

APPENDIX C

AIR QUALITY AND GHG MODEL RUNS

City of Shasta Lake WWTF Upgrade Project - Construction
Shasta County AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Commercial	9,409.00	User Defined Unit	0.22	9,409.00	0
User Defined Commercial	6.15	User Defined Unit	6.15	267,894.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	82
Climate Zone	3			Operational Year	2018
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Refer to Glenn's Figure and Table 1 of the Cal EE Mod inputs.

Construction Phase - Estimated time of each project phase.

Off-road Equipment - Project would not use equipment for long periods of time.

Off-road Equipment - Estimated number and hours of operation.

Off-road Equipment - Estimated number of equipment needed.

Off-road Equipment - Trencher would be used during construction of pipelines

Trips and VMT - Maximum number of trips estimate would be 50 one-way trips, project discription.

Consumer Products - No consumer products used.

Area Coating - No architectural coatings used during operation of this portion of the WWTF.

Landscape Equipment - No landscape equipment used.

Construction Off-road Equipment Mitigation - General BMP for dust reduction included.

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Interior	415955	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	OxidationCatalyst	0.00	35.00
tblConstEquipMitigation	OxidationCatalyst	0.00	35.00
tblConstEquipMitigation	OxidationCatalyst	0.00	35.00
tblConstEquipMitigation	OxidationCatalyst	0.00	35.00
tblConstEquipMitigation	OxidationCatalyst	0.00	35.00

tblConstEquipMitigation	OxidationCatalyst	0.00	35.00
tblConstEquipMitigation	OxidationCatalyst	0.00	35.00
tblConstEquipMitigation	OxidationCatalyst	0.00	35.00
tblConstEquipMitigation	OxidationCatalyst	0.00	35.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	230.00	274.00
tblConstructionPhase	NumDays	20.00	314.00
tblConstructionPhase	NumDays	10.00	303.00
tblConstructionPhase	PhaseEndDate	4/18/2019	5/31/2018
tblConstructionPhase	PhaseEndDate	5/14/2019	4/1/2018
tblConstructionPhase	PhaseEndDate	9/3/2018	9/15/2017
tblConstructionPhase	PhaseStartDate	4/2/2018	5/15/2017
tblConstructionPhase	PhaseStartDate	3/16/2018	2/1/2017
tblConstructionPhase	PhaseStartDate	6/1/2018	6/15/2017
tblGrading	AcresOfGrading	117.75	10.00
tblLandUse	LandUseSquareFeet	0.00	267,894.00
tblLandUse	LandUseSquareFeet	0.00	9,409.00
tblLandUse	LotAcreage	0.00	6.15
tblLandUse	LotAcreage	0.00	0.22
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	UsageHours	7.00	1.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblProjectCharacteristics	OperationalYear	2014	2018
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	VendorTripNumber	45.00	4.00
tblTripsAndVMT	WorkerTripNumber	13.00	10.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.9343	7.1164	5.8991	7.2900e-003	2.2055	0.3903	2.5958	1.1753	0.3599	1.5352	0.0000	641.7257	641.7257	0.1643	0.0000	645.1765
2018	0.2933	1.7524	1.7135	2.5200e-003	2.1503	0.0955	2.2459	1.1606	0.0884	1.2490	0.0000	210.2023	210.2023	0.0470	0.0000	211.1882
Total	1.2276	8.8688	7.6126	9.8100e-003	4.3559	0.4858	4.8416	2.3358	0.4484	2.7842	0.0000	851.9280	851.9280	0.2113	0.0000	856.3647

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.4765	3.4601	4.3862	7.2800e-003	1.0599	0.1650	1.2249	0.5468	0.1623	0.7092	0.0000	641.0980	641.0980	0.1641	0.0000	644.5448
2018	0.1829	0.9784	1.4139	2.5200e-003	1.0047	0.0478	1.0525	0.5321	0.0474	0.5796	0.0000	210.0247	210.0247	0.0469	0.0000	211.0095
Total	0.6595	4.4384	5.8001	9.8000e-003	2.0646	0.2128	2.2774	1.0790	0.2097	1.2887	0.0000	851.1227	851.1227	0.2110	0.0000	855.5543

	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	46.28	49.95	23.81	0.10	52.60	56.20	52.96	53.81	53.23	53.71	0.00	0.09	0.09	0.11	0.00	0.09

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.0914	8.2000e-004	0.0877	1.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	0.1682	0.1682	4.6000e-004	0.0000	0.1779
Energy	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
Mobile	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
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.0914	8.2000e-004	0.0877	1.0000e-005	0.0000	3.2000e-004	3.2000e-004	0.0000	3.2000e-004	3.2000e-004	0.0000	0.1682	0.1682	4.6000e-004	0.0000	0.1779

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.0914	8.2000e-004	0.0877	1.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	0.1682	0.1682	4.6000e-004	0.0000	0.1779
Energy	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
Mobile	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
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.0914	8.2000e-004	0.0877	1.0000e-005	0.0000	3.2000e-004	3.2000e-004	0.0000	3.2000e-004	3.2000e-004	0.0000	0.1682	0.1682	4.6000e-004	0.0000	0.1779

	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	Grading	Grading	1/1/2017	3/15/2018	5	314	
2	Site Preparation	Site Preparation	2/1/2017	4/1/2018	5	303	
3	Building Construction	Building Construction	5/15/2017	5/31/2018	5	274	
4	Trenching	Trenching	6/15/2017	9/15/2017	5	67	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Construction	Cranes	1	1.00	226	0.29
Building Construction	Forklifts	1	4.00	89	0.20
Building Construction	Generator Sets	1	2.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	4.00	97	0.37
Building Construction	Welders	1	4.00	46	0.45
Site Preparation	Rubber Tired Dozers	2	6.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	1	6.00	174	0.41
Grading	Rubber Tired Dozers	1	6.00	255	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Trenching	Trenchers	1	4.00	80	0.50

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
Building Construction	7	89.00	4.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	4	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	5	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	1	3.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use Oxidation Catalyst for Construction Equipment
- Water Exposed Area
- Reduce Vehicle Speed on Unpaved Roads

3.2 Grading - 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	tons/yr										MT/yr					
Fugitive Dust					0.7144	0.0000	0.7144	0.3904	0.0000	0.3904	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3178	3.3421	2.3525	2.7700e-003		0.1829	0.1829		0.1683	0.1683	0.0000	257.0215	257.0215	0.0788	0.0000	258.6752
Total	0.3178	3.3421	2.3525	2.7700e-003	0.7144	0.1829	0.8973	0.3904	0.1683	0.5586	0.0000	257.0215	257.0215	0.0788	0.0000	258.6752

3.2 Grading - 2017

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	0.0319	9.9400e-003	0.0944	2.0000e-004	0.0158	1.3000e-004	0.0159	4.2000e-003	1.2000e-004	4.3200e-003	0.0000	14.0847	14.0847	7.7000e-004	0.0000	14.1010
Total	0.0319	9.9400e-003	0.0944	2.0000e-004	0.0158	1.3000e-004	0.0159	4.2000e-003	1.2000e-004	4.3200e-003	0.0000	14.0847	14.0847	7.7000e-004	0.0000	14.1010

