



Memorandum

Date: December 7, 2015

To: Ms. Mikaela Klein, Mt. San Antonio College

From: Fred Greve, Greve & Associates, LLC

Subject: CEQA Thresholds and Procedures for Air Quality (Report #15-116A)

This memorandum recommends activity level thresholds to determine if a project would exceed the SCAQMD (South Coast Air Quality Management District) thresholds. These are discussed below both for traditional air pollutants and greenhouse gases.

AIR QUALITY THRESHOLDS

In their "1993 CEQA Air Quality Handbook", the SCAQMD established significance thresholds to assess the impact of project related air pollutant emissions. Table 1 presents these significance thresholds. There are separate thresholds for short-term construction and long-term operational emissions. A project with daily emission rates below these thresholds are considered to have a less than significant effect on regional air quality.

Table 1 SCAQMD Regional Pollutant Emission Thresholds of Significance

	Pollutant Emissions (lbs./day)					
	CO	ROG	NOx	PM10	PM2.5	SOx
<i>Construction</i>	550	75	100	150	55	150
<i>Operation</i>	550	55	55	150	55	150

SCAQMD staff also developed a localized significance threshold (LST) methodology that can be used to determine whether or not a project may generate significant adverse localized air quality impacts. LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard, and are developed based on the ambient concentrations of that pollutant

for each source receptor area (SRA). The LST methodology is described in the “Final Localized Significance Threshold Methodology” updated in 2009 by the SCAQMD and is available at the SCAQMD website (<http://aqmd.gov/ceqa/handbook/LST/LST.html>).

The LST mass rate look-up tables provided by the SCAQMD allow one to determine if the daily emissions for proposed construction activities could result in significant local air impacts. If the calculated on-site emissions for the proposed construction activities are below the LST emission levels for a specific distance, then the proposed construction activity is not significant for air quality.

CONSTRUCTION EMISSIONS

Two scenarios were assessed that satisfy the basic goals of meeting the thresholds. Scenario 1 is a 3-acre site with an 80,000 square foot development. The site would be balanced from a grading perspective (no import or export of soil). All paint would be restricted to a volatile organic content (VOC) of 75 grams per liter (g/l) and the site would be watered twice per day during grading. Scenario 1A is the same as Scenario 1 except that 10,000 cubic yards of soil would be exported.

CalEEMod was used to assess the two scenarios (CalEEMod printouts are provided in the appendix for Scenario 1). Table 2 presents the results of the CalEEMod analysis for construction. All of the emissions are below the thresholds. It should be noted that Scenario 1A is just under the threshold for NO_x. All of the other emissions are well under the SCAQMD thresholds.

Table 2 Peak Daily Construction Emissions

Activity	Pollutant Emissions (lbs./day)					
	ROG	NO _x	CO	SO _x	PM10	PM2.5
Scenario 1	56.0	54.7	42.2	0.0	11.3	7.2
Scenario 1A	56.0	97.7	73.3	0.2	11.3	7.2
<i>SCQAMD Thresholds</i>	<i>75</i>	<i>100</i>	<i>550</i>	<i>150</i>	<i>150</i>	<i>55</i>

LST EMISSIONS

The on-site construction emissions were calculated using CalEEMod. (The emissions are the same for both Scenario 1 and 1A.) For both scenarios, the site preparation phase resulted in the highest emissions. Using the SCAQMD look-up tables the closest distance that the project could be to the property line of a sensitive receptor was then determined.

Table 3 Peak Daily On-Site Construction Emissions

Activity	Pollutant Emissions (lbs./day)			
	NO _x	CO	PM10	PM2.5
Demolition	45.7	35.0	2.3	2.1
Site Preparation	54.6	41.1	11.1	7.2
Grading	38.4	26.1	5.1	3.5
Building Construction	28.5	18.5	2.0	1.8
Paving	18.3	12.6	1.1	1.0
Architectural Coating	2.4	1.9	0.2	0.2
Distance (meters)	<25	<25	42	130
Distance (Feet)	<82	<82	138	427

PM2.5 is the most critical pollutant. As can be seen from the data in Table 3 a project could be no closer than 427 feet (130 meters) from a sensitive receptor. Therefore, as long as the project as described in Scenario 1 or 1A, was located more than 427 feet from a sensitive receptor, then no localized air impact would occur.

