

APPENDIX A – AIR QUALITY ANALYSIS

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Polytechnic High Auditorium Retrofit and Upgrade

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
High School	41.60	1000sqft	0.96	41,600.00	0

1.2 Other Project Characteristics

Urbanization Urban Wind Speed (m/s) 2.2 Precipitation Freq (Days) 33

Climate Zone 9 Operational Year 2015

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 -

Construction Phase - Construction would start June 2014 and be completed by August 2015

Off-road Equipment - Painting - 1 Air Compressor

Off-road Equipment - Building Construction - 1 Crane, 2 Forklifts, 2 aerial lifts, 2 Tractor/Loaders/Backhoes

Off-road Equipment - Demolition - 2 Concrete Saws, 2 Aerial lifts, 1 Crane and 1 Tractor/Loader/Backhoe

Demolition - 41,600 square feet - max area to be demolished

Trips and VMT -

Table Name	Column Name	Default Value	New Value
tbIconstructionPhase	NumDays	5.00	56.00
tbIconstructionPhase	NumDays	100.00	205.00
tbIconstructionPhase	NumDays	10.00	65.00
tbIconstructionPhase	PhaseEndDate	6/12/2015	6/13/2015
tbIconstructionPhase	PhaseEndDate	8/29/2014	8/31/2014
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tbIOffRoadEquipment	PhaseName		Demolition
tbIOffRoadEquipment	PhaseName		Building Construction
tbIOffRoadEquipment	PhaseName		Demolition
tbIProjectCharacteristics	OperationalYear	2014	2015

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

Year	lb/day											lb/day				
	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
2014	3.2448	24.6916	15.8557	0.0267	0.8759	1.5579	2.4338	0.1610	1.5020	1.6630	0.0000	2,640.9434	2,640.9434	0.4577	0.0000	2,650.5546
2015	15.7036	16.1193	11.2021	0.0165	0.2051	1.0596	1.2647	0.0551	0.9748	1.0299	0.0000	1,689.3617	1,689.3617	0.4195	0.0000	1,698.1710
Total	18.9484	40.8109	27.0578	0.0432	1.0810	2.6175	3.6985	0.2161	2.4768	2.6929	0.0000	4,330.3051	4,330.3051	0.8772	0.0000	4,348.7256

Mitigated Construction

Year	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
	lb/day															
2014	3.2423	24.6699	15.8431	0.0267	3.0499	1.5565	4.6064	0.6946	1.5006	2.1952	0.0000	2,638.918 4	2,638.918 4	0.4573	0.0000	2,648.521 1
2015	15.7032	16.1052	11.1935	0.0165	0.2051	1.0587	1.2637	0.0551	0.9740	1.0291	0.0000	1,688.109 3	1,688.109 3	0.4191	0.0000	1,696.910 7
Total	18.9455	40.7750	27.0366	0.0431	3.2549	2.6151	5.8701	0.7497	2.4746	3.2243	0.0000	4,327.027 7	4,327.027 7	0.8764	0.0000	4,345.431 9

Percent Reduction	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
	0.0149	0.0878	0.0784	0.0926	-201.1101	0.0905	-58.7156	-246.9388	0.0904	-19.7317	0.0000	0.0757	0.0757	0.0889	0.0000	0.0757

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2014	8/31/2014	5	65	
2	Building Construction	Building Construction	9/1/2014	6/13/2015	5	205	
3	Architectural Coating	Architectural Coating	6/14/2015	8/31/2015	5	56	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Aerial Lifts	2	4.00	62	0.31
Demolition	Concrete/Industrial Saws	2	8.00	81	0.73
Demolition	Cranes	1	8.00	226	0.29
Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Aerial Lifts	2	4.00	62	0.31
Building Construction	Cranes	1	4.00	226	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	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	7	18.00	0.00	167.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	15.00	6.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2014

Unmitigated Construction On-Site

Acres of Grading: 0

Category	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
Fugitive Dust					0.6300	0.0000	0.6300	0.0954	0.0000	0.0954			0.0000			0.0000
Off-Road	2.6709	23.6411	13.7248	0.0221		1.5384	1.5384	1.4841	1.4841	1.4841		2,207.1859	2,207.1859	0.4417		2,216.4619
Total	2.6709	23.6411	13.7248	0.0221	0.6300	1.5384	2.1684	0.0954	1.4841	1.5795		9	2,207.1859	0.4417		2,216.4619