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.3215	0.0000	0.3215	0.1757	0.0000	0.1757	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1197	1.7121	1.8092	2.7600e-003		0.0804	0.0804		0.0784	0.0784	0.0000	256.7157	256.7157	0.0787	0.0000	258.3675
Total	0.1197	1.7121	1.8092	2.7600e-003	0.3215	0.0804	0.4019	0.1757	0.0784	0.2540	0.0000	256.7157	256.7157	0.0787	0.0000	258.3675

3.2 Grading - 2017

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	0.0319	9.9400e-003	0.0944	2.0000e-004	0.0158	1.3000e-004	0.0159	4.2000e-003	1.2000e-004	4.3200e-003	0.0000	14.0847	14.0847	7.7000e-004	0.0000	14.1010
Total	0.0319	9.9400e-003	0.0944	2.0000e-004	0.0158	1.3000e-004	0.0159	4.2000e-003	1.2000e-004	4.3200e-003	0.0000	14.0847	14.0847	7.7000e-004	0.0000	14.1010

3.2 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.7144	0.0000	0.7144	0.3904	0.0000	0.3904	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0574	0.5974	0.4613	5.7000e-004		0.0321	0.0321		0.0295	0.0295	0.0000	52.5011	52.5011	0.0163	0.0000	52.8443
Total	0.0574	0.5974	0.4613	5.7000e-004	0.7144	0.0321	0.7465	0.3904	0.0295	0.4199	0.0000	52.5011	52.5011	0.0163	0.0000	52.8443

3.2 Grading - 2018

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	5.7600e-003	1.7800e-003	0.0164	4.0000e-005	3.2800e-003	2.0000e-005	3.3100e-003	8.7000e-004	2.0000e-005	9.0000e-004	0.0000	2.8130	2.8130	1.4000e-004	0.0000	2.8160
Total	5.7600e-003	1.7800e-003	0.0164	4.0000e-005	3.2800e-003	2.0000e-005	3.3100e-003	8.7000e-004	2.0000e-005	9.0000e-004	0.0000	2.8130	2.8130	1.4000e-004	0.0000	2.8160

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.3215	0.0000	0.3215	0.1757	0.0000	0.1757	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0231	0.3329	0.3741	5.7000e-004		0.0155	0.0155		0.0152	0.0152	0.0000	52.4387	52.4387	0.0163	0.0000	52.7815
Total	0.0231	0.3329	0.3741	5.7000e-004	0.3215	0.0155	0.3370	0.1757	0.0152	0.1909	0.0000	52.4387	52.4387	0.0163	0.0000	52.7815

3.2 Grading - 2018

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	5.7600e-003	1.7800e-003	0.0164	4.0000e-005	3.2800e-003	2.0000e-005	3.3100e-003	8.7000e-004	2.0000e-005	9.0000e-004	0.0000	2.8130	2.8130	1.4000e-004	0.0000	2.8160
Total	5.7600e-003	1.7800e-003	0.0164	4.0000e-005	3.2800e-003	2.0000e-005	3.3100e-003	8.7000e-004	2.0000e-005	9.0000e-004	0.0000	2.8130	2.8130	1.4000e-004	0.0000	2.8160

3.3 Site Preparation - 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	tons/yr										MT/yr					
Fugitive Dust					1.3685	0.0000	1.3685	0.7523	0.0000	0.7523	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2690	2.8982	2.2017	2.1400e-003		0.1503	0.1503		0.1382	0.1382	0.0000	198.8974	198.8974	0.0609	0.0000	200.1772
Total	0.2690	2.8982	2.2017	2.1400e-003	1.3685	0.1503	1.5188	0.7523	0.1382	0.8905	0.0000	198.8974	198.8974	0.0609	0.0000	200.1772

3.3 Site Preparation - 2017

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	0.0292	9.1000e-003	0.0864	1.8000e-004	0.0145	1.2000e-004	0.0146	3.8500e-003	1.1000e-004	3.9600e-003	0.0000	12.8929	12.8929	7.1000e-004	0.0000	12.9078
Total	0.0292	9.1000e-003	0.0864	1.8000e-004	0.0145	1.2000e-004	0.0146	3.8500e-003	1.1000e-004	3.9600e-003	0.0000	12.8929	12.8929	7.1000e-004	0.0000	12.9078

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.6158	0.0000	0.6158	0.3385	0.0000	0.3385	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0644	1.1386	1.2515	2.1400e-003		0.0499	0.0499		0.0499	0.0499	0.0000	198.6608	198.6608	0.0609	0.0000	199.9390
Total	0.0644	1.1386	1.2515	2.1400e-003	0.6158	0.0499	0.6657	0.3385	0.0499	0.3884	0.0000	198.6608	198.6608	0.0609	0.0000	199.9390

3.3 Site Preparation - 2017**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	0.0292	9.1000e-003	0.0864	1.8000e-004	0.0145	1.2000e-004	0.0146	3.8500e-003	1.1000e-004	3.9600e-003	0.0000	12.8929	12.8929	7.1000e-004	0.0000	12.9078
Total	0.0292	9.1000e-003	0.0864	1.8000e-004	0.0145	1.2000e-004	0.0146	3.8500e-003	1.1000e-004	3.9600e-003	0.0000	12.8929	12.8929	7.1000e-004	0.0000	12.9078

3.3 Site Preparation - 2018**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					1.3685	0.0000	1.3685	0.7523	0.0000	0.7523	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0654	0.6984	0.5508	5.9000e-004		0.0354	0.0354		0.0326	0.0326	0.0000	53.4683	53.4683	0.0167	0.0000	53.8179
Total	0.0654	0.6984	0.5508	5.9000e-004	1.3685	0.0354	1.4039	0.7523	0.0326	0.7848	0.0000	53.4683	53.4683	0.0167	0.0000	53.8179

3.3 Site Preparation - 2018

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	6.9300e-003	2.1400e-003	0.0198	5.0000e-005	3.9500e-003	3.0000e-005	3.9800e-003	1.0500e-003	3.0000e-005	1.0800e-003	0.0000	3.3860	3.3860	1.7000e-004	0.0000	3.3897
Total	6.9300e-003	2.1400e-003	0.0198	5.0000e-005	3.9500e-003	3.0000e-005	3.9800e-003	1.0500e-003	3.0000e-005	1.0800e-003	0.0000	3.3860	3.3860	1.7000e-004	0.0000	3.3897

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.6158	0.0000	0.6158	0.3385	0.0000	0.3385	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0176	0.3110	0.3418	5.8000e-004		0.0136	0.0136		0.0136	0.0136	0.0000	53.4047	53.4047	0.0166	0.0000	53.7538
Total	0.0176	0.3110	0.3418	5.8000e-004	0.6158	0.0136	0.6295	0.3385	0.0136	0.3521	0.0000	53.4047	53.4047	0.0166	0.0000	53.7538