OPERATIONAL EMISSIONS

Table 4 presents the results of the CalEEMod analysis for operational emissions. Both Scenarios 1 and 1A result in the same daily operational emissions. All emissions are well below the significance thresholds.

Table 4 Peak Daily Operational Emissions

Activity	Pollutant Emissions (lbs./day)					
	ROG	NO _x	CO	SO _x	PM10	PM2.5
Scenarios 1 & 1A	9.8	22.2	83.4	0.2	14.4	4.1
<i>SCQAMD Thresholds</i>	<i>55</i>	<i>55</i>	<i>550</i>	<i>150</i>	<i>150</i>	<i>55</i>

GREENHOUSE GAS EMISSIONS

Greenhouse gas (GHG) emissions were also assessed for the two scenarios using CalEEMod. A threshold of 3,000 metric tons of carbon dioxide equivalent per year (MTCO₂EQ/Yr.) is commonly employed. Construction emissions are amortized over a 30-year period per the direction of the SCAQMD. Table 5 presents the results of the analysis. Both Scenario 1 and 1A would be under annual threshold of 3,000 MTCO₂EQ. Construction emissions play a very small role in the total annualized emissions. They represent less than 0.5% of the annualized emissions. Over 80% of the GHG emissions are from motor vehicle traffic associated with the project. The size of the project is the main driver for the amount of traffic generated.

Table 5 Projected GHG Emissions

	Annual CO₂EQ
Scenario 1	2,708
Scenario 1A	2,709
Threshold	3,000

Appendix

Thresholds Scenario 1 South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Junior College (2Yr)	80.00	1000sqft	3.00	80,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	9			Operational Year	2017
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	630.89	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Acreage set at 3 acres

Architectural Coating - VOC of paint set at 75 g/l

Area Coating - VOC of paint set at 125 g/l for operational painting too.

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	250.00	75.00
tblArchitecturalCoating	EF_Nonresidential_Interior	250.00	75.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	250	125
tblAreaMitigation	UseLowVOCPaintNonresidentialExteriorVal	125	250

tblLandUse	LotAcreage	1.84	3.00
tblProjectCharacteristics	OperationalYear	2014	2017

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

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	lb/day										lb/day					
2016	56.0183	54.7355	42.1833	0.0419	18.2675	2.9404	21.2078	9.9840	2.7051	12.6892	0.0000	4,265.8340	4,265.8340	1.2371	0.0000	4,291.8138
2017	55.9791	2.2213	2.2459	3.9000e-003	0.0782	0.1740	0.2522	0.0208	0.1739	0.1947	0.0000	356.5483	356.5483	0.0337	0.0000	357.2551
Total	111.9974	56.9568	44.4292	0.0458	18.3457	3.1143	21.4600	10.0048	2.8791	12.8838	0.0000	4,622.3823	4,622.3823	1.2708	0.0000	4,649.0689

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	lb/day										lb/day					
2016	56.0183	54.7355	42.1833	0.0419	8.3310	2.9404	11.2714	4.5222	2.7051	7.2273	0.0000	4,265.8340	4,265.8340	1.2371	0.0000	4,291.8138
2017	55.9791	2.2213	2.2459	3.9000e-003	0.0782	0.1740	0.2522	0.0208	0.1739	0.1947	0.0000	356.5483	356.5483	0.0337	0.0000	357.2551
Total	111.9974	56.9568	44.4292	0.0458	8.4093	3.1143	11.5236	4.5429	2.8791	7.4220	0.0000	4,622.3823	4,622.3823	1.2708	0.0000	4,649.0689

