

1744 Ruby Street Project - Alameda County, Annual

**1744 Ruby Street Project**  
**Alameda County, Annual**

**1.0 Project Characteristics**

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**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	80.00	Dwelling Unit	1.60	90,000.00	229

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	63
<b>Climate Zone</b>	5			<b>Operational Year</b>	2022
<b>Utility Company</b>	Pacific Gas & Electric Company				
<b>CO2 Intensity (lb/MW hr)</b>	294	<b>CH4 Intensity (lb/MW hr)</b>	0.029	<b>N2O Intensity (lb/MW hr)</b>	0.006

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





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tblConstructionPhase	NumDays	20.00	10.00
tblFireplaces	NumberGas	12.00	25.60
tblFireplaces	NumberWood	13.60	0.00
tblGrading	MaterialImported	0.00	1,420.00
tblLandUse	LandUseSquareFeet	80,000.00	90,000.00
tblLandUse	LotAcreage	2.11	1.60
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	294
tblTripsAndVMT	WorkerTripNumber	10.00	13.00
tblTripsAndVMT	WorkerTripNumber	10.00	8.00
tblVehicleTrips	ST_TR	6.39	5.28
tblVehicleTrips	SU_TR	5.86	4.85
tblVehicleTrips	WD_TR	6.65	5.50
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	NumberCatalytic	1.60	0.00
tblWoodstoves	NumberNoncatalytic	1.60	0.00

## 2.0 Emissions Summary

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-13-2019	4-12-2019	0.5389	0.5249
2	4-13-2019	7-12-2019	0.6438	0.6411
3	7-13-2019	9-30-2019	0.5660	0.5636
		Highest	0.6438	0.6411

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	0.4331	9.6200e-003	0.5958	5.0000e-005		3.5100e-003	3.5100e-003		3.5100e-003	3.5100e-003	0.0000	4.1662	4.1662	1.0000e-003	6.0000e-005	4.2086
Energy	3.7700e-003	0.0322	0.0137	2.1000e-004		2.6000e-003	2.6000e-003		2.6000e-003	2.6000e-003	0.0000	82.3134	82.3134	5.1600e-003	1.6000e-003	82.9199
Mobile	0.1157	0.7825	1.2562	4.8100e-003	0.3715	4.5700e-003	0.3761	0.0999	4.2900e-003	0.1042	0.0000	443.5911	443.5911	0.0191	0.0000	444.0693
Waste						0.0000	0.0000		0.0000	0.0000	7.4701	0.0000	7.4701	0.4415	0.0000	18.5068
Water						0.0000	0.0000		0.0000	0.0000	1.8441	5.2949	7.1390	6.8700e-003	4.1200e-003	8.5381
<b>Total</b>	<b>0.5526</b>	<b>0.8243</b>	<b>1.8657</b>	<b>5.0700e-003</b>	<b>0.3715</b>	<b>0.0107</b>	<b>0.3822</b>	<b>0.0999</b>	<b>0.0104</b>	<b>0.1103</b>	<b>9.3142</b>	<b>535.3656</b>	<b>544.6798</b>	<b>0.4736</b>	<b>5.7800e-003</b>	<b>558.2426</b>

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**2.2 Overall Operational**

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4331	9.6200e-003	0.5958	5.0000e-005		3.5100e-003	3.5100e-003		3.5100e-003	3.5100e-003	0.0000	4.1662	4.1662	1.0000e-003	6.0000e-005	4.2086
Energy	3.7700e-003	0.0322	0.0137	2.1000e-004		2.6000e-003	2.6000e-003		2.6000e-003	2.6000e-003	0.0000	82.3134	82.3134	5.1600e-003	1.6000e-003	82.9199
Mobile	0.1157	0.7825	1.2562	4.8100e-003	0.3715	4.5700e-003	0.3761	0.0999	4.2900e-003	0.1042	0.0000	443.5911	443.5911	0.0191	0.0000	444.0693
Waste						0.0000	0.0000		0.0000	0.0000	7.4701	0.0000	7.4701	0.4415	0.0000	18.5068
Water						0.0000	0.0000		0.0000	0.0000	1.8441	5.2949	7.1390	6.8700e-003	4.1200e-003	8.5381
<b>Total</b>	<b>0.5526</b>	<b>0.8243</b>	<b>1.8657</b>	<b>5.0700e-003</b>	<b>0.3715</b>	<b>0.0107</b>	<b>0.3822</b>	<b>0.0999</b>	<b>0.0104</b>	<b>0.1103</b>	<b>9.3142</b>	<b>535.3656</b>	<b>544.6798</b>	<b>0.4736</b>	<b>5.7800e-003</b>	<b>558.2426</b>

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

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/13/2019	1/25/2019	5	10	
2	Site Preparation	Site Preparation	2/9/2019	2/12/2019	5	2	
3	Grading	Grading	2/13/2019	2/18/2019	5	4	
4	Building Construction	Building Construction	2/19/2019	11/25/2019	5	200	
5	Paving	Paving	11/26/2019	12/9/2019	5	10	
6	Architectural Coating	Architectural Coating	12/10/2019	12/23/2019	5	10	

**Acres of Grading (Site Preparation Phase): 1**

**Acres of Grading (Grading Phase): 1.5**

**Acres of Paving: 0**

**Residential Indoor: 182,250; Residential Outdoor: 60,750; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**



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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Bore/Drill Rigs	1	7.00	221	0.50
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

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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	4	13.00	0.00	14.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	178.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	58.00	9.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	12.00	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