Unmitigated Construction Off-Site

Category	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
Hauling	0.1372	0.9265	0.6095	1.9200e-003	0.0447	0.0173	0.0621	0.0123	0.0160	0.0282			197.8655	1.7500e-003		197.9023
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
Worker	0.4367	0.1239	1.5214	2.6100e-003	0.2012	2.1500e-003	0.2034	0.0534	1.9700e-003	0.0553			235.8920	0.0142		236.1904
Total	0.5738	1.0504	2.1309	4.5300e-003	0.2459	0.0195	0.2654	0.0656	0.0179	0.0835			433.7575	0.0160		434.0927

Mitigated Construction On-Site

Category	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
lb/day																
Fugitive Dust					0.6300	0.0000	0.6300	0.0954	0.0000	0.0954			0.0000			0.0000
Off-Road	2.6685	23.6194	13.7122	0.0221		1.5370	1.5370	1.4827	1.4827	1.4827	0.0000	2,205.1609	2,205.1609	0.4413		2,214.4284
Total	2.6685	23.6194	13.7122	0.0221	0.6300	1.5370	2.1670	0.0954	1.4827	1.5781	0.0000	2,205.1609	2,205.1609	0.4413		2,214.4284

Mitigated Construction Off-Site

Category	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
lb/day																
Hauling	0.1372	0.9265	0.6095	1.9200e-003	2.2187	0.0173	2.2360	0.5459	0.0160	0.5618		197.8655	197.8655	1.7500e-003		197.9023
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	0.4367	0.1239	1.5214	2.6100e-003	0.2012	2.1500e-003	0.2034	0.0534	1.9700e-003	0.0553		235.8920	235.8920	0.0142		236.1904
Total	0.5738	1.0504	2.1309	4.5300e-003	2.4199	0.0195	2.4394	0.5992	0.0179	0.6171		433.7575	433.7575	0.0160		434.0927

3.3 Building Construction - 2014

Unmitigated Construction On-Site

Acres of Grading: 0

Category	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
lb/day																
Off-Road	1.5616	15.9764	9.4333	0.0130		1.0879	1.0879		1.0009	1.0009		1,379.5030	1,379.5030	0.4077		1,388.0638
Total	1.5616	15.9764	9.4333	0.0130		1.0879	1.0879		1.0009	1.0009		1,379.5030	1,379.5030	0.4077		1,388.0638

Unmitigated Construction Off-Site

Category	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
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	0.1215	0.6786	0.7384	1.3200e-003	0.0374	0.0130	0.0504	0.0106	0.0120	0.0226	135.0640	135.0640	135.0640	1.2200e-003		135.0897
Worker	0.3639	0.1032	1.2678	2.1800e-003	0.1677	1.8000e-003	0.1695	0.0445	1.6400e-003	0.0461	196.5766	196.5766	196.5766	0.0118		196.8254
Total	0.4854	0.7818	2.0062	3.5000e-003	0.2051	0.0148	0.2199	0.0551	0.0136	0.0687	331.6407	331.6407	331.6407	0.0131		331.9150

Mitigated Construction On-Site

Category	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
lb/day																
Off-Road	1.5602	15.9617	9.4246	0.0130		1.0869	1.0869		1.0000	1.0000	0.0000	1,378.2374	1,378.2374	0.4073		1,386.7903
Total	1.5602	15.9617	9.4246	0.0130		1.0869	1.0869		1.0000	1.0000	0.0000	1,378.2374	1,378.2374	0.4073		1,386.7903

Mitigated Construction Off-Site

Category	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
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	0.1215	0.6786	0.7384	1.3200e-003	0.0374	0.0130	0.0504	0.0106	0.0120	0.0226	135.0640	135.0640	135.0640	1.2200e-003		135.0897
Worker	0.3639	0.1032	1.2678	2.1800e-003	0.1677	1.8000e-003	0.1695	0.0445	1.6400e-003	0.0461	196.5766	196.5766	196.5766	0.0118		196.8254
Total	0.4854	0.7818	2.0062	3.5000e-003	0.2051	0.0148	0.2199	0.0551	0.0136	0.0687	331.6407	331.6407	331.6407	0.0131		331.9150