	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
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Percent Reduction	0.00	0.00	0.00	0.00	54.16	0.00	46.30	54.59	0.00	42.39	0.00	0.00	0.00	0.00	0.00	0.00
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2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.0293	8.0000e-005	8.3200e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0175	0.0175	5.0000e-005		0.0185
Energy	0.0673	0.6118	0.5139	3.6700e-003		0.0465	0.0465		0.0465	0.0465		734.1177	734.1177	0.0141	0.0135	738.5854
Mobile	7.7312	21.5805	82.9089	0.2008	14.0875	0.3004	14.3879	3.7641	0.2765	4.0406		17,130.4385	17,130.4385	0.6829		17,144.7795
Total	9.8278	22.1923	83.4311	0.2045	14.0875	0.3470	14.4344	3.7641	0.3230	4.0871		17,864.5737	17,864.5737	0.6970	0.0135	17,883.3834

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.0293	8.0000e-005	8.3200e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0175	0.0175	5.0000e-005		0.0185
Energy	0.0673	0.6118	0.5139	3.6700e-003		0.0465	0.0465		0.0465	0.0465		734.1177	734.1177	0.0141	0.0135	738.5854
Mobile	7.7312	21.5805	82.9089	0.2008	14.0875	0.3004	14.3879	3.7641	0.2765	4.0406		17,130.4385	17,130.4385	0.6829		17,144.7795
Total	9.8278	22.1923	83.4311	0.2045	14.0875	0.3470	14.4344	3.7641	0.3230	4.0871		17,864.5737	17,864.5737	0.6970	0.0135	17,883.3834

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2016	1/28/2016	5	20	
2	Site Preparation	Site Preparation	1/29/2016	2/2/2016	5	3	
3	Grading	Grading	2/3/2016	2/10/2016	5	6	
4	Building Construction	Building Construction	2/11/2016	12/14/2016	5	220	
5	Paving	Paving	12/15/2016	12/28/2016	5	10	
6	Architectural Coating	Architectural Coating	12/29/2016	1/11/2017	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 3

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 120,000; Non-Residential Outdoor: 40,000 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	162	0.38
Demolition	Rubber Tired Dozers	2	8.00	255	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41

Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	125	0.42
Paving	Paving Equipment	2	6.00	130	0.36
Paving	Rollers	2	6.00	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

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	34.00	13.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	7.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.2876	45.6559	35.0303	0.0399		2.2921	2.2921		2.1365	2.1365		4,089.2841	4,089.2841	1.1121		4,112.6374
Total	4.2876	45.6559	35.0303	0.0399		2.2921	2.2921		2.1365	2.1365		4,089.2841	4,089.2841	1.1121		4,112.6374

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		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
Worker	0.0640	0.0860	0.8984	1.9900e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		167.3573	167.3573	9.1500e-003		167.5495
Total	0.0640	0.0860	0.8984	1.9900e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		167.3573	167.3573	9.1500e-003		167.5495

Mitigated Construction On-Site

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

Off-Road	4.2876	45.6559	35.0303	0.0399		2.2921	2.2921		2.1365	2.1365	0.0000	4,089.2841	4,089.2841	1.1121		4,112.6374
Total	4.2876	45.6559	35.0303	0.0399		2.2921	2.2921		2.1365	2.1365	0.0000	4,089.2841	4,089.2841	1.1121		4,112.6374

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		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
Worker	0.0640	0.0860	0.8984	1.9900e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		167.3573	167.3573	9.1500e-003		167.5495
Total	0.0640	0.0860	0.8984	1.9900e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		167.3573	167.3573	9.1500e-003		167.5495

3.3 Site Preparation - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	5.0771	54.6323	41.1053	0.0391		2.9387	2.9387		2.7036	2.7036		4,065.0053	4,065.0053	1.2262		4,090.7544
Total	5.0771	54.6323	41.1053	0.0391	18.0663	2.9387	21.0049	9.9307	2.7036	12.6343		4,065.0053	4,065.0053	1.2262		4,090.7544