3.3 Site Preparation - 2018

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	6.9300e-003	2.1400e-003	0.0198	5.0000e-005	3.9500e-003	3.0000e-005	3.9800e-003	1.0500e-003	3.0000e-005	1.0800e-003	0.0000	3.3860	3.3860	1.7000e-004	0.0000	3.3897
Total	6.9300e-003	2.1400e-003	0.0198	5.0000e-005	3.9500e-003	3.0000e-005	3.9800e-003	1.0500e-003	3.0000e-005	1.0800e-003	0.0000	3.3860	3.3860	1.7000e-004	0.0000	3.3897

3.4 Building Construction - 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	tons/yr										MT/yr					
Off-Road	0.0870	0.6952	0.5329	7.5000e-004		0.0496	0.0496		0.0465	0.0465	0.0000	66.3988	66.3988	0.0170	0.0000	66.7561
Total	0.0870	0.6952	0.5329	7.5000e-004		0.0496	0.0496		0.0465	0.0465	0.0000	66.3988	66.3988	0.0170	0.0000	66.7561

3.4 Building Construction - 2017

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	7.8800e-003	0.0260	0.0438	7.0000e-005	1.9100e-003	4.0000e-004	2.3000e-003	5.5000e-004	3.6000e-004	9.1000e-004	0.0000	6.4088	6.4088	5.0000e-005	0.0000	6.4098
Worker	0.1800	0.0562	0.5332	1.1100e-003	0.0892	7.3000e-004	0.0899	0.0238	6.6000e-004	0.0244	0.0000	79.5515	79.5515	4.3700e-003	0.0000	79.6434
Total	0.1879	0.0821	0.5770	1.1800e-003	0.0911	1.1300e-003	0.0922	0.0243	1.0200e-003	0.0253	0.0000	85.9603	85.9603	4.4200e-003	0.0000	86.0531

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	0.0320	0.4286	0.5135	7.5000e-004		0.0271	0.0271		0.0271	0.0271	0.0000	66.3198	66.3198	0.0170	0.0000	66.6767
Total	0.0320	0.4286	0.5135	7.5000e-004		0.0271	0.0271		0.0271	0.0271	0.0000	66.3198	66.3198	0.0170	0.0000	66.6767

3.4 Building Construction - 2017**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	7.8800e-003	0.0260	0.0438	7.0000e-005	1.9100e-003	4.0000e-004	2.3000e-003	5.5000e-004	3.6000e-004	9.1000e-004	0.0000	6.4088	6.4088	5.0000e-005	0.0000	6.4098
Worker	0.1800	0.0562	0.5332	1.1100e-003	0.0892	7.3000e-004	0.0899	0.0238	6.6000e-004	0.0244	0.0000	79.5515	79.5515	4.3700e-003	0.0000	79.6434
Total	0.1879	0.0821	0.5770	1.1800e-003	0.0911	1.1300e-003	0.0922	0.0243	1.0200e-003	0.0253	0.0000	85.9603	85.9603	4.4200e-003	0.0000	86.0531

3.4 Building Construction - 2018**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	0.0493	0.4052	0.3426	4.9000e-004		0.0273	0.0273		0.0256	0.0256	0.0000	43.3385	43.3385	0.0110	0.0000	43.5702
Total	0.0493	0.4052	0.3426	4.9000e-004		0.0273	0.0273		0.0256	0.0256	0.0000	43.3385	43.3385	0.0110	0.0000	43.5702

3.4 Building Construction - 2018

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	4.9400e-003	0.0155	0.0274	5.0000e-005	1.2600e-003	2.4000e-004	1.5000e-003	3.6000e-004	2.2000e-004	5.8000e-004	0.0000	4.1602	4.1602	3.0000e-005	0.0000	4.1609
Worker	0.1035	0.0320	0.2953	7.3000e-004	0.0589	4.5000e-004	0.0594	0.0157	4.1000e-004	0.0161	0.0000	50.5352	50.5352	2.5700e-003	0.0000	50.5892
Total	0.1084	0.0475	0.3226	7.8000e-004	0.0602	6.9000e-004	0.0609	0.0161	6.3000e-004	0.0167	0.0000	54.6954	54.6954	2.6000e-003	0.0000	54.7501

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	0.0211	0.2832	0.3392	4.9000e-004		0.0179	0.0179		0.0179	0.0179	0.0000	43.2869	43.2869	0.0110	0.0000	43.5184
Total	0.0211	0.2832	0.3392	4.9000e-004		0.0179	0.0179		0.0179	0.0179	0.0000	43.2869	43.2869	0.0110	0.0000	43.5184

3.4 Building Construction - 2018**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	4.9400e-003	0.0155	0.0274	5.0000e-005	1.2600e-003	2.4000e-004	1.5000e-003	3.6000e-004	2.2000e-004	5.8000e-004	0.0000	4.1602	4.1602	3.0000e-005	0.0000	4.1609
Worker	0.1035	0.0320	0.2953	7.3000e-004	0.0589	4.5000e-004	0.0594	0.0157	4.1000e-004	0.0161	0.0000	50.5352	50.5352	2.5700e-003	0.0000	50.5892
Total	0.1084	0.0475	0.3226	7.8000e-004	0.0602	6.9000e-004	0.0609	0.0161	6.3000e-004	0.0167	0.0000	54.6954	54.6954	2.6000e-003	0.0000	54.7501

3.5 Trenching - 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	tons/yr										MT/yr					
Off-Road	9.0000e-003	0.0789	0.0469	6.0000e-005		6.1800e-003	6.1800e-003		5.6900e-003	5.6900e-003	0.0000	5.3814	5.3814	1.6500e-003	0.0000	5.4160
Total	9.0000e-003	0.0789	0.0469	6.0000e-005		6.1800e-003	6.1800e-003		5.6900e-003	5.6900e-003	0.0000	5.3814	5.3814	1.6500e-003	0.0000	5.4160

3.5 Trenching - 2017

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	2.4600e-003	7.7000e-004	7.3000e-003	2.0000e-005	1.2200e-003	1.0000e-005	1.2300e-003	3.3000e-004	1.0000e-005	3.3000e-004	0.0000	1.0889	1.0889	6.0000e-005	0.0000	1.0901
Total	2.4600e-003	7.7000e-004	7.3000e-003	2.0000e-005	1.2200e-003	1.0000e-005	1.2300e-003	3.3000e-004	1.0000e-005	3.3000e-004	0.0000	1.0889	1.0889	6.0000e-005	0.0000	1.0901

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	8.9900e-003	0.0788	0.0468	6.0000e-005		6.1700e-003	6.1700e-003		5.6800e-003	5.6800e-003	0.0000	5.3750	5.3750	1.6500e-003	0.0000	5.4095
Total	8.9900e-003	0.0788	0.0468	6.0000e-005		6.1700e-003	6.1700e-003		5.6800e-003	5.6800e-003	0.0000	5.3750	5.3750	1.6500e-003	0.0000	5.4095

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Commercial	0.00	0.00	0.00		
User Defined Commercial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Commercial	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
User Defined Commercial	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.365785	0.038961	0.198771	0.149475	0.086721	0.010022	0.018059	0.114624	0.001588	0.000811	0.009123	0.001395	0.004666