Use DPF for Construction Equipment

**3.2 Demolition - 2019**

**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					1.4800e-003	0.0000	1.4800e-003	2.2000e-004	0.0000	2.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.7700e-003	0.0430	0.0385	6.0000e-005		2.6900e-003	2.6900e-003		2.5600e-003	2.5600e-003	0.0000	5.2601	5.2601	1.0000e-003	0.0000	5.2852
<b>Total</b>	<b>4.7700e-003</b>	<b>0.0430</b>	<b>0.0385</b>	<b>6.0000e-005</b>	<b>1.4800e-003</b>	<b>2.6900e-003</b>	<b>4.1700e-003</b>	<b>2.2000e-004</b>	<b>2.5600e-003</b>	<b>2.7800e-003</b>	<b>0.0000</b>	<b>5.2601</b>	<b>5.2601</b>	<b>1.0000e-003</b>	<b>0.0000</b>	<b>5.2852</b>

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**3.2 Demolition - 2019**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.0000e-005	2.1800e-003	3.7000e-004	1.0000e-005	1.2000e-004	1.0000e-005	1.3000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.5417	0.5417	3.0000e-005	0.0000	0.5424
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5000e-004	1.9000e-004	1.9000e-003	1.0000e-005	5.1000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4714	0.4714	1.0000e-005	0.0000	0.4718
<b>Total</b>	<b>3.1000e-004</b>	<b>2.3700e-003</b>	<b>2.2700e-003</b>	<b>2.0000e-005</b>	<b>6.3000e-004</b>	<b>1.0000e-005</b>	<b>6.5000e-004</b>	<b>1.7000e-004</b>	<b>1.0000e-005</b>	<b>1.8000e-004</b>	<b>0.0000</b>	<b>1.0131</b>	<b>1.0131</b>	<b>4.0000e-005</b>	<b>0.0000</b>	<b>1.0142</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.4800e-003	0.0000	1.4800e-003	2.2000e-004	0.0000	2.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.4200e-003	0.0518	0.0397	6.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004	0.0000	5.2601	5.2601	1.0000e-003	0.0000	5.2852
<b>Total</b>	<b>2.4200e-003</b>	<b>0.0518</b>	<b>0.0397</b>	<b>6.0000e-005</b>	<b>1.4800e-003</b>	<b>3.0000e-004</b>	<b>1.7800e-003</b>	<b>2.2000e-004</b>	<b>3.0000e-004</b>	<b>5.2000e-004</b>	<b>0.0000</b>	<b>5.2601</b>	<b>5.2601</b>	<b>1.0000e-003</b>	<b>0.0000</b>	<b>5.2852</b>

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**3.2 Demolition - 2019**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.0000e-005	2.1800e-003	3.7000e-004	1.0000e-005	1.2000e-004	1.0000e-005	1.3000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.5417	0.5417	3.0000e-005	0.0000	0.5424
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5000e-004	1.9000e-004	1.9000e-003	1.0000e-005	5.1000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4714	0.4714	1.0000e-005	0.0000	0.4718
<b>Total</b>	<b>3.1000e-004</b>	<b>2.3700e-003</b>	<b>2.2700e-003</b>	<b>2.0000e-005</b>	<b>6.3000e-004</b>	<b>1.0000e-005</b>	<b>6.5000e-004</b>	<b>1.7000e-004</b>	<b>1.0000e-005</b>	<b>1.8000e-004</b>	<b>0.0000</b>	<b>1.0131</b>	<b>1.0131</b>	<b>4.0000e-005</b>	<b>0.0000</b>	<b>1.0142</b>

**3.3 Site Preparation - 2019**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.8800e-003	0.0000	5.8800e-003	2.9700e-003	0.0000	2.9700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7100e-003	0.0195	7.8900e-003	2.0000e-005		8.8000e-004	8.8000e-004		8.1000e-004	8.1000e-004	0.0000	1.5467	1.5467	4.9000e-004	0.0000	1.5589
<b>Total</b>	<b>1.7100e-003</b>	<b>0.0195</b>	<b>7.8900e-003</b>	<b>2.0000e-005</b>	<b>5.8800e-003</b>	<b>8.8000e-004</b>	<b>6.7600e-003</b>	<b>2.9700e-003</b>	<b>8.1000e-004</b>	<b>3.7800e-003</b>	<b>0.0000</b>	<b>1.5467</b>	<b>1.5467</b>	<b>4.9000e-004</b>	<b>0.0000</b>	<b>1.5589</b>

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**3.3 Site Preparation - 2019**

**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	8.1000e-004	0.0277	4.7200e-003	7.0000e-005	1.5100e-003	1.0000e-004	1.6100e-003	4.1000e-004	1.0000e-004	5.1000e-004	0.0000	6.8870	6.8870	3.6000e-004	0.0000	6.8959
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	2.0000e-005	2.3000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0580	0.0580	0.0000	0.0000	0.0581
<b>Total</b>	<b>8.4000e-004</b>	<b>0.0277</b>	<b>4.9500e-003</b>	<b>7.0000e-005</b>	<b>1.5700e-003</b>	<b>1.0000e-004</b>	<b>1.6700e-003</b>	<b>4.3000e-004</b>	<b>1.0000e-004</b>	<b>5.3000e-004</b>	<b>0.0000</b>	<b>6.9450</b>	<b>6.9450</b>	<b>3.6000e-004</b>	<b>0.0000</b>	<b>6.9540</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.8800e-003	0.0000	5.8800e-003	2.9700e-003	0.0000	2.9700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.9000e-004	0.0150	9.8200e-003	2.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	1.5467	1.5467	4.9000e-004	0.0000	1.5589
<b>Total</b>	<b>4.9000e-004</b>	<b>0.0150</b>	<b>9.8200e-003</b>	<b>2.0000e-005</b>	<b>5.8800e-003</b>	<b>6.0000e-005</b>	<b>5.9400e-003</b>	<b>2.9700e-003</b>	<b>6.0000e-005</b>	<b>3.0300e-003</b>	<b>0.0000</b>	<b>1.5467</b>	<b>1.5467</b>	<b>4.9000e-004</b>	<b>0.0000</b>	<b>1.5589</b>