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		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
Worker	0.0768	0.1032	1.0780	2.3900e-003	0.2012	1.6800e-003	0.2029	0.0534	1.5500e-003	0.0549		200.8288	200.8288	0.0110		201.0594
Total	0.0768	0.1032	1.0780	2.3900e-003	0.2012	1.6800e-003	0.2029	0.0534	1.5500e-003	0.0549		200.8288	200.8288	0.0110		201.0594

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	5.0771	54.6323	41.1053	0.0391		2.9387	2.9387		2.7036	2.7036	0.0000	4,065.0053	4,065.0053	1.2262		4,090.7544
Total	5.0771	54.6323	41.1053	0.0391	8.1298	2.9387	11.0685	4.4688	2.7036	7.1724	0.0000	4,065.0053	4,065.0053	1.2262		4,090.7544

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		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
Worker	0.0768	0.1032	1.0780	2.3900e-003	0.2012	1.6800e-003	0.2029	0.0534	1.5500e-003	0.0549		200.8288	200.8288	0.0110		201.0594
Total	0.0768	0.1032	1.0780	2.3900e-003	0.2012	1.6800e-003	0.2029	0.0534	1.5500e-003	0.0549		200.8288	200.8288	0.0110		201.0594

3.4 Grading - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	3.6669	38.4466	26.0787	0.0298		2.1984	2.1984		2.0225	2.0225		3,093.7889	3,093.7889	0.9332		3,113.3860
Total	3.6669	38.4466	26.0787	0.0298	6.5523	2.1984	8.7507	3.3675	2.0225	5.3900		3,093.7889	3,093.7889	0.9332		3,113.3860

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		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
Worker	0.0640	0.0860	0.8984	1.9900e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		167.3573	167.3573	9.1500e-003	167.5495
Total	0.0640	0.0860	0.8984	1.9900e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		167.3573	167.3573	9.1500e-003	167.5495

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.9486	0.0000	2.9486	1.5154	0.0000	1.5154			0.0000			0.0000
Off-Road	3.6669	38.4466	26.0787	0.0298		2.1984	2.1984		2.0225	2.0225	0.0000	3,093.7889	3,093.7889	0.9332		3,113.3860
Total	3.6669	38.4466	26.0787	0.0298	2.9486	2.1984	5.1470	1.5154	2.0225	3.5379	0.0000	3,093.7889	3,093.7889	0.9332		3,113.3860

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		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
Worker	0.0640	0.0860	0.8984	1.9900e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		167.3573	167.3573	9.1500e-003		167.5495
Total	0.0640	0.0860	0.8984	1.9900e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		167.3573	167.3573	9.1500e-003		167.5495

3.5 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.4062	28.5063	18.5066	0.0268		1.9674	1.9674		1.8485	1.8485		2,669.2864	2,669.2864	0.6620		2,683.1890
Total	3.4062	28.5063	18.5066	0.0268		1.9674	1.9674		1.8485	1.8485		2,669.2864	2,669.2864	0.6620		2,683.1890

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1187	1.1511	1.5543	2.8100e-003	0.0813	0.0187	0.0999	0.0231	0.0172	0.0403		281.0605	281.0605	2.0800e-003		281.1043
Worker	0.1450	0.1949	2.0363	4.5100e-003	0.3800	3.1800e-003	0.3832	0.1008	2.9200e-003	0.1037		379.3432	379.3432	0.0208		379.7789
Total	0.2637	1.3460	3.5906	7.3200e-003	0.4613	0.0219	0.4831	0.1239	0.0201	0.1440		660.4037	660.4037	0.0228		660.8832