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

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						
User Defined Commercial	0	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
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

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	1.0914	8.2000e-004	0.0877	1.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	0.1682	0.1682	4.6000e-004	0.0000	0.1779
Unmitigated	1.0914	8.2000e-004	0.0877	1.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	0.1682	0.1682	4.6000e-004	0.0000	0.1779

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0830					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	8.3800e-003	8.2000e-004	0.0877	1.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	0.1682	0.1682	4.6000e-004	0.0000	0.1779
Total	1.0914	8.2000e-004	0.0877	1.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	0.1682	0.1682	4.6000e-004	0.0000	0.1779

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	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0830					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	8.3800e-003	8.2000e-004	0.0877	1.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	0.1682	0.1682	4.6000e-004	0.0000	0.1779
Total	1.0914	8.2000e-004	0.0877	1.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	0.1682	0.1682	4.6000e-004	0.0000	0.1779

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Commercial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Commercial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Commercial	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

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

City of Shasta Lake WWTF Upgrade Project - Construction
Shasta County AQMD Air District, Mitigation Report

Construction Mitigation Summary

Phase	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Building Construction	0.19	0.32	0.01	0.00	0.40	0.37	0.00	0.00	0.00	0.00	0.00	0.00
Grading	0.56	0.48	0.22	0.00	0.55	0.53	0.00	0.00	0.00	0.00	0.00	0.00
Site Preparation	0.68	0.60	0.41	0.00	0.66	0.63	0.00	0.00	0.00	0.00	0.00	0.00
Trenching	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

OFFROAD Equipment Mitigation

Equipment Type	Fuel Type	Tier	Number Mitigated	Total Number of Equipment	DPF	Oxidation Catalyst
Cranes	Diesel	Tier 2	1	1	No Change	35.00
Excavators	Diesel	No Change	0	1	No Change	35.00
Forklifts	Diesel	Tier 2	1	1	No Change	35.00
Generator Sets	Diesel	Tier 2	1	1	No Change	35.00
Graders	Diesel	Tier 2	1	1	No Change	35.00
Rubber Tired Dozers	Diesel	Tier 2	3	3	No Change	35.00
Tractors/Loaders/Backhoes	Diesel	Tier 2	7	7	No Change	35.00
Trenchers	Diesel	No Change	0	1	No Change	35.00
Welders	Diesel	Tier 2	1	1	No Change	35.00

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Unmitigated tons/yr							Unmitigated mt/yr					
Cranes	1.04900E-002	1.24790E-001	4.52300E-002	1.00000E-004	5.50000E-003	5.06000E-003	0.00000E+000	8.91080E+000	8.91080E+000	2.75000E-003	0.00000E+000	8.96850E+000
Excavators	5.50900E-002	6.07900E-001	5.35420E-001	8.30000E-004	2.98500E-002	2.74600E-002	0.00000E+000	7.68821E+001	7.68821E+001	2.36200E-002	0.00000E+000	7.73781E+001
Forklifts	1.35600E-002	1.18240E-001	8.45300E-002	1.00000E-004	9.64000E-003	8.87000E-003	0.00000E+000	9.64902E+000	9.64902E+000	2.98000E-003	0.00000E+000	9.71149E+000
Generator Sets	1.86400E-002	1.48120E-001	1.28880E-001	2.30000E-004	9.77000E-003	9.77000E-003	0.00000E+000	1.93584E+001	1.93584E+001	1.50000E-003	0.00000E+000	1.93898E+001
Graders	1.09730E-001	1.10831E+000	5.66230E-001	7.30000E-004	6.22600E-002	5.72800E-002	0.00000E+000	6.78926E+001	6.78926E+001	2.08600E-002	0.00000E+000	6.83306E+001
Rubber Tired Dozers	4.02770E-001	4.44824E+000	3.36201E+000	3.07000E-003	2.06410E-001	1.89900E-001	0.00000E+000	2.83950E+002	2.83950E+002	8.72800E-002	0.00000E+000	2.85783E+002
Tractors/Loaders/Backhoes	2.03030E-001	1.96325E+000	1.58992E+000	2.08000E-003	1.45690E-001	1.34030E-001	0.00000E+000	1.92089E+002	1.92089E+002	5.90900E-002	0.00000E+000	1.93330E+002
Trenchers	9.00000E-003	7.89200E-002	4.68900E-002	6.00000E-005	6.18000E-003	5.69000E-003	0.00000E+000	5.38135E+000	5.38135E+000	1.65000E-003	0.00000E+000	5.41598E+000
Welders	3.27000E-002	1.17640E-001	1.29560E-001	1.80000E-004	8.36000E-003	8.36000E-003	0.00000E+000	1.28931E+001	1.28931E+001	2.66000E-003	0.00000E+000	1.29491E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Mitigated tons/yr							Mitigated mt/yr					
Cranes	2.37000E-003	5.33300E-002	5.14100E-002	1.00000E-004	1.74000E-003	1.74000E-003	0.00000E+000	8.90020E+000	8.90020E+000	2.74000E-003	0.00000E+000	8.95783E+000
Excavators	5.50300E-002	6.07170E-001	5.34780E-001	8.30000E-004	2.98100E-002	2.74300E-002	0.00000E+000	7.67906E+001	7.67906E+001	2.35900E-002	0.00000E+000	7.72861E+001
Forklifts	4.94000E-003	6.63200E-002	7.94700E-002	1.00000E-004	4.12000E-003	4.12000E-003	0.00000E+000	9.63754E+000	9.63754E+000	2.97000E-003	0.00000E+000	9.69994E+000
Generator Sets	8.63000E-003	1.15790E-001	1.38770E-001	2.30000E-004	7.20000E-003	7.20000E-003	0.00000E+000	1.93353E+001	1.93353E+001	1.50000E-003	0.00000E+000	1.93668E+001
Graders	2.81200E-002	4.56890E-001	5.47520E-001	7.30000E-004	1.89400E-002	1.89400E-002	0.00000E+000	6.78119E+001	6.78119E+001	2.08300E-002	0.00000E+000	6.82494E+001
Rubber Tired Dozers	7.43900E-002	1.52714E+000	1.61176E+000	3.06000E-003	5.45500E-002	5.45500E-002	0.00000E+000	2.83613E+002	2.83613E+002	8.71700E-002	0.00000E+000	2.85443E+002
Tractors/Loaders/Backhoes	9.71700E-002	1.30445E+000	1.56322E+000	2.08000E-003	8.11200E-002	8.11200E-002	0.00000E+000	1.91861E+002	1.91861E+002	5.90200E-002	0.00000E+000	1.93100E+002
Trenchers	8.99000E-003	7.88300E-002	4.68400E-002	6.00000E-005	6.17000E-003	5.68000E-003	0.00000E+000	5.37495E+000	5.37495E+000	1.65000E-003	0.00000E+000	5.40953E+000
Welders	7.24000E-003	7.51700E-002	1.02410E-001	1.70000E-004	6.99000E-003	6.99000E-003	0.00000E+000	1.28778E+001	1.28778E+001	2.66000E-003	0.00000E+000	1.29337E+001