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**3.3 Site Preparation - 2019**

**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	8.1000e-004	0.0277	4.7200e-003	7.0000e-005	1.5100e-003	1.0000e-004	1.6100e-003	4.1000e-004	1.0000e-004	5.1000e-004	0.0000	6.8870	6.8870	3.6000e-004	0.0000	6.8959
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	2.0000e-005	2.3000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0580	0.0580	0.0000	0.0000	0.0581
<b>Total</b>	<b>8.4000e-004</b>	<b>0.0277</b>	<b>4.9500e-003</b>	<b>7.0000e-005</b>	<b>1.5700e-003</b>	<b>1.0000e-004</b>	<b>1.6700e-003</b>	<b>4.3000e-004</b>	<b>1.0000e-004</b>	<b>5.3000e-004</b>	<b>0.0000</b>	<b>6.9450</b>	<b>6.9450</b>	<b>3.6000e-004</b>	<b>0.0000</b>	<b>6.9540</b>

**3.4 Grading - 2019**

**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					9.8300e-003	0.0000	9.8300e-003	5.0500e-003	0.0000	5.0500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.3300e-003	0.0385	0.0168	4.0000e-005		1.6600e-003	1.6600e-003		1.5200e-003	1.5200e-003	0.0000	4.0057	4.0057	1.2700e-003	0.0000	4.0374
<b>Total</b>	<b>3.3300e-003</b>	<b>0.0385</b>	<b>0.0168</b>	<b>4.0000e-005</b>	<b>9.8300e-003</b>	<b>1.6600e-003</b>	<b>0.0115</b>	<b>5.0500e-003</b>	<b>1.5200e-003</b>	<b>6.5700e-003</b>	<b>0.0000</b>	<b>4.0057</b>	<b>4.0057</b>	<b>1.2700e-003</b>	<b>0.0000</b>	<b>4.0374</b>

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**3.4 Grading - 2019**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	5.0000e-005	4.7000e-004	0.0000	1.3000e-004	0.0000	1.3000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1161	0.1161	0.0000	0.0000	0.1161
<b>Total</b>	<b>6.0000e-005</b>	<b>5.0000e-005</b>	<b>4.7000e-004</b>	<b>0.0000</b>	<b>1.3000e-004</b>	<b>0.0000</b>	<b>1.3000e-004</b>	<b>3.0000e-005</b>	<b>0.0000</b>	<b>3.0000e-005</b>	<b>0.0000</b>	<b>0.1161</b>	<b>0.1161</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.1161</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.8300e-003	0.0000	9.8300e-003	5.0500e-003	0.0000	5.0500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.3000e-003	0.0310	0.0198	4.0000e-005		2.8000e-004	2.8000e-004		2.6000e-004	2.6000e-004	0.0000	4.0057	4.0057	1.2700e-003	0.0000	4.0373
<b>Total</b>	<b>1.3000e-003</b>	<b>0.0310</b>	<b>0.0198</b>	<b>4.0000e-005</b>	<b>9.8300e-003</b>	<b>2.8000e-004</b>	<b>0.0101</b>	<b>5.0500e-003</b>	<b>2.6000e-004</b>	<b>5.3100e-003</b>	<b>0.0000</b>	<b>4.0057</b>	<b>4.0057</b>	<b>1.2700e-003</b>	<b>0.0000</b>	<b>4.0373</b>

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**3.4 Grading - 2019**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	5.0000e-005	4.7000e-004	0.0000	1.3000e-004	0.0000	1.3000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.1161	0.1161	0.0000	0.0000	0.1161
<b>Total</b>	<b>6.0000e-005</b>	<b>5.0000e-005</b>	<b>4.7000e-004</b>	<b>0.0000</b>	<b>1.3000e-004</b>	<b>0.0000</b>	<b>1.3000e-004</b>	<b>3.0000e-005</b>	<b>0.0000</b>	<b>3.0000e-005</b>	<b>0.0000</b>	<b>0.1161</b>	<b>0.1161</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.1161</b>

**3.5 Building Construction - 2019**

**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	0.2272	1.5980	1.3487	2.2000e-003		0.0916	0.0916		0.0885	0.0885	0.0000	183.0719	183.0719	0.0352	0.0000	183.9518
<b>Total</b>	<b>0.2272</b>	<b>1.5980</b>	<b>1.3487</b>	<b>2.2000e-003</b>		<b>0.0916</b>	<b>0.0916</b>		<b>0.0885</b>	<b>0.0885</b>	<b>0.0000</b>	<b>183.0719</b>	<b>183.0719</b>	<b>0.0352</b>	<b>0.0000</b>	<b>183.9518</b>