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.4062	28.5063	18.5066	0.0268		1.9674	1.9674		1.8485	1.8485	0.0000	2,669.2864	2,669.2864	0.6620		2,683.1890
Total	3.4062	28.5063	18.5066	0.0268		1.9674	1.9674		1.8485	1.8485	0.0000	2,669.2864	2,669.2864	0.6620		2,683.1890

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.1187	1.1511	1.5543	2.8100e-003	0.0813	0.0187	0.0999	0.0231	0.0172	0.0403		281.0605	281.0605	2.0800e-003		281.1043
Worker	0.1450	0.1949	2.0363	4.5100e-003	0.3800	3.1800e-003	0.3832	0.1008	2.9200e-003	0.1037		379.3432	379.3432	0.0208		379.7789
Total	0.2637	1.3460	3.5906	7.3200e-003	0.4613	0.0219	0.4831	0.1239	0.0201	0.1440		660.4037	660.4037	0.0228		660.8832

3.6 Paving - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7956	18.3417	12.5623	0.0186		1.1065	1.1065		1.0198	1.0198		1,902.2212	1,902.2212	0.5588		1,913.9557

Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.7956	18.3417	12.5623	0.0186		1.1065	1.1065		1.0198	1.0198			1,902.2212	1,902.2212	0.5588	1,913.9557

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		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
Worker	0.0853	0.1147	1.1978	2.6500e-003	0.2236	1.8700e-003	0.2254	0.0593	1.7200e-003	0.0610		223.1431	223.1431	0.0122		223.3994
Total	0.0853	0.1147	1.1978	2.6500e-003	0.2236	1.8700e-003	0.2254	0.0593	1.7200e-003	0.0610		223.1431	223.1431	0.0122		223.3994

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7956	18.3417	12.5623	0.0186		1.1065	1.1065		1.0198	1.0198	0.0000	1,902.2212	1,902.2212	0.5588		1,913.9557
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.7956	18.3417	12.5623	0.0186		1.1065	1.1065		1.0198	1.0198	0.0000	1,902.2212	1,902.2212	0.5588		1,913.9557

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		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
Worker	0.0853	0.1147	1.1978	2.6500e-003	0.2236	1.8700e-003	0.2254	0.0593	1.7200e-003	0.0610		223.1431	223.1431	0.0122		223.3994
Total	0.0853	0.1147	1.1978	2.6500e-003	0.2236	1.8700e-003	0.2254	0.0593	1.7200e-003	0.0610		223.1431	223.1431	0.0122		223.3994

3.7 Architectural Coating - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	55.6200					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3685	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966		281.4481	281.4481	0.0332		282.1449
Total	55.9885	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966		281.4481	281.4481	0.0332		282.1449

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
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Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	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	
Worker	0.0299	0.0401	0.4192	9.3000e-004	0.0782	6.5000e-004	0.0789	0.0208	6.0000e-004	0.0214	78.1001	78.1001	4.2700e-003	78.1898	78.1898	
Total	0.0299	0.0401	0.4192	9.3000e-004	0.0782	6.5000e-004	0.0789	0.0208	6.0000e-004	0.0214	78.1001	78.1001	4.2700e-003	78.1898	78.1898	

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	55.6200					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3685	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966	0.0000	281.4481	281.4481	0.0332		282.1449
Total	55.9885	2.3722	1.8839	2.9700e-003		0.1966	0.1966		0.1966	0.1966	0.0000	281.4481	281.4481	0.0332		282.1449

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		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

Worker	0.0299	0.0401	0.4192	9.3000e-004	0.0782	6.5000e-004	0.0789	0.0208	6.0000e-004	0.0214		78.1001	78.1001	4.2700e-003		78.1898
Total	0.0299	0.0401	0.4192	9.3000e-004	0.0782	6.5000e-004	0.0789	0.0208	6.0000e-004	0.0214		78.1001	78.1001	4.2700e-003		78.1898

3.7 Architectural Coating - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	55.6200					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733		281.4481	281.4481	0.0297		282.0721
Total	55.9523	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733		281.4481	281.4481	0.0297		282.0721