3.3 Building Construction - 2015

Unmitigated Construction On-Site

Category	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
	lb/day															
Off-Road	1.5184	15.4331	9.3891	0.0130		1.0480	1.0480	0.9642	0.9642	0.9642		1,365.077 2	1,365.077 2	0.4075		1,373.635 4
Total	1.5184	15.4331	9.3891	0.0130		1.0480	1.0480	0.9642	0.9642	0.9642		1,365.077 2	1,365.077 2	0.4075		1,373.635 4

Unmitigated Construction Off-Site

Category	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
	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	0.1028	0.5933	0.6662	1.3200e-003	0.0374	9.9400e-003	0.0474	0.0106	9.1400e-003	0.0198		133.5713	133.5713	1.0700e-003		133.5938
Worker	0.3387	0.0930	1.1469	2.1800e-003	0.1677	1.6800e-003	0.1693	0.0445	1.5300e-003	0.0460		190.7132	190.7132	0.0109		190.9418
Total	0.4415	0.6863	1.8131	3.5000e-003	0.2051	0.0116	0.2167	0.0551	0.0107	0.0658		324.2845	324.2845	0.0120		324.5356

Mitigated Construction On-Site

Category	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
	lb/day															
Off-Road	1.5170	15.4189	9.3804	0.0130		1.0470	1.0470	0.9633	0.9633	0.9633	0.0000	1,363.824 8	1,363.824 8	0.4072		1,372.375 2
Total	1.5170	15.4189	9.3804	0.0130		1.0470	1.0470	0.9633	0.9633	0.9633	0.0000	1,363.824 8	1,363.824 8	0.4072		1,372.375 2

Mitigated Construction Off-Site

Category	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
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	0.1028	0.5933	0.6662	1.3200e-003	0.0374	9.9400e-003	0.0474	0.0106	9.1400e-003	0.0198	133.5713	133.5713	133.5713	1.0700e-003		133.5938
Worker	0.3387	0.0930	1.1469	2.1800e-003	0.1677	1.6800e-003	0.1693	0.0445	1.5300e-003	0.0460	190.7132	190.7132	190.7132	0.0109		190.9418
Total	0.4415	0.6863	1.8131	3.5000e-003	0.2051	0.0116	0.2167	0.0551	0.0107	0.0658	324.2845	324.2845	324.2845	0.0120		324.5356

**3.4 Architectural Coating - 2015
Unmitigated Construction On-Site**

Category	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
lb/day																
Archit. Coating	15.2293					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.4066	2.5703	1.9018	2.9700e-003		0.2209	0.2209		0.2209	0.2209			281.4481	0.0367		282.2177
Total	15.6359	2.5703	1.9018	2.9700e-003		0.2209	0.2209		0.2209	0.2209			281.4481	0.0367		282.2177

Unmitigated Construction Off-Site

Category	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
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
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
Worker	0.0677	0.0186	0.2294	4.4000e-004	0.0335	3.4000e-004	0.0339	8.8900e-003	3.1000e-004	9.2000e-003			38.1426	2.1800e-003		38.1884
Total	0.0677	0.0186	0.2294	4.4000e-004	0.0335	3.4000e-004	0.0339	8.8900e-003	3.1000e-004	9.2000e-003			38.1426	2.1800e-003		38.1884

Mitigated Construction On-Site

Category	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
lb/day																
Archit. Coating	15.2293					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.4062	2.5680	1.9000	2.9700e-003		0.2207	0.2207		0.2207	0.2207	0.0000	281.1898	281.1898	0.0366		281.9587
Total	15.6355	2.5680	1.9000	2.9700e-003		0.2207	0.2207		0.2207	0.2207	0.0000	281.1898	281.1898	0.0366		281.9587

Mitigated Construction Off-Site

Category	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
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
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
Worker	0.0677	0.0186	0.2294	4.4000e-004	0.0335	3.4000e-004	0.0339	8.8900e-003	3.1000e-004	9.2000e-003		38.1426	38.1426	2.1800e-003		38.1884
Total	0.0677	0.0186	0.2294	4.4000e-004	0.0335	3.4000e-004	0.0339	8.8900e-003	3.1000e-004	9.2000e-003		38.1426	38.1426	2.1800e-003		38.1884

