting (meters)
MEIR - Project Operation Cancer Risk
MEIR - Project Rail Line Cancer Risk
MEIR - Project Rail Line + Project Operation Cancer Risk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