Equipment Type	ROG	NOx	CO	SO2	Exhaust PM10	Exhaust PM2.5	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction												
Cranes	7.74071E-001	5.72642E-001	-1.36635E-001	0.00000E+000	6.83636E-001	6.56126E-001	0.00000E+000	1.18957E-003	1.18957E-003	3.63636E-003	0.00000E+000	1.18972E-003
Excavators	1.08913E-003	1.20086E-003	1.19532E-003	0.00000E+000	1.34003E-003	1.09250E-003	0.00000E+000	1.18961E-003	1.18961E-003	1.27011E-003	0.00000E+000	1.18961E-003
Forklifts	6.35693E-001	4.39107E-001	5.98604E-002	0.00000E+000	5.72614E-001	5.35513E-001	0.00000E+000	1.18976E-003	1.18976E-003	3.35570E-003	0.00000E+000	1.18931E-003
Generator Sets	5.37017E-001	2.18269E-001	-7.67381E-002	0.00000E+000	2.63050E-001	2.63050E-001	0.00000E+000	1.18967E-003	1.18967E-003	0.00000E+000	0.00000E+000	1.18980E-003
Graders	7.43735E-001	5.87760E-001	3.30431E-002	0.00000E+000	6.95792E-001	6.69344E-001	0.00000E+000	1.18953E-003	1.18953E-003	1.43816E-003	0.00000E+000	1.18951E-003
Rubber Tired Dozers	8.15304E-001	6.56687E-001	5.20596E-001	3.25733E-003	7.35720E-001	7.12744E-001	0.00000E+000	1.18957E-003	1.18957E-003	1.26031E-003	0.00000E+000	1.18961E-003
Tractors/Loaders/Balckhoes	5.21401E-001	3.35566E-001	1.67933E-002	0.00000E+000	4.43201E-001	3.94762E-001	0.00000E+000	1.18960E-003	1.18960E-003	1.18463E-003	0.00000E+000	1.18962E-003
Trenchers	1.11111E-003	1.14040E-003	1.06633E-003	0.00000E+000	1.61812E-003	1.75747E-003	0.00000E+000	1.18929E-003	1.18929E-003	0.00000E+000	0.00000E+000	1.19092E-003
Welders	7.78593E-001	3.61017E-001	2.09555E-001	5.55556E-002	1.63876E-001	1.63876E-001	0.00000E+000	1.18901E-003	1.18901E-003	0.00000E+000	0.00000E+000	1.18928E-003

Fugitive Dust Mitigation

Yes/No Mitigation Measure Mitigation Input Mitigation Input Mitigation Input

No	Soil Stabilizer for unpaved Roads	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
No	Replace Ground Cover of Area Disturbed	PM10 Reduction	0.00	PM2.5 Reduction	0.00		
Yes	Water Exposed Area	PM10 Reduction	55.00	PM2.5 Reduction	55.00	Frequency (per day)	2.00
No	Unpaved Road Mitigation	Moisture Content %	0.00	Vehicle Speed (mph)	15.00		
No	Clean Paved Road	% PM Reduction	0.00				

Operational Mobile Mitigation

Project Setting:

Mitigation	Category	Measure	% Reduction	Input Value 1	Input Value 2	Input Value
No	Land Use	Increase Density	0.00			
No	Land Use	Increase Diversity	-0.01	0.13		
No	Land Use	Improve Walkability Design	0.00			
No	Land Use	Improve Destination Accessibility	0.00			
No	Land Use	Increase Transit Accessibility	0.25			
No	Land Use	Integrate Below Market Rate Housing	0.00			
	Land Use	Land Use SubTotal	0.00			
No	Neighborhood Enhancements	Improve Pedestrian Network				
No	Neighborhood Enhancements	Provide Traffic Calming Measures				
No	Neighborhood Enhancements	Implement NEV Network	0.00			
	Neighborhood Enhancements	Neighborhood Enhancements Subtotal	0.00			
No	Parking Policy Pricing	Limit Parking Supply	0.00			
No	Parking Policy Pricing	Unbundle Parking Costs	0.00			
No	Parking Policy Pricing	On-street Market Pricing	0.00			
	Parking Policy Pricing	Parking Policy Pricing Subtotal	0.00			
No	Transit Improvements	Provide BRT System	0.00			
No	Transit Improvements	Expand Transit Network	0.00			
No	Transit Improvements	Increase Transit Frequency	0.00			
	Transit Improvements	Transit Improvements Subtotal	0.00			

		Land Use and Site Enhancement Subtotal	0.00		
No	Commute	Implement Trip Reduction Program			
No	Commute	Transit Subsidy			
No	Commute	Implement Employee Parking "Cash Out"			
No	Commute	Workplace Parking Charge			
No	Commute	Encourage Telecommuting and Alternative Work Schedules	0.00		
No	Commute	Market Commute Trip Reduction Option	0.00		
No	Commute	Employee Vanpool/Shuttle	0.00	2.00	
No	Commute	Provide Ride Sharing Program			
	Commute	Commute Subtotal	0.00		
No	School Trip	Implement School Bus Program	0.00		
		Total VMT Reduction	0.00		

Area Mitigation

Measure Implemented	Mitigation Measure	Input Value
No	Only Natural Gas Hearth	
No	No Hearth	
No	Use Low VOC Cleaning Supplies	
No	Use Low VOC Paint (Residential Interior)	250.00
No	Use Low VOC Paint (Residential Exterior)	250.00
No	Use Low VOC Paint (Non-residential Interior)	250.00
No	Use Low VOC Paint (Non-residential Exterior)	250.00
No	% Electric Lawnmower	

No	% Electric Leafblower	
No	% Electric Chainsaw	

Energy Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Exceed Title 24		
No	Install High Efficiency Lighting		
No	On-site Renewable		

Appliance Type	Land Use Subtype	% Improvement
ClothWasher		30.00
DishWasher		15.00
Fan		50.00
Refrigerator		15.00

Water Mitigation Measures

Measure Implemented	Mitigation Measure	Input Value 1	Input Value 2
No	Apply Water Conservation on Strategy		
No	Use Reclaimed Water		
No	Use Grey Water		
No	Install low-flow bathroom faucet	32.00	
No	Install low-flow Kitchen faucet	18.00	
No	Install low-flow Toilet	20.00	

No	Install low-flow Shower	20.00
No	Turf Reduction	
No	Use Water Efficient Irrigation Systems	6.10
No	Water Efficient Landscape	

Solid Waste Mitigation

Mitigation Measures	Input Value
Institute Recycling and Composting Services Percent Reduction in Waste Disposed	

City of Shasta Lake WWTF Upgrade Project - Construction
Shasta County AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Commercial	9,409.00	User Defined Unit	0.22	9,409.00	0
User Defined Commercial	6.15	User Defined Unit	6.15	267,894.00	0

1.2 Other Project Characteristics

Urbanization	Rural	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	82
Climate Zone	3			Operational Year	2018
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	641.35	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Refer to Glenn's Figure and Table 1 of the Cal EE Mod inputs.