Polytechnic High Auditorium Retrofit and Upgrade

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
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1.2 Other Project Characteristics

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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 -

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Off-road Equipment - Painting - 1 Air Compressor

Off-road Equipment - Building Construction - 1 Crane, 2 Forklifts, 2 aerial lifts, 2 Tractor/Loaders/Backhoes

Off-road Equipment - Demolition - 2 Concrete Saws, 2 Aerial lifts, 1 Crane and 1 Tractor/Loader/Backhoe

Demolition - 41,600 square feet - max area to be demolished

Trips and VMT -

Table Name	Column Name	Default Value	New Value
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tbIconstructionPhase	NumDays	100.00	205.00
tbIconstructionPhase	NumDays	10.00	65.00
tbIconstructionPhase	PhaseEndDate	6/12/2015	6/13/2015
tbIconstructionPhase	PhaseEndDate	8/29/2014	8/31/2014
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	2.00
tbIOffRoadEquipment	OffRoadEquipmentUnitAmount	0.00	1.00
tbIOffRoadEquipment	PhaseName		Demolition
tbIOffRoadEquipment	PhaseName		Building Construction
tbIOffRoadEquipment	PhaseName		Demolition
tbIProjectCharacteristics	OperationalYear	2014	2015

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

Year	lb/day										lb/day					
	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
2014	3.3456	24.7378	15.8531	0.0265	0.8769	1.5580	2.4339	0.1610	1.5021	1.6630	0.0000	2,627.267	2,627.267	0.4577	0.0000	2,636.878
2015	15.7177	16.1448	11.2702	0.0164	0.2051	1.0597	1.2648	0.0551	0.9750	1.0301	0.0000	1,677.560	1,677.560	0.4195	0.0000	1,686.370
Total	19.0633	40.8825	27.1233	0.0429	1.0810	2.6177	3.6987	0.2161	2.4770	2.6931	0.0000	4,304.827	4,304.827	0.8772	0.0000	4,323.249

Mitigated Construction

Year	lb/day											CO2e				
	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
2014	3.3432	24.7161	15.8406	0.0265	3.0499	1.5566	4.6064	0.6946	1.5007	2.1953	0.0000	2,625.242 3	2,625.242 3	0.4573	0.0000	2,634.845 4
2015	15.7173	16.1306	11.2616	0.0164	0.2051	1.0588	1.2638	0.0551	0.9741	1.0292	0.0000	1,676.308 0	1,676.308 0	0.4191	0.0000	1,685.110 0
Total	19.0605	40.8467	27.1021	0.0429	3.2549	2.6153	5.8703	0.7497	2.4748	3.2245	0.0000	4,301.550 3	4,301.550 3	0.8764	0.0000	4,319.955 4

	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	0.0148	0.0877	0.0782	0.0699	-201.1101	0.0905	-58.7123	-246.9388	0.0908	-19.7309	0.0000	0.0761	0.0761	0.0901	0.0000	0.0762

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2014	8/31/2014	5	65	
2	Building Construction	Building Construction	9/1/2014	6/13/2015	5	205	
3	Architectural Coating	Architectural Coating	6/14/2015	8/31/2015	5	56	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Aerial Lifts	2	4.00	62	0.31
Demolition	Concrete/Industrial Saws	2	8.00	81	0.73
Demolition	Cranes	1	8.00	226	0.29
Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Aerial Lifts	2	4.00	62	0.31
Building Construction	Cranes	1	4.00	226	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	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	7	18.00	0.00	167.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	15.00	6.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2014

Unmitigated Construction On-Site

Acres of Grading: 0

Category	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
lb/day																
Fugitive Dust					0.6300	0.0000	0.6300	0.0954	0.0000	0.0954			0.0000			0.0000
Off-Road	2.6709	23.6411	13.7248	0.0221	1.5384	1.5384	1.5384	1.4841	1.4841	1.4841		2,207.1859	2,207.1859	0.4417		2,216.4619
Total	2.6709	23.6411	13.7248	0.0221	0.6300	1.5384	2.1684	0.0954	1.4841	1.5795		2,207.1859	2,207.1859	0.4417		2,216.4619