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**3.5 Building Construction - 2019**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0600e-003	0.1151	0.0255	2.5000e-004	5.9100e-003	7.4000e-004	6.6500e-003	1.7100e-003	7.0000e-004	2.4100e-003	0.0000	23.9737	23.9737	1.4800e-003	0.0000	24.0107
Worker	0.0220	0.0168	0.1692	4.7000e-004	0.0459	3.3000e-004	0.0462	0.0122	3.0000e-004	0.0125	0.0000	42.0669	42.0669	1.2000e-003	0.0000	42.0969
<b>Total</b>	<b>0.0260</b>	<b>0.1319</b>	<b>0.1946</b>	<b>7.2000e-004</b>	<b>0.0518</b>	<b>1.0700e-003</b>	<b>0.0528</b>	<b>0.0139</b>	<b>1.0000e-003</b>	<b>0.0149</b>	<b>0.0000</b>	<b>66.0407</b>	<b>66.0407</b>	<b>2.6800e-003</b>	<b>0.0000</b>	<b>66.1076</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0840	1.7329	1.3479	2.2000e-003		0.0110	0.0110		0.0110	0.0110	0.0000	183.0717	183.0717	0.0352	0.0000	183.9515
<b>Total</b>	<b>0.0840</b>	<b>1.7329</b>	<b>1.3479</b>	<b>2.2000e-003</b>		<b>0.0110</b>	<b>0.0110</b>		<b>0.0110</b>	<b>0.0110</b>	<b>0.0000</b>	<b>183.0717</b>	<b>183.0717</b>	<b>0.0352</b>	<b>0.0000</b>	<b>183.9515</b>

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**3.5 Building Construction - 2019****Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0600e-003	0.1151	0.0255	2.5000e-004	5.9100e-003	7.4000e-004	6.6500e-003	1.7100e-003	7.0000e-004	2.4100e-003	0.0000	23.9737	23.9737	1.4800e-003	0.0000	24.0107
Worker	0.0220	0.0168	0.1692	4.7000e-004	0.0459	3.3000e-004	0.0462	0.0122	3.0000e-004	0.0125	0.0000	42.0669	42.0669	1.2000e-003	0.0000	42.0969
<b>Total</b>	<b>0.0260</b>	<b>0.1319</b>	<b>0.1946</b>	<b>7.2000e-004</b>	<b>0.0518</b>	<b>1.0700e-003</b>	<b>0.0528</b>	<b>0.0139</b>	<b>1.0000e-003</b>	<b>0.0149</b>	<b>0.0000</b>	<b>66.0407</b>	<b>66.0407</b>	<b>2.6800e-003</b>	<b>0.0000</b>	<b>66.1076</b>

**3.6 Paving - 2019****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	4.5200e-003	0.0459	0.0445	7.0000e-005		2.6100e-003	2.6100e-003		2.4100e-003	2.4100e-003	0.0000	6.0105	6.0105	1.8700e-003	0.0000	6.0572
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>4.5200e-003</b>	<b>0.0459</b>	<b>0.0445</b>	<b>7.0000e-005</b>		<b>2.6100e-003</b>	<b>2.6100e-003</b>		<b>2.4100e-003</b>	<b>2.4100e-003</b>	<b>0.0000</b>	<b>6.0105</b>	<b>6.0105</b>	<b>1.8700e-003</b>	<b>0.0000</b>	<b>6.0572</b>

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**3.6 Paving - 2019**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5000e-004	1.9000e-004	1.9000e-003	1.0000e-005	5.1000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4714	0.4714	1.0000e-005	0.0000	0.4718
<b>Total</b>	<b>2.5000e-004</b>	<b>1.9000e-004</b>	<b>1.9000e-003</b>	<b>1.0000e-005</b>	<b>5.1000e-004</b>	<b>0.0000</b>	<b>5.2000e-004</b>	<b>1.4000e-004</b>	<b>0.0000</b>	<b>1.4000e-004</b>	<b>0.0000</b>	<b>0.4714</b>	<b>0.4714</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>0.4718</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.7500e-003	0.0587	0.0493	7.0000e-005		3.1000e-004	3.1000e-004		3.1000e-004	3.1000e-004	0.0000	6.0105	6.0105	1.8700e-003	0.0000	6.0572
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>2.7500e-003</b>	<b>0.0587</b>	<b>0.0493</b>	<b>7.0000e-005</b>		<b>3.1000e-004</b>	<b>3.1000e-004</b>		<b>3.1000e-004</b>	<b>3.1000e-004</b>	<b>0.0000</b>	<b>6.0105</b>	<b>6.0105</b>	<b>1.8700e-003</b>	<b>0.0000</b>	<b>6.0572</b>

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**3.6 Paving - 2019**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5000e-004	1.9000e-004	1.9000e-003	1.0000e-005	5.1000e-004	0.0000	5.2000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4714	0.4714	1.0000e-005	0.0000	0.4718
<b>Total</b>	<b>2.5000e-004</b>	<b>1.9000e-004</b>	<b>1.9000e-003</b>	<b>1.0000e-005</b>	<b>5.1000e-004</b>	<b>0.0000</b>	<b>5.2000e-004</b>	<b>1.4000e-004</b>	<b>0.0000</b>	<b>1.4000e-004</b>	<b>0.0000</b>	<b>0.4714</b>	<b>0.4714</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>0.4718</b>

**3.7 Architectural Coating - 2019**

**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	0.6336					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.3300e-003	9.1800e-003	9.2100e-003	1.0000e-005		6.4000e-004	6.4000e-004		6.4000e-004	6.4000e-004	0.0000	1.2766	1.2766	1.1000e-004	0.0000	1.2793
<b>Total</b>	<b>0.6349</b>	<b>9.1800e-003</b>	<b>9.2100e-003</b>	<b>1.0000e-005</b>		<b>6.4000e-004</b>	<b>6.4000e-004</b>		<b>6.4000e-004</b>	<b>6.4000e-004</b>	<b>0.0000</b>	<b>1.2766</b>	<b>1.2766</b>	<b>1.1000e-004</b>	<b>0.0000</b>	<b>1.2793</b>