Construction Phase - Estimated time of each project phase.

Off-road Equipment - Project would not use equipment for long periods of time.

Off-road Equipment - Estimated number and hours of operation.

Off-road Equipment - Estimated number of equipment needed.

Off-road Equipment - Trencher would be used during construction of pipelines

Trips and VMT - Maximum number of trips estimate would be 50 one-way trips, project discription.

Consumer Products - No consumer products used.

Area Coating - No architectural coatings used during operation of this portion of the WWTF.

Landscape Equipment - No landscape equipment used.

Construction Off-road Equipment Mitigation - General BMP for dust reduction included.

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Nonresidential_Interior	415955	0
tblAreaCoating	ReapplicationRatePercent	10	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	OxidationCatalyst	0.00	35.00
tblConstEquipMitigation	OxidationCatalyst	0.00	35.00
tblConstEquipMitigation	OxidationCatalyst	0.00	35.00
tblConstEquipMitigation	OxidationCatalyst	0.00	35.00
tblConstEquipMitigation	OxidationCatalyst	0.00	35.00

tblConstEquipMitigation	OxidationCatalyst	0.00	35.00
tblConstEquipMitigation	OxidationCatalyst	0.00	35.00
tblConstEquipMitigation	OxidationCatalyst	0.00	35.00
tblConstEquipMitigation	OxidationCatalyst	0.00	35.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	230.00	274.00
tblConstructionPhase	NumDays	20.00	314.00
tblConstructionPhase	NumDays	10.00	303.00
tblConstructionPhase	PhaseEndDate	4/18/2019	5/31/2018
tblConstructionPhase	PhaseEndDate	5/14/2019	4/1/2018
tblConstructionPhase	PhaseEndDate	9/3/2018	9/15/2017
tblConstructionPhase	PhaseStartDate	4/2/2018	5/15/2017
tblConstructionPhase	PhaseStartDate	3/16/2018	2/1/2017
tblConstructionPhase	PhaseStartDate	6/1/2018	6/15/2017
tblGrading	AcresOfGrading	117.75	10.00
tblLandUse	LandUseSquareFeet	0.00	267,894.00
tblLandUse	LandUseSquareFeet	0.00	9,409.00
tblLandUse	LotAcreage	0.00	6.15
tblLandUse	LotAcreage	0.00	0.22
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblOffRoadEquipment	UsageHours	7.00	1.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	8.00	2.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblProjectCharacteristics	OperationalYear	2014	2018
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	VendorTripNumber	45.00	4.00
tblTripsAndVMT	WorkerTripNumber	13.00	10.00

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					
2017	8.9878	61.9177	54.0974	0.0691	15.0381	3.4704	18.5086	7.8379	3.2038	11.0417	0.0000	6,607.9712	6,607.9712	1.5881	0.0000	6,641.3208
2018	7.5647	51.9693	48.2864	0.0669	14.9998	2.7935	17.7933	7.8278	2.5798	10.4076	0.0000	6,262.0805	6,262.0805	1.5194	0.0000	6,293.9881
Total	16.5524	113.8870	102.3838	0.1360	30.0380	6.2639	36.3019	15.6657	5.7836	21.4493	0.0000	12,870.0516	12,870.0516	3.1075	0.0000	12,935.3089

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					
2017	5.0777	31.3664	41.7059	0.0691	7.5672	1.5671	9.1343	3.7395	1.5352	5.2747	0.0000	6,603.3050	6,603.3050	1.5867	0.0000	6,636.6255
2018	4.3042	28.0196	38.5702	0.0668	7.5289	1.3377	8.8666	3.7293	1.3242	5.0536	0.0000	6,257.6460	6,257.6460	1.5181	0.0000	6,289.5256
Total	9.3818	59.3861	80.2760	0.1359	15.0961	2.9048	18.0009	7.4688	2.8594	10.3282	0.0000	12,860.9510	12,860.9510	3.1048	0.0000	12,926.1511

	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	43.32	47.86	21.59	0.07	49.74	53.63	50.41	52.32	50.56	51.85	0.00	0.07	0.07	0.09	0.00	0.07

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	6.0274	9.1200e-003	0.9746	7.0000e-005		3.5100e-003	3.5100e-003		3.5100e-003	3.5100e-003		2.0605	2.0605	5.6500e-003		2.1793
Energy	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
Mobile	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
Total	6.0274	9.1200e-003	0.9746	7.0000e-005	0.0000	3.5100e-003	3.5100e-003	0.0000	3.5100e-003	3.5100e-003		2.0605	2.0605	5.6500e-003	0.0000	2.1793

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	6.0274	9.1200e-003	0.9746	7.0000e-005		3.5100e-003	3.5100e-003		3.5100e-003	3.5100e-003		2.0605	2.0605	5.6500e-003		2.1793
Energy	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
Mobile	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
Total	6.0274	9.1200e-003	0.9746	7.0000e-005	0.0000	3.5100e-003	3.5100e-003	0.0000	3.5100e-003	3.5100e-003		2.0605	2.0605	5.6500e-003	0.0000	2.1793

	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	Grading	Grading	1/1/2017	3/15/2018	5	314	
2	Site Preparation	Site Preparation	2/1/2017	4/1/2018	5	303	
3	Building Construction	Building Construction	5/15/2017	5/31/2018	5	274	
4	Trenching	Trenching	6/15/2017	9/15/2017	5	67	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Construction	Cranes	1	1.00	226	0.29
Building Construction	Forklifts	1	4.00	89	0.20
Building Construction	Generator Sets	1	2.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	4.00	97	0.37
Building Construction	Welders	1	4.00	46	0.45
Site Preparation	Rubber Tired Dozers	2	6.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Excavators	1	8.00	162	0.38
Grading	Graders	1	6.00	174	0.41
Grading	Rubber Tired Dozers	1	6.00	255	0.40
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Trenching	Trenchers	1	4.00	80	0.50

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
Building Construction	7	89.00	4.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	4	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Grading	5	10.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	1	3.00	0.00	0.00	16.80	6.60	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Use Cleaner Engines for Construction Equipment
- Use Oxidation Catalyst for Construction Equipment
- Water Exposed Area
- Reduce Vehicle Speed on Unpaved Roads

3.2 Grading - 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					
Fugitive Dust					4.5503	0.0000	4.5503	2.4863	0.0000	2.4863			0.0000			0.0000
Off-Road	2.4446	25.7082	18.0958	0.0213		1.4068	1.4068		1.2943	1.2943		2,179.3667	2,179.3667	0.6678		2,193.3896
Total	2.4446	25.7082	18.0958	0.0213	4.5503	1.4068	5.9572	2.4863	1.2943	3.7806		2,179.3667	2,179.3667	0.6678		2,193.3896

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	0.2560	0.0688	0.8244	1.6200e-003	0.1277	9.9000e-004	0.1287	0.0339	9.0000e-004	0.0348		128.2155	128.2155	6.5700e-003		128.3534
Total	0.2560	0.0688	0.8244	1.6200e-003	0.1277	9.9000e-004	0.1287	0.0339	9.0000e-004	0.0348		128.2155	128.2155	6.5700e-003		128.3534