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		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
Worker	0.0268	0.0362	0.3779	9.3000e-004	0.0782	6.3000e-004	0.0789	0.0208	5.8000e-004	0.0213		75.1003	75.1003	3.9400e-003		75.1830
Total	0.0268	0.0362	0.3779	9.3000e-004	0.0782	6.3000e-004	0.0789	0.0208	5.8000e-004	0.0213		75.1003	75.1003	3.9400e-003		75.1830

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	55.6200					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733	0.0000	281.4481	281.4481	0.0297		282.0721
Total	55.9523	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733	0.0000	281.4481	281.4481	0.0297		282.0721

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		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
Worker	0.0268	0.0362	0.3779	9.3000e-004	0.0782	6.3000e-004	0.0789	0.0208	5.8000e-004	0.0213		75.1003	75.1003	3.9400e-003		75.1830
Total	0.0268	0.0362	0.3779	9.3000e-004	0.0782	6.3000e-004	0.0789	0.0208	5.8000e-004	0.0213		75.1003	75.1003	3.9400e-003		75.1830

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.7312	21.5805	82.9089	0.2008	14.0875	0.3004	14.3879	3.7641	0.2765	4.0406		17,130.4385	17,130.4385	0.6829		17,144.7795
Unmitigated	7.7312	21.5805	82.9089	0.2008	14.0875	0.3004	14.3879	3.7641	0.2765	4.0406		17,130.4385	17,130.4385	0.6829		17,144.7795

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Junior College (2Yr)	2,199.20	898.40	96.80	5,173,960	5,173,960
Total	2,199.20	898.40	96.80	5,173,960	5,173,960

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
Junior College (2Yr)	16.60	8.40	6.90	6.40	88.60	5.00	92	7	1

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.512163	0.060173	0.180257	0.139094	0.042244	0.006664	0.016017	0.031880	0.001940	0.002497	0.004356	0.000592	0.002122

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0673	0.6118	0.5139	3.6700e-003		0.0465	0.0465		0.0465	0.0465		734.1177	734.1177	0.0141	0.0135	738.5854
NaturalGas Unmitigated	0.0673	0.6118	0.5139	3.6700e-003		0.0465	0.0465		0.0465	0.0465		734.1177	734.1177	0.0141	0.0135	738.5854

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Junior College (2Yr)	6240	0.0673	0.6118	0.5139	3.6700e-003		0.0465	0.0465		0.0465	0.0465		734.1177	734.1177	0.0141	0.0135	738.5854
Total		0.0673	0.6118	0.5139	3.6700e-003		0.0465	0.0465		0.0465	0.0465		734.1177	734.1177	0.0141	0.0135	738.5854

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					

Junior College (2Yr)	6.24	0.0673	0.6118	0.5139	3.6700e-003		0.0465	0.0465		0.0465	0.0465		734.1177	734.1177	0.0141	0.0135	738.5854
Total		0.0673	0.6118	0.5139	3.6700e-003		0.0465	0.0465		0.0465	0.0465		734.1177	734.1177	0.0141	0.0135	738.5854

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	lb/day										lb/day					
Mitigated	2.0293	8.0000e-005	8.3200e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0175	0.0175	5.0000e-005		0.0185
Unmitigated	2.0293	8.0000e-005	8.3200e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0175	0.0175	5.0000e-005		0.0185

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.4445					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.5840					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	8.0000e-004	8.0000e-005	8.3200e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0175	0.0175	5.0000e-005		0.0185

Total	2.0293	8.0000e-005	8.3200e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0175	0.0175	5.0000e-005		0.0185
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Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Consumer Products	1.5840					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	8.0000e-004	8.0000e-005	8.3200e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0175	0.0175	5.0000e-005		0.0185
Architectural Coating	0.4445					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	2.0293	8.0000e-005	8.3200e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0175	0.0175	5.0000e-005		0.0185

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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