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**3.7 Architectural Coating - 2019**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-004	1.7000e-004	1.7500e-003	0.0000	4.7000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4352	0.4352	1.0000e-005	0.0000	0.4355
<b>Total</b>	<b>2.3000e-004</b>	<b>1.7000e-004</b>	<b>1.7500e-003</b>	<b>0.0000</b>	<b>4.7000e-004</b>	<b>0.0000</b>	<b>4.8000e-004</b>	<b>1.3000e-004</b>	<b>0.0000</b>	<b>1.3000e-004</b>	<b>0.0000</b>	<b>0.4352</b>	<b>0.4352</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>0.4355</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.6336					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.7000e-004	0.0118	9.1600e-003	1.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	1.2766	1.2766	1.1000e-004	0.0000	1.2793
<b>Total</b>	<b>0.6341</b>	<b>0.0118</b>	<b>9.1600e-003</b>	<b>1.0000e-005</b>		<b>7.0000e-005</b>	<b>7.0000e-005</b>		<b>7.0000e-005</b>	<b>7.0000e-005</b>	<b>0.0000</b>	<b>1.2766</b>	<b>1.2766</b>	<b>1.1000e-004</b>	<b>0.0000</b>	<b>1.2793</b>

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**3.7 Architectural Coating - 2019**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-004	1.7000e-004	1.7500e-003	0.0000	4.7000e-004	0.0000	4.8000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4352	0.4352	1.0000e-005	0.0000	0.4355
<b>Total</b>	<b>2.3000e-004</b>	<b>1.7000e-004</b>	<b>1.7500e-003</b>	<b>0.0000</b>	<b>4.7000e-004</b>	<b>0.0000</b>	<b>4.8000e-004</b>	<b>1.3000e-004</b>	<b>0.0000</b>	<b>1.3000e-004</b>	<b>0.0000</b>	<b>0.4352</b>	<b>0.4352</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>0.4355</b>

**4.0 Operational Detail - Mobile**

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**4.1 Mitigation Measures Mobile**

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1157	0.7825	1.2562	4.8100e-003	0.3715	4.5700e-003	0.3761	0.0999	4.2900e-003	0.1042	0.0000	443.5911	443.5911	0.0191	0.0000	444.0693
Unmitigated	0.1157	0.7825	1.2562	4.8100e-003	0.3715	4.5700e-003	0.3761	0.0999	4.2900e-003	0.1042	0.0000	443.5911	443.5911	0.0191	0.0000	444.0693

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	440.00	422.40	388.00	993,263	993,263
Total	440.00	422.40	388.00	993,263	993,263

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
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.560371	0.039285	0.190378	0.108244	0.016023	0.005202	0.023981	0.045200	0.002184	0.002561	0.005524	0.000326	0.000721

5.0 Energy Detail

Historical Energy Use: N

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**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	0.0000	45.0423	45.0423	4.4400e-003	9.2000e-004	45.4273
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	45.0423	45.0423	4.4400e-003	9.2000e-004	45.4273
NaturalGas Mitigated	3.7700e-003	0.0322	0.0137	2.1000e-004		2.6000e-003	2.6000e-003		2.6000e-003	2.6000e-003	0.0000	37.2711	37.2711	7.1000e-004	6.8000e-004	37.4926
NaturalGas Unmitigated	3.7700e-003	0.0322	0.0137	2.1000e-004		2.6000e-003	2.6000e-003		2.6000e-003	2.6000e-003	0.0000	37.2711	37.2711	7.1000e-004	6.8000e-004	37.4926

**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					
Apartments Mid Rise	698434	3.7700e-003	0.0322	0.0137	2.1000e-004		2.6000e-003	2.6000e-003		2.6000e-003	2.6000e-003	0.0000	37.2711	37.2711	7.1000e-004	6.8000e-004	37.4926
<b>Total</b>		<b>3.7700e-003</b>	<b>0.0322</b>	<b>0.0137</b>	<b>2.1000e-004</b>		<b>2.6000e-003</b>	<b>2.6000e-003</b>		<b>2.6000e-003</b>	<b>2.6000e-003</b>	<b>0.0000</b>	<b>37.2711</b>	<b>37.2711</b>	<b>7.1000e-004</b>	<b>6.8000e-004</b>	<b>37.4926</b>



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**5.2 Energy by Land Use - NaturalGas**

**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					
Apartments Mid Rise	698434	3.7700e-003	0.0322	0.0137	2.1000e-004		2.6000e-003	2.6000e-003		2.6000e-003	2.6000e-003	0.0000	37.2711	37.2711	7.1000e-004	6.8000e-004	37.4926
<b>Total</b>		<b>3.7700e-003</b>	<b>0.0322</b>	<b>0.0137</b>	<b>2.1000e-004</b>		<b>2.6000e-003</b>	<b>2.6000e-003</b>		<b>2.6000e-003</b>	<b>2.6000e-003</b>	<b>0.0000</b>	<b>37.2711</b>	<b>37.2711</b>	<b>7.1000e-004</b>	<b>6.8000e-004</b>	<b>37.4926</b>

**5.3 Energy by Land Use - Electricity**

**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	337759	45.0423	4.4400e-003	9.2000e-004	45.4273
<b>Total</b>		<b>45.0423</b>	<b>4.4400e-003</b>	<b>9.2000e-004</b>	<b>45.4273</b>