3.2 Grading - 2017

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					2.0477	0.0000	2.0477	1.1188	0.0000	1.1188			0.0000			0.0000
Off-Road	0.9210	13.1737	13.9209	0.0213		0.6189	0.6189		0.6031	0.6031	0.0000	2,177.3673	2,177.3673	0.6671		2,191.3773
Total	0.9210	13.1737	13.9209	0.0213	2.0477	0.6189	2.6665	1.1188	0.6031	1.7219	0.0000	2,177.3673	2,177.3673	0.6671		2,191.3773

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	0.2560	0.0688	0.8244	1.6200e-003	0.1277	9.9000e-004	0.1287	0.0339	9.0000e-004	0.0348		128.2155	128.2155	6.5700e-003		128.3534
Total	0.2560	0.0688	0.8244	1.6200e-003	0.1277	9.9000e-004	0.1287	0.0339	9.0000e-004	0.0348		128.2155	128.2155	6.5700e-003		128.3534

3.2 Grading - 2018

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					4.5503	0.0000	4.5503	2.4863	0.0000	2.4863			0.0000			0.0000
Off-Road	2.1267	22.1239	17.0862	0.0213		1.1888	1.1888		1.0937	1.0937		2,143.4282	2,143.4282	0.6673		2,157.4410
Total	2.1267	22.1239	17.0862	0.0213	4.5503	1.1888	5.7392	2.4863	1.0937	3.5800		2,143.4282	2,143.4282	0.6673		2,157.4410

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	0.2231	0.0595	0.6964	1.6200e-003	0.1277	9.3000e-004	0.1287	0.0339	8.5000e-004	0.0347		123.3168	123.3168	5.8400e-003		123.4395
Total	0.2231	0.0595	0.6964	1.6200e-003	0.1277	9.3000e-004	0.1287	0.0339	8.5000e-004	0.0347		123.3168	123.3168	5.8400e-003		123.4395

3.2 Grading - 2018

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					2.0477	0.0000	2.0477	1.1188	0.0000	1.1188			0.0000			0.0000
Off-Road	0.8553	12.3319	13.8585	0.0213		0.5752	0.5752		0.5629	0.5629	0.0000	2,141.4617	2,141.4617	0.6667		2,155.4617
Total	0.8553	12.3319	13.8585	0.0213	2.0477	0.5752	2.6229	1.1188	0.5629	1.6818	0.0000	2,141.4617	2,141.4617	0.6667		2,155.4617

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	0.2231	0.0595	0.6964	1.6200e-003	0.1277	9.3000e-004	0.1287	0.0339	8.5000e-004	0.0347		123.3168	123.3168	5.8400e-003		123.4395
Total	0.2231	0.0595	0.6964	1.6200e-003	0.1277	9.3000e-004	0.1287	0.0339	8.5000e-004	0.0347		123.3168	123.3168	5.8400e-003		123.4395

3.3 Site Preparation - 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					
Fugitive Dust					9.0331	0.0000	9.0331	4.9653	0.0000	4.9653			0.0000			0.0000
Off-Road	2.2607	24.3548	18.5016	0.0180		1.2627	1.2627		1.1616	1.1616		1,842.4105	1,842.4105	0.5645		1,854.2652
Total	2.2607	24.3548	18.5016	0.0180	9.0331	1.2627	10.2958	4.9653	1.1616	6.1270		1,842.4105	1,842.4105	0.5645		1,854.2652

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	0.2560	0.0688	0.8244	1.6200e-003	0.1277	9.9000e-004	0.1287	0.0339	9.0000e-004	0.0348		128.2155	128.2155	6.5700e-003		128.3534
Total	0.2560	0.0688	0.8244	1.6200e-003	0.1277	9.9000e-004	0.1287	0.0339	9.0000e-004	0.0348		128.2155	128.2155	6.5700e-003		128.3534

3.3 Site Preparation - 2017

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					4.0649	0.0000	4.0649	2.2344	0.0000	2.2344			0.0000			0.0000
Off-Road	0.5417	9.5704	10.5194	0.0180		0.4194	0.4194		0.4194	0.4194	0.0000	1,840.720 2	1,840.720 2	0.5640		1,852.564 0
Total	0.5417	9.5704	10.5194	0.0180	4.0649	0.4194	4.4843	2.2344	0.4194	2.6538	0.0000	1,840.720 2	1,840.720 2	0.5640		1,852.564 0

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	0.2560	0.0688	0.8244	1.6200e-003	0.1277	9.9000e-004	0.1287	0.0339	9.0000e-004	0.0348		128.2155	128.2155	6.5700e-003		128.3534
Total	0.2560	0.0688	0.8244	1.6200e-003	0.1277	9.9000e-004	0.1287	0.0339	9.0000e-004	0.0348		128.2155	128.2155	6.5700e-003		128.3534

3.3 Site Preparation - 2018

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					9.0331	0.0000	9.0331	4.9653	0.0000	4.9653			0.0000			0.0000
Off-Road	2.0130	21.4895	16.9489	0.0180		1.0896	1.0896		1.0024	1.0024		1,813.4986	1,813.4986	0.5646		1,825.3545
Total	2.0130	21.4895	16.9489	0.0180	9.0331	1.0896	10.1227	4.9653	1.0024	5.9677		1,813.4986	1,813.4986	0.5646		1,825.3545

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	0.2231	0.0595	0.6964	1.6200e-003	0.1277	9.3000e-004	0.1287	0.0339	8.5000e-004	0.0347		123.3168	123.3168	5.8400e-003		123.4395
Total	0.2231	0.0595	0.6964	1.6200e-003	0.1277	9.3000e-004	0.1287	0.0339	8.5000e-004	0.0347		123.3168	123.3168	5.8400e-003		123.4395

3.3 Site Preparation - 2018

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					4.0649	0.0000	4.0649	2.2344	0.0000	2.2344			0.0000			0.0000
Off-Road	0.5417	9.5704	10.5194	0.0180		0.4194	0.4194		0.4194	0.4194	0.0000	1,811.8348	1,811.8348	0.5641		1,823.6798
Total	0.5417	9.5704	10.5194	0.0180	4.0649	0.4194	4.4843	2.2344	0.4194	2.6538	0.0000	1,811.8348	1,811.8348	0.5641		1,823.6798

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	0.2231	0.0595	0.6964	1.6200e-003	0.1277	9.3000e-004	0.1287	0.0339	8.5000e-004	0.0347		123.3168	123.3168	5.8400e-003		123.4395
Total	0.2231	0.0595	0.6964	1.6200e-003	0.1277	9.3000e-004	0.1287	0.0339	8.5000e-004	0.0347		123.3168	123.3168	5.8400e-003		123.4395

3.4 Building Construction - 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					
Off-Road	1.0546	8.4270	6.4596	9.0600e-003		0.6006	0.6006		0.5637	0.5637		887.1771	887.1771	0.2274		891.9520
Total	1.0546	8.4270	6.4596	9.0600e-003		0.6006	0.6006		0.5637	0.5637		887.1771	887.1771	0.2274		891.9520