Unmitigated Construction Off-Site

Category	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
lb/day																

Hauling	0.1478	0.9593	0.6898	1.9200e-003	0.0447	0.0174	0.0621	0.0123	0.0160	0.0282	197.4034	197.4034	1.7700e-003	197.4406
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	0.5269	0.1374	1.4386	2.4700e-003	0.2012	2.1500e-003	0.2034	0.0534	1.9700e-003	0.0553	222.6779	222.6779	0.0142	222.9764
Total	0.6747	1.0966	2.1284	4.3900e-003	0.2459	0.0196	0.2655	0.0656	0.0180	0.0836	420.0813	420.0813	0.0160	420.4169

Mitigated Construction On-Site

Category	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
lb/day																
Fugitive Dust					0.6300	0.0000	0.6300	0.0954	0.0000	0.0954			0.0000			0.0000
Off-Road	2.6685	23.6194	13.7122	0.0221		1.5370	1.5370		1.4827	1.4827	0.0000	2,205.1609	2,205.1609	0.4413		2,214.4284
Total	2.6685	23.6194	13.7122	0.0221	0.6300	1.5370	2.1670	0.0954	1.4827	1.5781	0.0000	2,205.1609	2,205.1609	0.4413		2,214.4284

Mitigated Construction Off-Site

Category	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
lb/day																
Hauling	0.1478	0.9593	0.6898	1.9200e-003	2.2187	0.0174	2.2361	0.5459	0.0160	0.5619		197.4034	197.4034	1.7700e-003		197.4406
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	0.5269	0.1374	1.4386	2.4700e-003	0.2012	2.1500e-003	0.2034	0.0534	1.9700e-003	0.0553		222.6779	222.6779	0.0142		222.9764
Total	0.6747	1.0966	2.1284	4.3900e-003	2.4199	0.0196	2.4394	0.5992	0.0180	0.6172		420.0813	420.0813	0.0160		420.4169

3.3 Building Construction - 2014 Unmitigated Construction On-Site

Acres of Grading: 0

Category	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
lb/day																
Off-Road	1.5616	15.9764	9.4333	0.0130		1.0879	1.0879		1.0009	1.0009		1,379.5030	1,379.5030	0.4077		1,388.0638
Total	1.5616	15.9764	9.4333	0.0130		1.0879	1.0879		1.0009	1.0009		1,379.5030	1,379.5030	0.4077		1,388.0638

Unmitigated Construction Off-Site

Category	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
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	0.1342	0.6966	0.8738	1.3100e-003	0.0374	0.0132	0.0506	0.0106	0.0121	0.0228		133.9569	133.9569	1.2500e-003		133.9832
Worker	0.4391	0.1145	1.1988	2.0600e-003	0.1677	1.8000e-003	0.1695	0.0445	1.6400e-003	0.0461		185.5649	185.5649	0.0118		185.8136
Total	0.5733	0.8111	2.0726	3.3700e-003	0.2051	0.0150	0.2200	0.0551	0.0138	0.0689		319.5218	319.5218	0.0131		319.7968

Mitigated Construction On-Site

Category	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
lb/day																
Off-Road	1.5602	15.9617	9.4246	0.0130		1.0869	1.0869		1.0000	1.0000	0.0000	1,378.2374	1,378.2374	0.4073		1,386.7903
Total	1.5602	15.9617	9.4246	0.0130		1.0869	1.0869		1.0000	1.0000	0.0000	1,378.2374	1,378.2374	0.4073		1,386.7903

Mitigated Construction Off-Site

Category	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
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	0.1342	0.6966	0.8738	1.3100e-003	0.0374	0.0132	0.0506	0.0106	0.0121	0.0228		133.9569	133.9569	1.2500e-003		133.9832
Worker	0.4391	0.1145	1.1988	2.0600e-003	0.1677	1.8000e-003	0.1695	0.0445	1.6400e-003	0.0461		185.5649	185.5649	0.0118		185.8136
Total	0.5733	0.8111	2.0726	3.3700e-003	0.2051	0.0150	0.2200	0.0551	0.0138	0.0689		319.5218	319.5218	0.0131		319.7968