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**5.3 Energy by Land Use - Electricity**

**Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	337759	45.0423	4.4400e-003	9.2000e-004	45.4273
<b>Total</b>		<b>45.0423</b>	<b>4.4400e-003</b>	<b>9.2000e-004</b>	<b>45.4273</b>

**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	0.4331	9.6200e-003	0.5958	5.0000e-005		3.5100e-003	3.5100e-003		3.5100e-003	3.5100e-003	0.0000	4.1662	4.1662	1.0000e-003	6.0000e-005	4.2086
Unmitigated	0.4331	9.6200e-003	0.5958	5.0000e-005		3.5100e-003	3.5100e-003		3.5100e-003	3.5100e-003	0.0000	4.1662	4.1662	1.0000e-003	6.0000e-005	4.2086

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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	0.0634					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3515					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.2000e-004	2.7600e-003	1.1700e-003	2.0000e-005		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	3.1959	3.1959	6.0000e-005	6.0000e-005	3.2149
Landscaping	0.0180	6.8600e-003	0.5947	3.0000e-005		3.2900e-003	3.2900e-003		3.2900e-003	3.2900e-003	0.0000	0.9703	0.9703	9.4000e-004	0.0000	0.9937
<b>Total</b>	<b>0.4331</b>	<b>9.6200e-003</b>	<b>0.5958</b>	<b>5.0000e-005</b>		<b>3.5100e-003</b>	<b>3.5100e-003</b>		<b>3.5100e-003</b>	<b>3.5100e-003</b>	<b>0.0000</b>	<b>4.1662</b>	<b>4.1662</b>	<b>1.0000e-003</b>	<b>6.0000e-005</b>	<b>4.2086</b>

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**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	0.0634					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3515					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.2000e-004	2.7600e-003	1.1700e-003	2.0000e-005		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	3.1959	3.1959	6.0000e-005	6.0000e-005	3.2149
Landscaping	0.0180	6.8600e-003	0.5947	3.0000e-005		3.2900e-003	3.2900e-003		3.2900e-003	3.2900e-003	0.0000	0.9703	0.9703	9.4000e-004	0.0000	0.9937
<b>Total</b>	<b>0.4331</b>	<b>9.6200e-003</b>	<b>0.5958</b>	<b>5.0000e-005</b>		<b>3.5100e-003</b>	<b>3.5100e-003</b>		<b>3.5100e-003</b>	<b>3.5100e-003</b>	<b>0.0000</b>	<b>4.1662</b>	<b>4.1662</b>	<b>1.0000e-003</b>	<b>6.0000e-005</b>	<b>4.2086</b>

**7.0 Water Detail**

**7.1 Mitigation Measures Water**

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	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	7.1390	6.8700e-003	4.1200e-003	8.5381
Unmitigated	7.1390	6.8700e-003	4.1200e-003	8.5381

**7.2 Water by Land Use**

**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	5.21232 / 3.28603	7.1390	6.8700e-003	4.1200e-003	8.5381
<b>Total</b>		<b>7.1390</b>	<b>6.8700e-003</b>	<b>4.1200e-003</b>	<b>8.5381</b>

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**7.2 Water by Land Use**

**Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	5.21232 / 3.28603	7.1390	6.8700e-003	4.1200e-003	8.5381
<b>Total</b>		<b>7.1390</b>	<b>6.8700e-003</b>	<b>4.1200e-003</b>	<b>8.5381</b>

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

**Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	7.4701	0.4415	0.0000	18.5068
Unmitigated	7.4701	0.4415	0.0000	18.5068

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**8.2 Waste by Land Use**

**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	36.8	7.4701	0.4415	0.0000	18.5068
<b>Total</b>		<b>7.4701</b>	<b>0.4415</b>	<b>0.0000</b>	<b>18.5068</b>

**Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	36.8	7.4701	0.4415	0.0000	18.5068
<b>Total</b>		<b>7.4701</b>	<b>0.4415</b>	<b>0.0000</b>	<b>18.5068</b>

**9.0 Operational Offroad**

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

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**Fire Pumps and Emergency Generators**

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

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

Equipment Type	Number
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**11.0 Vegetation**

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**Summary of ISCST3 Model Parameters, Assumptions, and Results for DPM and PM<sub>2.5</sub> Emissions during Construction**

ISCST3 Model Parameters and Assumptions				
Source Type	Units	Value	Notes	
<b>Volume Source: Off-Road Equipment Exhaust (without SCA-AIR-2)</b>				
Hours/Work Day	hours/day	9	Typical work day, 7AM-4PM	
DPM Emission Rate	gram/second	0.00642	Exhaust PM <sub>10</sub> from off-road equipment	
Number of Sources	count	56	SMAQMD, 2015	
Emission Rate/Source	gram/second	0.000115		
Release Height	meters	5.0	SMAQMD, 2015	
Length of Side	meters	10.0	SMAQMD, 2015	
Initial Lateral Dimension	meters	2.3	ISCST3 Calculator	
Initial Vertical Dimension	meters	1.0	SMAQMD, 2015	
<b>Volume Source: Off-Road Equipment Exhaust (with SCA-AIR-2)</b>				
Hours/Work Day	hours/day	9	Typical work day, 7AM-4PM	
DPM Emission Rate	gram/second	0.00076	Exhaust PM <sub>10</sub> from off-road equipment	
Number of Sources	count	56	SMAQMD, 2015	
Emission Rate/Source	gram/second	1.35E-05		
Release Height	meters	5.0	SMAQMD, 2015	
Length of Side	meters	10.0	SMAQMD, 2015	
Initial Lateral Dimension	meters	2.3	ISCST3 Calculator	
Initial Vertical Dimension	meters	1.0	SMAQMD, 2015	
ISCST3 Model Results				
Location Type	Emissions Source	Pollutant	Annual Average Concentration	Notes
Residential	Construction (without SCA-AIR-2)	DPM (µg/m <sup>3</sup> )	0.158	MEIR (Ground level residential receptor)
		PM <sub>2.5</sub> (µg/m <sup>3</sup> )	0.152	MEIR (Ground level residential receptor)
	Construction (with SCA-AIR-2)	DPM (µg/m <sup>3</sup> )	0.019	MEIR (Ground level residential receptor)
		PM <sub>2.5</sub> (µg/m <sup>3</sup> )	0.018	MEIR (Ground level residential receptor)