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	0.0924	0.3016	0.4070	8.7000e-004	0.0241	4.7600e-003	0.0289	6.8800e-003	4.3800e-003	0.0113		85.9311	85.9311	6.5000e-004		85.9448
Worker	2.2781	0.6121	7.3375	0.0145	1.1368	8.8000e-003	1.1456	0.3015	8.0200e-003	0.3095		1,141.1179	1,141.1179	0.0584		1,142.3449
Total	2.3705	0.9137	7.7445	0.0153	1.1609	0.0136	1.1745	0.3084	0.0124	0.3208		1,227.0490	1,227.0490	0.0591		1,228.2896

3.4 Building Construction - 2017

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	0.3874	5.1968	6.2264	9.0500e-003		0.3286	0.3286		0.3286	0.3286	0.0000	886.3631	886.3631	0.2272		891.1337
Total	0.3874	5.1968	6.2264	9.0500e-003		0.3286	0.3286		0.3286	0.3286	0.0000	886.3631	886.3631	0.2272		891.1337

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	0.0924	0.3016	0.4070	8.7000e-004	0.0241	4.7600e-003	0.0289	6.8800e-003	4.3800e-003	0.0113		85.9311	85.9311	6.5000e-004		85.9448
Worker	2.2781	0.6121	7.3375	0.0145	1.1368	8.8000e-003	1.1456	0.3015	8.0200e-003	0.3095		1,141.1179	1,141.1179	0.0584		1,142.3449
Total	2.3705	0.9137	7.7445	0.0153	1.1609	0.0136	1.1745	0.3084	0.0124	0.3208		1,227.0490	1,227.0490	0.0591		1,228.2896

3.4 Building Construction - 2018**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	0.9053	7.4353	6.2854	9.0500e-003		0.5007	0.5007		0.4704	0.4704		876.5591	876.5591	0.2232		881.2470
Total	0.9053	7.4353	6.2854	9.0500e-003		0.5007	0.5007		0.4704	0.4704		876.5591	876.5591	0.2232		881.2470

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	0.0879	0.2718	0.3747	8.7000e-004	0.0241	4.3900e-003	0.0285	6.8800e-003	4.0400e-003	0.0109		84.4416	84.4416	6.3000e-004		84.4549
Worker	1.9856	0.5297	6.1983	0.0144	1.1368	8.2400e-003	1.1450	0.3015	7.5800e-003	0.3091		1,097.5195	1,097.5195	0.0520		1,098.6117
Total	2.0735	0.8016	6.5730	0.0153	1.1609	0.0126	1.1735	0.3084	0.0116	0.3200		1,181.9610	1,181.9610	0.0526		1,183.0665

3.4 Building Construction - 2018

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	0.3874	5.1968	6.2264	9.0400e-003		0.3286	0.3286		0.3286	0.3286	0.0000	875.7549	875.7549	0.2230		880.4385
Total	0.3874	5.1968	6.2264	9.0400e-003		0.3286	0.3286		0.3286	0.3286	0.0000	875.7549	875.7549	0.2230		880.4385

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	0.0879	0.2718	0.3747	8.7000e-004	0.0241	4.3900e-003	0.0285	6.8800e-003	4.0400e-003	0.0109		84.4416	84.4416	6.3000e-004		84.4549
Worker	1.9856	0.5297	6.1983	0.0144	1.1368	8.2400e-003	1.1450	0.3015	7.5800e-003	0.3091		1,097.5195	1,097.5195	0.0520		1,098.6117
Total	2.0735	0.8016	6.5730	0.0153	1.1609	0.0126	1.1735	0.3084	0.0116	0.3200		1,181.9610	1,181.9610	0.0526		1,183.0665

3.5 Trenching - 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					
Off-Road	0.2686	2.3559	1.3998	1.7300e-003		0.1846	0.1846		0.1698	0.1698		177.0723	177.0723	0.0543		178.2117
Total	0.2686	2.3559	1.3998	1.7300e-003		0.1846	0.1846		0.1698	0.1698		177.0723	177.0723	0.0543		178.2117

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	0.0206	0.2473	4.9000e-004	0.0383	3.0000e-004	0.0386	0.0102	2.7000e-004	0.0104		38.4647	38.4647	1.9700e-003		38.5060
Total	0.0768	0.0206	0.2473	4.9000e-004	0.0383	3.0000e-004	0.0386	0.0102	2.7000e-004	0.0104		38.4647	38.4647	1.9700e-003		38.5060

3.5 Trenching - 2017

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	0.2684	2.3537	1.3985	1.7300e-003		0.1844	0.1844		0.1696	0.1696	0.0000	176.9099	176.9099	0.0542		178.0482
Total	0.2684	2.3537	1.3985	1.7300e-003		0.1844	0.1844		0.1696	0.1696	0.0000	176.9099	176.9099	0.0542		178.0482

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	0.0206	0.2473	4.9000e-004	0.0383	3.0000e-004	0.0386	0.0102	2.7000e-004	0.0104		38.4647	38.4647	1.9700e-003		38.5060
Total	0.0768	0.0206	0.2473	4.9000e-004	0.0383	3.0000e-004	0.0386	0.0102	2.7000e-004	0.0104		38.4647	38.4647	1.9700e-003		38.5060

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Commercial	0.00	0.00	0.00		
User Defined Commercial	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Commercial	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0
User Defined Commercial	14.70	6.60	6.60	0.00	0.00	0.00	0	0	0

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.365785	0.038961	0.198771	0.149475	0.086721	0.010022	0.018059	0.114624	0.001588	0.000811	0.009123	0.001395	0.004666

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

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

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					
User Defined Commercial	0	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
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

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	lb/day										lb/day					
User Defined Commercial	0	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
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

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	6.0274	9.1200e-003	0.9746	7.0000e-005		3.5100e-003	3.5100e-003		3.5100e-003	3.5100e-003		2.0605	2.0605	5.6500e-003		2.1793
Unmitigated	6.0274	9.1200e-003	0.9746	7.0000e-005		3.5100e-003	3.5100e-003		3.5100e-003	3.5100e-003		2.0605	2.0605	5.6500e-003		2.1793

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	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.9343					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0931	9.1200e-003	0.9746	7.0000e-005		3.5100e-003	3.5100e-003		3.5100e-003	3.5100e-003		2.0605	2.0605	5.6500e-003		2.1793
Total	6.0274	9.1200e-003	0.9746	7.0000e-005		3.5100e-003	3.5100e-003		3.5100e-003	3.5100e-003		2.0605	2.0605	5.6500e-003		2.1793

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					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.9343					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0931	9.1200e-003	0.9746	7.0000e-005		3.5100e-003	3.5100e-003		3.5100e-003	3.5100e-003		2.0605	2.0605	5.6500e-003		2.1793
Total	6.0274	9.1200e-003	0.9746	7.0000e-005		3.5100e-003	3.5100e-003		3.5100e-003	3.5100e-003		2.0605	2.0605	5.6500e-003		2.1793

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