3.3 Building Construction - 2015

Unmitigated Construction On-Site

Category	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
lb/day																
Off-Road	1.5184	15.4331	9.3891	0.0130		1.0480	1.0480		0.9642	0.9642		1,365.0772	1,365.0772	0.4075		1,373.6354
Total	1.5184	15.4331	9.3891	0.0130		1.0480	1.0480		0.9642	0.9642		1,365.0772	1,365.0772	0.4075		1,373.6354

Unmitigated Construction Off-Site

Category	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
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	0.1135	0.6086	0.8004	1.3100e-003	0.0374	0.0101	0.0475	0.0106	9.2600e-003	0.0199		132.4671	132.4671	1.1000e-003		132.4902
Worker	0.4091	0.1031	1.0807	2.0600e-003	0.1677	1.6800e-003	0.1693	0.0445	1.5300e-003	0.0460		180.0161	180.0161	0.0109		180.2447
Total	0.5226	0.7117	1.8811	3.3700e-003	0.2051	0.0118	0.2168	0.0551	0.0108	0.0659		312.4832	312.4832	0.0120		312.7349

Mitigated Construction On-Site

Category	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
	lb/day															
Off-Road	1.5170	15.4189	9.3804	0.0130		1.0470	1.0470	0.9633	0.9633	0.9633	0.0000	1,363.8248	1,363.8248	0.4072		1,372.3752
Total	1.5170	15.4189	9.3804	0.0130		1.0470	1.0470	0.9633	0.9633	0.9633	0.0000	1,363.8248	1,363.8248	0.4072		1,372.3752

Mitigated Construction Off-Site

Category	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
	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	0.1135	0.6086	0.8004	1.3100e-003	0.0374	0.0101	0.0475	0.0106	9.2600e-003	0.0199		132.4671	132.4671	1.1000e-003		132.4902
Worker	0.4091	0.1031	1.0807	2.0600e-003	0.1677	1.6800e-003	0.1693	0.0445	1.5300e-003	0.0460		180.0161	180.0161	0.0109		180.2447
Total	0.5226	0.7117	1.8811	3.3700e-003	0.2051	0.0118	0.2168	0.0551	0.0108	0.0659		312.4832	312.4832	0.0120		312.7349

3.4 Architectural Coating - 2015

Unmitigated Construction On-Site

Category	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
	lb/day															
Archit. Coating	15.2293					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.4066	2.5703	1.9018	2.9700e-003		0.2209	0.2209		0.2209	0.2209		281.4481	281.4481	0.0367		282.2177
Total	15.6359	2.5703	1.9018	2.9700e-003		0.2209	0.2209		0.2209	0.2209		281.4481	281.4481	0.0367		282.2177

Unmitigated Construction Off-Site

Category	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
	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	0.0818	0.0206	0.2161	4.1000e-004	0.0335	3.4000e-004	0.0339	8.8900e-003	3.1000e-004	9.2000e-003		36.0032	36.0032	2.1800e-003		36.0489
Total	0.0818	0.0206	0.2161	4.1000e-004	0.0335	3.4000e-004	0.0339	8.8900e-003	3.1000e-004	9.2000e-003		36.0032	36.0032	2.1800e-003		36.0489

Mitigated Construction On-Site

Category	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
	lb/day															
Archit. Coating	15.2293					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.4062	2.5680	1.9000	2.9700e-003		0.2207	0.2207		0.2207	0.2207	0.0000	281.1898	281.1898	0.0366		281.9587
Total	15.6355	2.5680	1.9000	2.9700e-003		0.2207	0.2207		0.2207	0.2207	0.0000	281.1898	281.1898	0.0366		281.9587

Mitigated Construction Off-Site

Category	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
	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	0.0818	0.0206	0.2161	4.1000e-004	0.0335	3.4000e-004	0.0339	8.8900e-003	3.1000e-004	9.2000e-003		36.0032	36.0032	2.1800e-003		36.0489
Total	0.0818	0.0206	0.2161	4.1000e-004	0.0335	3.4000e-004	0.0339	8.8900e-003	3.1000e-004	9.2000e-003		36.0032	36.0032	2.1800e-003		36.0489