Notes:

DPM = diesel particulate matter

PM<sub>10</sub> = particulate matter with aerodynamic resistance diameters equal to or less than 10 microns

PM<sub>2.5</sub> = particulate matter with aerodynamic resistance diameters equal to or less than 2.5 microns

µg/m<sup>3</sup> = micrograms per cubic meter

Sacramento Metropolitan Air Quality Management District (SMAQMD), 2015. *Guide to Air Quality Assessment in Sacramento County*. June.

**Summary of Health Risk Assessment at MEIR for DPM Emissions during Construction**

Health Risk Assessment Parameters and Results				
DPM Emissions without SCA-AIR-2				
Inhalation Cancer Risk Assessment for DPM	Units	Age Group		Notes
		3rd Trimester	0-2 Years	
DPM Concentration (C)	µg/m <sup>3</sup>	0.158	0.158	ISCST3 Annual Average
Daily Breathing Rate (DBR)	L/kg-day	361	1090	95th percentile (OEHHA, 2015)
Inhalation absorption factor (A)	unitless	1.0	1.0	OEHHA, 2015
Exposure Frequency (EF)	unitless	0.96	0.96	350 days/365 days in a year (OEHHA, 2015)
Dose Conversion Factor (CF <sub>D</sub> )	mg-m <sup>3</sup> /µg-L	0.000001	0.000001	Conversion of µg to mg and L to m <sup>3</sup>
Dose (D)	mg/kg/day	0.000055	0.000165	C*DBR*A*EF*CF <sub>D</sub> (OEHHA, 2015)
Cancer Potency Factor (CPF)	(mg/kg/day) <sup>-1</sup>	1.1	1.1	OEHHA, 2015
Age Sensitivity Factor (ASF)	unitless	10	10	OEHHA, 2015
Annual Exposure Duration (ED)	years	0.25	1.67	Based on total construction period of 20 months
Averaging Time (AT)	years	70	70	70 years for residents (OEHHA, 2015)
Fraction of time at home (FAH)	unitless	0.85	0.85	OEHHA, 2015
Cancer Risk Conversion Factor (CF)	unitless	1000000	1000000	Chances per million (OEHHA, 2015)
Cancer Risk	per million	1.83	36.77	D*CPF*ASF*ED/AT*FAH*CF (OEHHA, 2015)
Total Cancer Risk	per million	38.60		At MEIR location
Hazard Index for DPM	Units	Value	Notes	
Chronic REL	µg/m <sup>3</sup>	5.0	OEHHA, 2015	
Chronic Hazard Index for DPM	unitless	0.03	At MEIR location	
DPM Emissions with SCA-AIR-2				
Inhalation Cancer Risk Assessment for DPM	Units	Age Group		Notes
		3rd Trimester	0-2 Years	
DPM Concentration (C)	µg/m <sup>3</sup>	0.019	0.019	ISCST3 Annual Average
Daily Breathing Rate (DBR)	L/kg-day	361	1090	95th percentile (OEHHA, 2015)
Inhalation absorption factor (A)	unitless	1.0	1.0	OEHHA, 2015
Exposure Frequency (EF)	unitless	0.96	0.96	350 days/365 days in a year (OEHHA, 2015)
Dose Conversion Factor (CF <sub>D</sub> )	mg-m <sup>3</sup> /µg-L	0.000001	0.000001	Conversion of µg to mg and L to m <sup>3</sup>
Dose (D)	mg/kg/day	0.000006	0.000019	C*DBR*A*EF*CF <sub>D</sub> (OEHHA, 2015)
Cancer Potency Factor (CPF)	(mg/kg/day) <sup>-1</sup>	1.1	1.1	OEHHA, 2015
Age Sensitivity Factor (ASF)	unitless	10	10	OEHHA, 2015
Annual Exposure Duration (ED)	years	0.25	1.67	Based on total construction period of 20 months
Averaging Time (AT)	years	70	70	70 years for residents (OEHHA, 2015)
Fraction of time at home (FAH)	unitless	0.85	0.85	OEHHA, 2015
Cancer Risk Conversion Factor (CF)	unitless	1000000	1000000	Chances per million (OEHHA, 2015)
Cancer Risk	per million	0.22	4.34	D*CPF*ASF*ED/AT*FAH*CF (OEHHA, 2015)
Total Cancer Risk	per million	4.55		At MEIR location
Hazard Index for DPM	Units	Value	Notes	
Chronic REL	µg/m <sup>3</sup>	5.0	OEHHA, 2015	
Chronic Hazard Index for DPM	unitless	0.0037	At MEIR location	

Notes:

DPM = diesel particulate matter

REL = reference exposure level

µg/m<sup>3</sup> = micrograms per cubic meter

L/kg-day = liters per kilogram-day

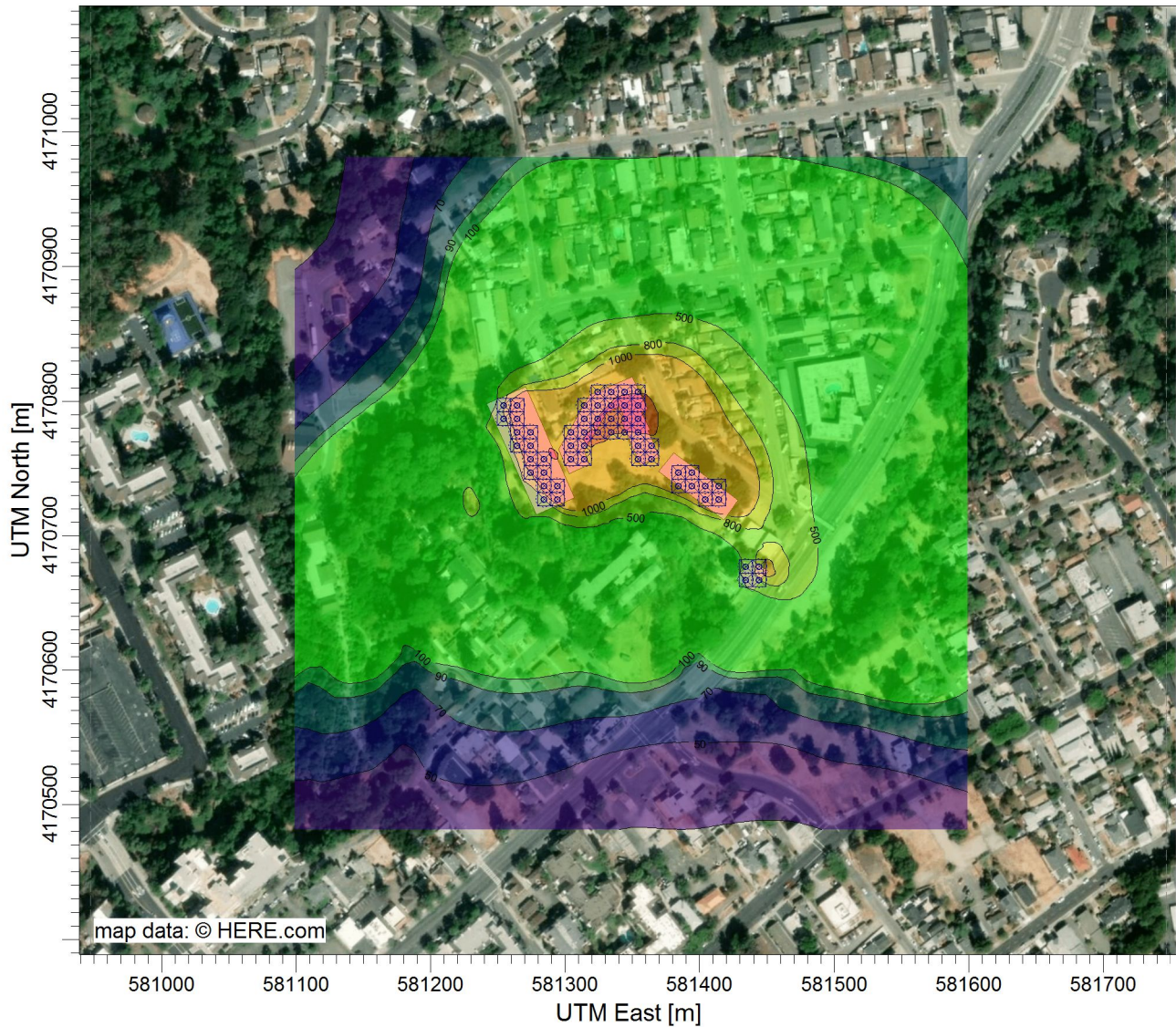
m<sup>3</sup>/L = cubic meters per liter

(mg/kg/day)<sup>-1</sup> = 1/milligrams per kilograms per day

MEIR = maximum exposed individual resident

Office of Environmental Health Hazard Assessment (OEHHA), 2015. *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. February.

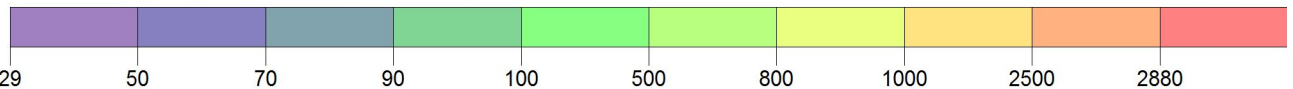
PROJECT TITLE:  
**1744 Ruby Street Construction DPM Emissions**



PLOT FILE OF PERIOD VALUES FOR SOURCE GROUP: ALL

ug/m<sup>3</sup>

Max: 2880 [ug/m<sup>3</sup>] at (581349.13, 4170791.50)



COMMENTS:	SOURCES: <b>56</b>	COMPANY NAME: <b>BASELINE Environmental Consulting</b>	
	RECEPTORS: <b>2601</b>	MODELER:	
	OUTPUT TYPE: <b>Concentration</b>	SCALE: 1:5,130	
	MAX: <b>2880 ug/m<sup>3</sup></b>	DATE: <b>1/14/2019</b>	PROJECT NO.: