

# **Appendix 3**

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## Air Pollutant Emissions Calculation

CalEEMod Maximum Daily Emissions Calculations.....	Ap.3-1
CalEEMod Annual Emissions Calculations.....	Ap.3-44
Operation and Maintenance GHG Emissions Calculations.....	Ap.3-88

**Vine Substation Project - Data Request #2**  
**San Diego County, Winter**

**1.0 Project Characteristics**

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**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	1.50	0.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.6	<b>Precipitation Freq (Days)</b>	40
<b>Climate Zone</b>	13			<b>Operational Year</b>	2017
<b>Utility Company</b>	San Diego Gas & Electric				
<b>CO2 Intensity (lb/MWhr)</b>	720.49	<b>CH4 Intensity (lb/MWhr)</b>	0.029	<b>N2O Intensity (lb/MWhr)</b>	0.006

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

Project Characteristics -

Land Use - The proposed Vine Substation site will be approximately 1.5 acres

Construction Phase - Construction schedule take from the original PEA and PEA Supplement.

Off-road Equipment - Default equipment set to zero. Equipment list taken from Attachment A: Construction Equipment and Vehicle Summary.

Off-road Equipment - Default equipment set to zero. Equipment list taken from Attachment A: Construction Equipment and Vehicle Summary.

Off-road Equipment - Default equipment set to zero. Equipment list taken from Attachment A: Construction Equipment and Vehicle Summary.

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Trips and VMT - Truck trip requirements taken from Attachment A: Construction Equipment and Vehicle Summary

On-road Fugitive Dust - All on-road travel will be 100-percent paved with the exception of vendor and hauling trips during construction of the proposed Vine Substation.

Grading - Import and export requirements taken from the original PEA. Entire site assumed to be disturbed during both processes.

Vehicle Trips - Assume a maximum of 10 vehicles could visit the site daily.

Construction Off-road Equipment Mitigation - Tier 3 or better will be a mitigation measure for the project

## 2.0 Emissions Summary

### 2.1 Overall Construction (Maximum Daily Emission)

#### Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	24.1458	227.8605	155.6874	0.3181	25.1631	12.5089	31.9849	7.0209	11.9355	13.4253	0.0000	31,096.13 59	31,096.13 59	5.6598	0.0000	31,214.99 27
2017	26.0984	250.0242	175.3435	0.3636	7.3235	13.2394	20.5629	1.5275	12.6013	14.1288	0.0000	35,208.68 66	35,208.68 66	6.6478	0.0000	35,348.29 13
<b>Total</b>	<b>50.2441</b>	<b>477.8847</b>	<b>331.0308</b>	<b>0.6817</b>	<b>32.4866</b>	<b>25.7482</b>	<b>52.5478</b>	<b>8.5485</b>	<b>24.5368</b>	<b>27.5541</b>	<b>0.0000</b>	<b>66,304.82 26</b>	<b>66,304.82 26</b>	<b>12.3077</b>	<b>0.0000</b>	<b>66,563.28 40</b>

#### Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2016	7.5082	132.0635	171.5404	0.3181	10.4124	6.7768	13.3474	3.3127	6.7583	8.0618	0.0000	31,096.13 59	31,096.13 59	5.6598	0.0000	31,214.99 26
2017	8.6375	151.7633	196.8085	0.3636	5.4575	7.8251	13.2826	1.3413	7.8078	9.1491	0.0000	35,208.68 66	35,208.68 66	6.6478	0.0000	35,348.29 13
<b>Total</b>	<b>16.1457</b>	<b>283.8268</b>	<b>368.3488</b>	<b>0.6817</b>	<b>15.8699</b>	<b>14.6019</b>	<b>26.6301</b>	<b>4.6540</b>	<b>14.5661</b>	<b>17.2109</b>	<b>0.0000</b>	<b>66,304.82 25</b>	<b>66,304.82 25</b>	<b>12.3077</b>	<b>0.0000</b>	<b>66,563.28 40</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
<b>Percent Reduction</b>	<b>67.87</b>	<b>40.61</b>	<b>-11.27</b>	<b>0.00</b>	<b>51.15</b>	<b>43.29</b>	<b>49.32</b>	<b>45.56</b>	<b>40.64</b>	<b>37.54</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>

### 3.0 Construction Detail

#### Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Vine - Site Development and Grading	Grading	1/1/2016	3/31/2016	6	78	
2	Vine - Retaining/Boundary Wall Construction	Building Construction	3/1/2016	4/30/2016	6	53	
3	Vine - Below-Grade Construction	Site Preparation	4/1/2016	9/30/2016	6	157	
4	Vine - Substation Equipment Installation	Building Construction	9/1/2016	6/30/2017	6	260	
5	12 kV - Daytime Duct Bank and Vault Installation	Trenching	10/1/2016	3/31/2017	6	156	
6	12 kV - Nighttime Duct Bank and Vault Installation	Trenching	10/1/2016	3/31/2017	6	156	
7	69 kV - Foundation Installation	Trenching	11/16/2016	11/30/2016	6	13	
8	69 kV - Pole Installation and Removal	Building Construction	11/16/2016	2/28/2017	6	90	
9	12 kV - Jack-and-Bore Installation	Trenching	1/1/2017	1/20/2017	6	17	
10	69 kV - Conductor Installation	Building Construction	1/1/2017	2/28/2017	6	50	
11	Energize - Testing and Commissioning	Building Construction	2/1/2017	6/30/2017	6	129	
12	Telecom - Duct Bank and Vault Installation	Trenching	4/1/2017	4/29/2017	6	25	
13	12 kV - Cable Installation and Cutover	Building Construction	4/1/2017	6/30/2017	6	78	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

#### OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Vine - Site Development and Grading	Excavators	1	6.00	162	0.38

Vine - Site Development and Grading	Off-Highway Trucks	1	7.00	400	0.38
Vine - Site Development and Grading	Pavers	1	6.00	125	0.42
Vine - Site Development and Grading	Rollers	2	7.00	80	0.38
Vine - Site Development and Grading	Rollers	2	6.00	80	0.38
Vine - Site Development and Grading	Rubber Tired Dozers	2	6.00	255	0.40
Vine - Site Development and Grading	Rubber Tired Loaders -	2	6.00	199	0.36
Site Development and Grading	Scrapers	2	7.00	361	0.48
Vine - Site Development and Grading	Skid Steer Loaders	2	3.00	64	0.37
Site Development and Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Vine - Site Development/Grading	Trenchers	1	6.00	80	0.50
Vine - Retaining/Boundary Wall Construction	Excavators	1	9.00	162	0.38
Vine - Retaining/Boundary Wall Construction	Graders	1	9.00	174	0.41
Vine - Retaining/Boundary Wall Construction	Plate Compactors	3	9.00	8	0.43
Vine - Retaining/Boundary Wall Construction	Rollers	1	9.00	80	0.38
Vine - Retaining/Boundary Wall Construction	Rubber Tired Loaders	3	9.00	199	0.36

Vine - Below-Grade Construction	Rubber Tired Loaders	2	6.00	199	0.36
Vine - Below-Grade Construction	Skid Steer Loaders	1	4.00	64	0.37
Vine - Below-Grade Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Vine - Below-Grade Construction	Trenchers	1	6.00	80	0.50
Substation Equipment Installation	Aerial Lifts	4	5.00	62	0.31
Substation Equipment Installation	Aerial Lifts	1	6.00	62	0.31
Vine - Substation Equipment Installation	Cranes	2	6.00	226	0.29
Vine - Substation Equipment Installation	Generator Sets	1	24.00	84	0.74
12 kV - Daytime Duct Bank and Vault Installation	Air Compressors	4	3.00	78	0.48
12 kV - Daytime Duct Bank and Vault Installation	Concrete/Industrial Saws	2	6.00	81	0.73
12 kV - Daytime Duct Bank and Vault Installation	Cranes	2	4.00	226	0.29
12 kV - Daytime Duct Bank and Vault Installation	Crushing/Proc. Equipment	2	5.00	85	0.78
12 kV - Daytime Duct Bank and Vault Installation	Generator Sets	2	5.00	84	0.74
12 kV - Daytime Duct Bank and Vault Installation	Off-Highway Trucks	2	6.00	400	0.38
12 kV - Daytime Duct Bank and Vault Installation	Paving Equipment	2	5.00	130	0.36
12 kV - Daytime Duct Bank and Vault Installation	Rollers	2	5.00	80	0.38
12 kV - Daytime Duct Bank and Vault Installation	Skid Steer Loaders	2	2.00	64	0.37



12 kV - Daytime Duct Bank and Vault Installation	Surfacing Equipment	2	6.00	253	0.30
12 kV - Daytime Duct Bank and Vault Installation	Tractors/Loaders/Backhoes	2	6.00	97	0.37
12 kV - Daytime Duct Bank and Vault Installation	Tractors/Loaders/Backhoes	2	2.00	97	0.37
12 kV - Daytime Duct Bank and Vault Installation	Tractors/Loaders/Backhoes	2	6.00	97	0.37
12 kV - Nighttime Duct Bank and Vault Installation	Air Compressors	4	3.00	78	0.48
12 kV - Nighttime Duct Bank and Vault Installation	Concrete/Industrial Saws	2	6.00	81	0.73
12 kV - Nighttime Duct Bank and Vault Installation	Cranes	2	4.00	226	0.29
12 kV - Nighttime Duct Bank and Vault Installation	Crushing/Proc. Equipment	2	5.00	85	0.78
12 kV - Nighttime Duct Bank and Vault Installation	Generator Sets	2	5.00	84	0.74
12 kV - Nighttime Duct Bank and Vault Installation	Off-Highway Trucks	2	6.00	400	0.38
12 kV - Nighttime Duct Bank and Vault Installation	Paving Equipment	2	5.00	130	0.36
12 kV - Nighttime Duct Bank and Vault Installation	Rollers	2	5.00	80	0.38
12 kV - Nighttime Duct Bank and Vault Installation	Signal Boards	8	8.00	6	0.82
12 kV - Nighttime Duct Bank and Vault Installation	Skid Steer Loaders	2	2.00	64	0.37
12 kV - Nighttime Duct Bank and Vault Installation	Surfacing Equipment	2	6.00	253	0.30
12 kV - Nighttime Duct Bank and Vault Installation	Tractors/Loaders/Backhoes	2	6.00	97	0.37
12 kV - Nighttime Duct Bank and Vault Installation	Tractors/Loaders/Backhoes	2	2.00	97	0.37
12 kV - Nighttime Duct Bank and Vault Installation	Tractors/Loaders/Backhoes	2	6.00	97	0.37

69 kV - Foundation Installation	Bore/Drill Rigs	1	8.00	205	0.50
69 kV - Foundation Installation	Cranes	1	3.00	226	0.29
69 kV - Foundation Installation	Forklifts	1	4.00	89	0.20
69 kV - Foundation Installation	Generator Sets	1	4.00	84	0.74
69 kV - Foundation Installation	Tractors/Loaders/Backhoes	1	4.00	97	0.37
69 kV - Pole Installation and Removal	Aerial Lifts	1	8.00	62	0.31
69 kV - Pole Installation and Removal	Air Compressors	1	8.00	78	0.48
69 kV - Pole Installation and Removal	Cranes	1	8.00	226	0.29
12 kV - Jack-and-Bore Installation	Air Compressors	1	3.00	78	0.48
12 kV - Jack-and-Bore Installation	Bore/Drill Rigs	1	6.00	205	0.50
12 kV - Jack-and-Bore Installation	Concrete/Industrial Saws	1	4.00	81	0.73
12 kV - Jack-and-Bore Installation	Cranes	1	6.00	226	0.29
12 kV - Jack-and-Bore Installation	Cranes	2	3.00	226	0.29
12 kV - Jack-and-Bore Installation	Cranes	1	4.00	226	0.29
12 kV - Jack-and-Bore Installation	Excavators	1	6.00	162	0.38
12 kV - Jack-and-Bore Installation	Generator Sets	1	4.00	84	0.74
12 kV - Jack-and-Bore Installation	Off-Highway Trucks	1	4.00	400	0.38
12 kV - Jack-and-Bore Installation	Pumps	1	6.00	84	0.74
12 kV - Jack-and-Bore Installation	Skid Steer Loaders	1	3.00	64	0.37
12 kV - Jack-and-Bore Installation	Tractors/Loaders/Backhoes	1	6.00	97	0.37
12 kV - Jack-and-Bore Installation	Welders	1	4.00	46	0.45
69 kV - Conductor Installation	Aerial Lifts	2	7.00	62	0.31

69 kV - Conductor Installation	Cranes	1	7.00	226	0.29
69 kV - Conductor Installation	Other Construction Equipment	1	7.00	171	0.42
Telecom - Duct Bank and Vault Installation	Skid Steer Loaders	1	3.00	64	0.37
Telecom - Duct Bank and Vault Installation	Tractors/Loaders/Backhoes	1	3.00	97	0.37
12 kV - Cable Installation and Cutover	Other Construction Equipment	1	2.00	171	0.42

**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
Vine - Site Development and Gra	18	48.00	7.00	1,106.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
Vine - Retaining/Boundary W	9	20.00	7.00	0.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
Vine - Below-Grade Construction	5	27.00	4.00	198.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
Vine - Substation Equipment Installation	8	37.00	5.00	0.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
12 kV - Daytime Duct Bank and Vault Install	28	40.00	4.00	685.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
12 kV - Nighttime Duct Bank and Vault Install	36	40.00	4.00	1,037.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
69 kV - Foundation Installation	5	7.00	2.00	53.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
69 kV - Pole Installation and Remo	3	5.00	3.00	0.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
12 kV - Jack-and-Bore Installation	14	9.00	3.00	76.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
69 kV - Conductor Installation	4	0.00	1.00	0.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
Energize - Testing and Commissioning	0	0.00	3.00	0.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
Telecom - Duct Bank and Vault Installation	2	0.00	0.00	40.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
12 kV - Cable Installation and Cutover	1	15.00	3.00	0.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

### 3.2 Vine - Site Development and Grading - 2016

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.0732	0.0000	9.0732	4.9705	0.0000	4.9705			0.0000			0.0000
Off-Road	8.5462	97.2545	60.2150	0.0847		4.6990	4.6990		4.3230	4.3230		8,807.4408	8,807.4408	2.6566		8,863.2301
<b>Total</b>	<b>8.5462</b>	<b>97.2545</b>	<b>60.2150</b>	<b>0.0847</b>	<b>9.0732</b>	<b>4.6990</b>	<b>13.7721</b>	<b>4.9705</b>	<b>4.3230</b>	<b>9.2936</b>		<b>8,807.4408</b>	<b>8,807.4408</b>	<b>2.6566</b>		<b>8,863.2301</b>

#### 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	0.3871	5.9925	4.1323	0.0158	6.6284	0.0812	6.7096	0.7254	0.0747	0.8002		1,587.6032	1,587.6032	0.0112		1,587.8373
Vendor	0.1818	2.7079	1.6504	7.4700e-003	3.8264	0.0466	3.8730	0.4227	0.0429	0.4656		751.6472	751.6472	5.3200e-003		751.7588
Worker	0.2889	0.6552	5.8269	0.0149	1.2768	8.7400e-003	1.2855	0.3385	8.0400e-003	0.3466		1,243.9802	1,243.9802	0.0637		1,245.3179
<b>Total</b>	<b>0.8578</b>	<b>9.3556</b>	<b>11.6096</b>	<b>0.0381</b>	<b>11.7316</b>	<b>0.1366</b>	<b>11.8681</b>	<b>1.4867</b>	<b>0.1256</b>	<b>1.6123</b>		<b>3,583.2305</b>	<b>3,583.2305</b>	<b>0.0802</b>		<b>3,584.9141</b>

### 3.2 Vine - Site Development and Grading - 2016

#### 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					4.0829	0.0000	4.0829	2.2367	0.0000	2.2367			0.0000			0.0000
Off-Road	2.0797	41.6919	50.6075	0.0847		1.9289	1.9289		1.9289	1.9289	0.0000	8,807.4408	8,807.4408	2.6566		8,863.2301
<b>Total</b>	<b>2.0797</b>	<b>41.6919</b>	<b>50.6075</b>	<b>0.0847</b>	<b>4.0829</b>	<b>1.9289</b>	<b>6.0118</b>	<b>2.2367</b>	<b>1.9289</b>	<b>4.1656</b>	<b>0.0000</b>	<b>8,807.4408</b>	<b>8,807.4408</b>	<b>2.6566</b>		<b>8,863.2301</b>

#### 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	0.3871	5.9925	4.1323	0.0158	2.0926	0.0812	2.1739	0.2726	0.0747	0.3473		1,587.6032	1,587.6032	0.0112		1,587.8373
Vendor	0.1818	2.7079	1.6504	7.4700e-003	1.2140	0.0466	1.2606	0.1619	0.0429	0.2048		751.6472	751.6472	5.3200e-003		751.7588
Worker	0.2889	0.6552	5.8269	0.0149	1.2768	8.7400e-003	1.2855	0.3385	8.0400e-003	0.3466		1,243.9802	1,243.9802	0.0637		1,245.3179
<b>Total</b>	<b>0.8578</b>	<b>9.3556</b>	<b>11.6096</b>	<b>0.0381</b>	<b>4.5834</b>	<b>0.1366</b>	<b>4.7200</b>	<b>0.7730</b>	<b>0.1256</b>	<b>0.8987</b>		<b>3,583.2305</b>	<b>3,583.2305</b>	<b>0.0802</b>		<b>3,584.9141</b>

### 3.3 Vine - Retaining/Boundary Wall Construction - 2016

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.7740	42.8247	18.5683	0.0382		1.9361	1.9361		1.7838	1.7838		3,919.9079	3,919.9079	1.1594		3,944.2545
<b>Total</b>	<b>3.7740</b>	<b>42.8247</b>	<b>18.5683</b>	<b>0.0382</b>		<b>1.9361</b>	<b>1.9361</b>		<b>1.7838</b>	<b>1.7838</b>		<b>3,919.9079</b>	<b>3,919.9079</b>	<b>1.1594</b>		<b>3,944.2545</b>

#### 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	0.1818	2.7079	1.6504	7.4700e-003	3.8264	0.0466	3.8730	0.4227	0.0429	0.4656		751.6472	751.6472	5.3200e-003		751.7588
Worker	0.1204	0.2730	2.4279	6.2100e-003	0.5320	3.6400e-003	0.5356	0.1411	3.3500e-003	0.1444		518.3251	518.3251	0.0265		518.8825
<b>Total</b>	<b>0.3022</b>	<b>2.9809</b>	<b>4.0783</b>	<b>0.0137</b>	<b>4.3584</b>	<b>0.0502</b>	<b>4.4086</b>	<b>0.5638</b>	<b>0.0462</b>	<b>0.6100</b>		<b>1,269.9722</b>	<b>1,269.9722</b>	<b>0.0319</b>		<b>1,270.6413</b>

**3.3 Vine - Retaining/Boundary Wall Construction - 2016**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0359	18.5119	23.7862	0.0382		0.8194	0.8194		0.8194	0.8194	0.0000	3,919.9079	3,919.9079	1.1594		3,944.2545
<b>Total</b>	<b>1.0359</b>	<b>18.5119</b>	<b>23.7862</b>	<b>0.0382</b>		<b>0.8194</b>	<b>0.8194</b>		<b>0.8194</b>	<b>0.8194</b>	<b>0.0000</b>	<b>3,919.9079</b>	<b>3,919.9079</b>	<b>1.1594</b>		<b>3,944.2545</b>

**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	0.1818	2.7079	1.6504	7.4700e-003	1.2140	0.0466	1.2606	0.1619	0.0429	0.2048		751.6472	751.6472	5.3200e-003		751.7588
Worker	0.1204	0.2730	2.4279	6.2100e-003	0.5320	3.6400e-003	0.5356	0.1411	3.3500e-003	0.1444		518.3251	518.3251	0.0265		518.8825
<b>Total</b>	<b>0.3022</b>	<b>2.9809</b>	<b>4.0783</b>	<b>0.0137</b>	<b>1.7460</b>	<b>0.0502</b>	<b>1.7962</b>	<b>0.3030</b>	<b>0.0462</b>	<b>0.3492</b>		<b>1,269.9722</b>	<b>1,269.9722</b>	<b>0.0319</b>		<b>1,270.6413</b>

### 3.4 Vine - Below-Grade Construction - 2016

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0119	0.0000	0.0119	1.3600e-003	0.0000	1.3600e-003			0.0000			0.0000
Off-Road	1.4747	16.5259	7.3667	0.0151		0.8463	0.8463		0.7786	0.7786		1,572.8389	1,572.8389	0.4744		1,582.8018
<b>Total</b>	<b>1.4747</b>	<b>16.5259</b>	<b>7.3667</b>	<b>0.0151</b>	<b>0.0119</b>	<b>0.8463</b>	<b>0.8582</b>	<b>1.3600e-003</b>	<b>0.7786</b>	<b>0.7799</b>		<b>1,572.8389</b>	<b>1,572.8389</b>	<b>0.4744</b>		<b>1,582.8018</b>

#### 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	0.0344	0.5330	0.3675	1.4000e-003	0.5895	7.2200e-003	0.5968	0.0645	6.6500e-003	0.0712		141.2040	141.2040	9.9000e-004		141.2248
Vendor	0.1039	1.5474	0.9431	4.2700e-003	2.1865	0.0266	2.2131	0.2415	0.0245	0.2660		429.5127	429.5127	3.0400e-003		429.5765
Worker	0.1625	0.3685	3.2777	8.3800e-003	0.7182	4.9200e-003	0.7231	0.1904	4.5200e-003	0.1949		699.7388	699.7388	0.0358		700.4913
<b>Total</b>	<b>0.3008</b>	<b>2.4489</b>	<b>4.5883</b>	<b>0.0141</b>	<b>3.4942</b>	<b>0.0388</b>	<b>3.5330</b>	<b>0.4965</b>	<b>0.0357</b>	<b>0.5321</b>		<b>1,270.4555</b>	<b>1,270.4555</b>	<b>0.0399</b>		<b>1,271.2926</b>



### 3.4 Vine - Below-Grade Construction - 2016

#### 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					5.3600e-003	0.0000	5.3600e-003	6.1000e-004	0.0000	6.1000e-004			0.0000			0.0000
Off-Road	0.3730	7.7198	9.4146	0.0151		0.3996	0.3996		0.3996	0.3996	0.0000	1,572.8389	1,572.8389	0.4744		1,582.8018
<b>Total</b>	<b>0.3730</b>	<b>7.7198</b>	<b>9.4146</b>	<b>0.0151</b>	<b>5.3600e-003</b>	<b>0.3996</b>	<b>0.4050</b>	<b>6.1000e-004</b>	<b>0.3996</b>	<b>0.4002</b>	<b>0.0000</b>	<b>1,572.8389</b>	<b>1,572.8389</b>	<b>0.4744</b>		<b>1,582.8018</b>

#### 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	0.0344	0.5330	0.3675	1.4000e-003	0.1861	7.2200e-003	0.1934	0.0243	6.6500e-003	0.0309		141.2040	141.2040	9.9000e-004		141.2248
Vendor	0.1039	1.5474	0.9431	4.2700e-003	0.6937	0.0266	0.7203	0.0925	0.0245	0.1170		429.5127	429.5127	3.0400e-003		429.5765
Worker	0.1625	0.3685	3.2777	8.3800e-003	0.7182	4.9200e-003	0.7231	0.1904	4.5200e-003	0.1949		699.7388	699.7388	0.0358		700.4913
<b>Total</b>	<b>0.3008</b>	<b>2.4489</b>	<b>4.5883</b>	<b>0.0141</b>	<b>1.5980</b>	<b>0.0388</b>	<b>1.6368</b>	<b>0.3072</b>	<b>0.0357</b>	<b>0.3428</b>		<b>1,270.4555</b>	<b>1,270.4555</b>	<b>0.0399</b>		<b>1,271.2926</b>

### 3.5 Vine - Substation Equipment Installation - 2016

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1798	30.3006	19.4132	0.0336		1.7203	1.7203		1.6640	1.6640		3,306.1458	3,306.1458	0.6045		3,318.8401
<b>Total</b>	<b>3.1798</b>	<b>30.3006</b>	<b>19.4132</b>	<b>0.0336</b>		<b>1.7203</b>	<b>1.7203</b>		<b>1.6640</b>	<b>1.6640</b>		<b>3,306.1458</b>	<b>3,306.1458</b>	<b>0.6045</b>		<b>3,318.8401</b>

#### 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	0.1299	1.9342	1.1789	5.3300e-003	2.7331	0.0333	2.7664	0.3019	0.0306	0.3325		536.8908	536.8908	3.8000e-003		536.9706
Worker	0.2227	0.5050	4.4916	0.0115	0.9842	6.7400e-003	0.9909	0.2610	6.1900e-003	0.2671		958.9014	958.9014	0.0491		959.9326
<b>Total</b>	<b>0.3526</b>	<b>2.4393</b>	<b>5.6705</b>	<b>0.0168</b>	<b>3.7173</b>	<b>0.0400</b>	<b>3.7573</b>	<b>0.5629</b>	<b>0.0368</b>	<b>0.5997</b>		<b>1,495.7922</b>	<b>1,495.7922</b>	<b>0.0529</b>		<b>1,496.9032</b>

### 3.5 Vine - Substation Equipment Installation - 2016

#### 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	0.7349	16.0530	20.7535	0.0336		0.9956	0.9956		0.9956	0.9956	0.0000	3,306.1458	3,306.1458	0.6045		3,318.8401
<b>Total</b>	<b>0.7349</b>	<b>16.0530</b>	<b>20.7535</b>	<b>0.0336</b>		<b>0.9956</b>	<b>0.9956</b>		<b>0.9956</b>	<b>0.9956</b>	<b>0.0000</b>	<b>3,306.1458</b>	<b>3,306.1458</b>	<b>0.6045</b>		<b>3,318.8401</b>

#### 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	0.1299	1.9342	1.1789	5.3300e-003	0.8671	0.0333	0.9004	0.1156	0.0306	0.1463		536.8908	536.8908	3.8000e-003		536.9706
Worker	0.2227	0.5050	4.4916	0.0115	0.9842	6.7400e-003	0.9909	0.2610	6.1900e-003	0.2671		958.9014	958.9014	0.0491		959.9326
<b>Total</b>	<b>0.3526</b>	<b>2.4393</b>	<b>5.6705</b>	<b>0.0168</b>	<b>1.8513</b>	<b>0.0400</b>	<b>1.8914</b>	<b>0.3766</b>	<b>0.0368</b>	<b>0.4134</b>		<b>1,495.7922</b>	<b>1,495.7922</b>	<b>0.0529</b>		<b>1,496.9032</b>

### 3.5 Vine - Substation Equipment Installation - 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	2.8394	27.5361	18.9632	0.0336		1.5075	1.5075		1.4590	1.4590		3,283.9820	3,283.9820	0.5848		3,296.2629
<b>Total</b>	<b>2.8394</b>	<b>27.5361</b>	<b>18.9632</b>	<b>0.0336</b>		<b>1.5075</b>	<b>1.5075</b>		<b>1.4590</b>	<b>1.4590</b>		<b>3,283.9820</b>	<b>3,283.9820</b>	<b>0.5848</b>		<b>3,296.2629</b>

#### 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	0.1192	1.7090	1.1005	5.3200e-003	2.7331	0.0289	2.7621	0.3019	0.0266	0.3285		527.8030	527.8030	3.5500e-003		527.8776
Worker	0.1969	0.4594	4.0338	0.0115	0.9842	6.5100e-003	0.9907	0.2610	6.0000e-003	0.2670		921.8163	921.8163	0.0455		922.7722
<b>Total</b>	<b>0.3161</b>	<b>2.1684</b>	<b>5.1343</b>	<b>0.0168</b>	<b>3.7173</b>	<b>0.0354</b>	<b>3.7528</b>	<b>0.5629</b>	<b>0.0326</b>	<b>0.5955</b>		<b>1,449.6193</b>	<b>1,449.6193</b>	<b>0.0491</b>		<b>1,450.6497</b>

### 3.5 Vine - Substation Equipment Installation - 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	0.7349	16.0530	20.7535	0.0336		0.9956	0.9956		0.9956	0.9956	0.0000	3,283.9820	3,283.9820	0.5848		3,296.2629
<b>Total</b>	<b>0.7349</b>	<b>16.0530</b>	<b>20.7535</b>	<b>0.0336</b>		<b>0.9956</b>	<b>0.9956</b>		<b>0.9956</b>	<b>0.9956</b>	<b>0.0000</b>	<b>3,283.9820</b>	<b>3,283.9820</b>	<b>0.5848</b>		<b>3,296.2629</b>

#### 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	0.1192	1.7090	1.1005	5.3200e-003	0.8672	0.0289	0.8961	0.1156	0.0266	0.1422		527.8030	527.8030	3.5500e-003		527.8776
Worker	0.1969	0.4594	4.0338	0.0115	0.9842	6.5100e-003	0.9907	0.2610	6.0000e-003	0.2670		921.8163	921.8163	0.0455		922.7722
<b>Total</b>	<b>0.3161</b>	<b>2.1684</b>	<b>5.1343</b>	<b>0.0168</b>	<b>1.8513</b>	<b>0.0354</b>	<b>1.8868</b>	<b>0.3766</b>	<b>0.0326</b>	<b>0.4092</b>		<b>1,449.6193</b>	<b>1,449.6193</b>	<b>0.0491</b>		<b>1,450.6497</b>

**3.6 12 kV - Daytime Duct Bank and Vault Installation - 2016**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	8.1808	76.7440	48.0343	0.0876		4.5421	4.5421		4.3300	4.3300		8,806.8473	8,806.8473	2.0517		8,849.9333
<b>Total</b>	<b>8.1808</b>	<b>76.7440</b>	<b>48.0343</b>	<b>0.0876</b>		<b>4.5421</b>	<b>4.5421</b>		<b>4.3300</b>	<b>4.3300</b>		<b>8,806.8473</b>	<b>8,806.8473</b>	<b>2.0517</b>		<b>8,849.9333</b>

**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	0.1199	1.8557	1.2797	4.8800e-003	0.1996	0.0252	0.2248	0.0522	0.0231	0.0754		491.6402	491.6402	3.4500e-003		491.7127
Vendor	0.1039	1.5474	0.9431	4.2700e-003	0.1269	0.0266	0.1536	0.0362	0.0245	0.0607		429.5127	429.5127	3.0400e-003		429.5765
Worker	0.2408	0.5460	4.8558	0.0124	1.0640	7.2900e-003	1.0713	0.2821	6.7000e-003	0.2888		1,036.6501	1,036.6501	0.0531		1,037.7650
<b>Total</b>	<b>0.4645</b>	<b>3.9491</b>	<b>7.0785</b>	<b>0.0216</b>	<b>1.3905</b>	<b>0.0591</b>	<b>1.4496</b>	<b>0.3705</b>	<b>0.0543</b>	<b>0.4249</b>		<b>1,957.8030</b>	<b>1,957.8030</b>	<b>0.0596</b>		<b>1,959.0541</b>

**3.6 12 kV - Daytime Duct Bank and Vault Installation - 2016**

**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	2.0038	42.3021	53.8799	0.0876		2.3763	2.3763		2.3763	2.3763	0.0000	8,806.8473	8,806.8473	2.0517		8,849.9333
<b>Total</b>	<b>2.0038</b>	<b>42.3021</b>	<b>53.8799</b>	<b>0.0876</b>		<b>2.3763</b>	<b>2.3763</b>		<b>2.3763</b>	<b>2.3763</b>	<b>0.0000</b>	<b>8,806.8473</b>	<b>8,806.8473</b>	<b>2.0517</b>		<b>8,849.9333</b>

**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	0.1199	1.8557	1.2797	4.8800e-003	0.1996	0.0252	0.2248	0.0522	0.0231	0.0754		491.6402	491.6402	3.4500e-003		491.7127
Vendor	0.1039	1.5474	0.9431	4.2700e-003	0.1269	0.0266	0.1536	0.0362	0.0245	0.0607		429.5127	429.5127	3.0400e-003		429.5765
Worker	0.2408	0.5460	4.8558	0.0124	1.0640	7.2900e-003	1.0713	0.2821	6.7000e-003	0.2888		1,036.6501	1,036.6501	0.0531		1,037.7650
<b>Total</b>	<b>0.4645</b>	<b>3.9491</b>	<b>7.0785</b>	<b>0.0216</b>	<b>1.3905</b>	<b>0.0591</b>	<b>1.4496</b>	<b>0.3705</b>	<b>0.0543</b>	<b>0.4249</b>		<b>1,957.8030</b>	<b>1,957.8030</b>	<b>0.0596</b>		<b>1,959.0541</b>

**3.6 12 kV - Daytime Duct Bank and Vault Installation - 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	7.4633	70.2140	46.9367	0.0876		4.0626	4.0626		3.8708	3.8708		8,718.8434	8,718.8434	2.0189		8,761.2404
<b>Total</b>	<b>7.4633</b>	<b>70.2140</b>	<b>46.9367</b>	<b>0.0876</b>		<b>4.0626</b>	<b>4.0626</b>		<b>3.8708</b>	<b>3.8708</b>		<b>8,718.8434</b>	<b>8,718.8434</b>	<b>2.0189</b>		<b>8,761.2404</b>

**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	0.1122	1.6519	1.2266	4.8700e-003	0.2041	0.0221	0.2262	0.0533	0.0203	0.0737		483.2693	483.2693	3.3000e-003		483.3385
Vendor	0.0954	1.3672	0.8804	4.2600e-003	0.1269	0.0231	0.1501	0.0362	0.0213	0.0575		422.2424	422.2424	2.8400e-003		422.3021
Worker	0.2129	0.4967	4.3608	0.0124	1.0640	7.0400e-003	1.0710	0.2821	6.4900e-003	0.2886		996.5581	996.5581	0.0492		997.5915
<b>Total</b>	<b>0.4204</b>	<b>3.5158</b>	<b>6.4679</b>	<b>0.0215</b>	<b>1.3950</b>	<b>0.0523</b>	<b>1.4473</b>	<b>0.3716</b>	<b>0.0481</b>	<b>0.4197</b>		<b>1,902.0698</b>	<b>1,902.0698</b>	<b>0.0554</b>		<b>1,903.2321</b>



**3.6 12 kV - Daytime Duct Bank and Vault Installation - 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	2.0038	42.3021	53.8799	0.0876		2.3763	2.3763		2.3763	2.3763	0.0000	8,718.8434	8,718.8434	2.0189		8,761.2404
<b>Total</b>	<b>2.0038</b>	<b>42.3021</b>	<b>53.8799</b>	<b>0.0876</b>		<b>2.3763</b>	<b>2.3763</b>		<b>2.3763</b>	<b>2.3763</b>	<b>0.0000</b>	<b>8,718.8434</b>	<b>8,718.8434</b>	<b>2.0189</b>		<b>8,761.2404</b>

**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	0.1122	1.6519	1.2266	4.8700e-003	0.2041	0.0221	0.2262	0.0533	0.0203	0.0737		483.2693	483.2693	3.3000e-003		483.3385
Vendor	0.0954	1.3672	0.8804	4.2600e-003	0.1269	0.0231	0.1501	0.0362	0.0213	0.0575		422.2424	422.2424	2.8400e-003		422.3021
Worker	0.2129	0.4967	4.3608	0.0124	1.0640	7.0400e-003	1.0710	0.2821	6.4900e-003	0.2886		996.5581	996.5581	0.0492		997.5915
<b>Total</b>	<b>0.4204</b>	<b>3.5158</b>	<b>6.4679</b>	<b>0.0215</b>	<b>1.3950</b>	<b>0.0523</b>	<b>1.4473</b>	<b>0.3716</b>	<b>0.0481</b>	<b>0.4197</b>		<b>1,902.0698</b>	<b>1,902.0698</b>	<b>0.0554</b>		<b>1,903.2321</b>

**3.7 12 kV - Nighttime Duct Bank and Vault Installation - 2016**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	8.6397	79.6193	50.4424	0.0932		4.6539	4.6539		4.4418	4.4418		9,201.3556	9,201.3556	2.0927		9,245.3018
<b>Total</b>	<b>8.6397</b>	<b>79.6193</b>	<b>50.4424</b>	<b>0.0932</b>		<b>4.6539</b>	<b>4.6539</b>		<b>4.4418</b>	<b>4.4418</b>		<b>9,201.3556</b>	<b>9,201.3556</b>	<b>2.0927</b>		<b>9,245.3018</b>

**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	0.1815	2.8093	1.9372	7.3800e-003	0.3022	0.0381	0.3402	0.0791	0.0350	0.1141		744.2787	744.2787	5.2300e-003		744.3885
Vendor	0.1039	1.5474	0.9431	4.2700e-003	0.1269	0.0266	0.1536	0.0362	0.0245	0.0607		429.5127	429.5127	3.0400e-003		429.5765
Worker	0.2408	0.5460	4.8558	0.0124	1.0640	7.2900e-003	1.0713	0.2821	6.7000e-003	0.2888		1,036.6501	1,036.6501	0.0531		1,037.7650
<b>Total</b>	<b>0.5261</b>	<b>4.9027</b>	<b>7.7361</b>	<b>0.0241</b>	<b>1.4931</b>	<b>0.0720</b>	<b>1.5651</b>	<b>0.3974</b>	<b>0.0662</b>	<b>0.4636</b>		<b>2,210.4415</b>	<b>2,210.4415</b>	<b>0.0614</b>		<b>2,211.7299</b>

**3.7 12 kV - Nighttime Duct Bank and Vault Installation - 2016**

**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	2.4627	45.1775	56.2880	0.0932		2.4880	2.4880		2.4880	2.4880	0.0000	9,201.3556	9,201.3556	2.0927		9,245.3017
<b>Total</b>	<b>2.4627</b>	<b>45.1775</b>	<b>56.2880</b>	<b>0.0932</b>		<b>2.4880</b>	<b>2.4880</b>		<b>2.4880</b>	<b>2.4880</b>	<b>0.0000</b>	<b>9,201.3556</b>	<b>9,201.3556</b>	<b>2.0927</b>		<b>9,245.3017</b>

**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	0.1815	2.8093	1.9372	7.3800e-003	0.3022	0.0381	0.3402	0.0791	0.0350	0.1141		744.2787	744.2787	5.2300e-003		744.3885
Vendor	0.1039	1.5474	0.9431	4.2700e-003	0.1269	0.0266	0.1536	0.0362	0.0245	0.0607		429.5127	429.5127	3.0400e-003		429.5765
Worker	0.2408	0.5460	4.8558	0.0124	1.0640	7.2900e-003	1.0713	0.2821	6.7000e-003	0.2888		1,036.6501	1,036.6501	0.0531		1,037.7650
<b>Total</b>	<b>0.5261</b>	<b>4.9027</b>	<b>7.7361</b>	<b>0.0241</b>	<b>1.4931</b>	<b>0.0720</b>	<b>1.5651</b>	<b>0.3974</b>	<b>0.0662</b>	<b>0.4636</b>		<b>2,210.4415</b>	<b>2,210.4415</b>	<b>0.0614</b>		<b>2,211.7299</b>

**3.7 12 kV - Nighttime Duct Bank and Vault Installation - 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	7.9222	73.0893	49.3448	0.0932		4.1744	4.1744		3.9825	3.9825		9,113.3517	9,113.3517	2.0599		9,156.6089
<b>Total</b>	<b>7.9222</b>	<b>73.0893</b>	<b>49.3448</b>	<b>0.0932</b>		<b>4.1744</b>	<b>4.1744</b>		<b>3.9825</b>	<b>3.9825</b>		<b>9,113.3517</b>	<b>9,113.3517</b>	<b>2.0599</b>		<b>9,156.6089</b>

**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	0.1699	2.5008	1.8569	7.3700e-003	0.3089	0.0335	0.3424	0.0808	0.0308	0.1115		731.6063	731.6063	4.9900e-003		731.7110
Vendor	0.0954	1.3672	0.8804	4.2600e-003	0.1269	0.0231	0.1501	0.0362	0.0213	0.0575		422.2424	422.2424	2.8400e-003		422.3021
Worker	0.2129	0.4967	4.3608	0.0124	1.0640	7.0400e-003	1.0710	0.2821	6.4900e-003	0.2886		996.5581	996.5581	0.0492		997.5915
<b>Total</b>	<b>0.4781</b>	<b>4.3647</b>	<b>7.0982</b>	<b>0.0240</b>	<b>1.4999</b>	<b>0.0636</b>	<b>1.5635</b>	<b>0.3990</b>	<b>0.0586</b>	<b>0.4576</b>		<b>2,150.4068</b>	<b>2,150.4068</b>	<b>0.0570</b>		<b>2,151.6046</b>

**3.7 12 kV - Nighttime Duct Bank and Vault Installation - 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	2.4627	45.1775	56.2880	0.0932		2.4880	2.4880		2.4880	2.4880	0.0000	9,113.3517	9,113.3517	2.0599		9,156.6089
<b>Total</b>	<b>2.4627</b>	<b>45.1775</b>	<b>56.2880</b>	<b>0.0932</b>		<b>2.4880</b>	<b>2.4880</b>		<b>2.4880</b>	<b>2.4880</b>	<b>0.0000</b>	<b>9,113.3517</b>	<b>9,113.3517</b>	<b>2.0599</b>		<b>9,156.6089</b>

**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	0.1699	2.5008	1.8569	7.3700e-003	0.3089	0.0335	0.3424	0.0808	0.0308	0.1115		731.6063	731.6063	4.9900e-003		731.7110
Vendor	0.0954	1.3672	0.8804	4.2600e-003	0.1269	0.0231	0.1501	0.0362	0.0213	0.0575		422.2424	422.2424	2.8400e-003		422.3021
Worker	0.2129	0.4967	4.3608	0.0124	1.0640	7.0400e-003	1.0710	0.2821	6.4900e-003	0.2886		996.5581	996.5581	0.0492		997.5915
<b>Total</b>	<b>0.4781</b>	<b>4.3647</b>	<b>7.0982</b>	<b>0.0240</b>	<b>1.4999</b>	<b>0.0636</b>	<b>1.5635</b>	<b>0.3990</b>	<b>0.0586</b>	<b>0.4576</b>		<b>2,150.4068</b>	<b>2,150.4068</b>	<b>0.0570</b>		<b>2,151.6046</b>

**3.8 69 kV - Foundation Installation - 2016**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2214	13.4673	6.9069	0.0165		0.6755	0.6755		0.6350	0.6350		1,680.2971	1,680.2971	0.4414		1,689.5660
<b>Total</b>	<b>1.2214</b>	<b>13.4673</b>	<b>6.9069</b>	<b>0.0165</b>		<b>0.6755</b>	<b>0.6755</b>		<b>0.6350</b>	<b>0.6350</b>		<b>1,680.2971</b>	<b>1,680.2971</b>	<b>0.4414</b>		<b>1,689.5660</b>

**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	0.1113	1.7230	1.1881	4.5300e-003	0.1065	0.0234	0.1299	0.0292	0.0215	0.0507		456.4718	456.4718	3.2100e-003		456.5391
Vendor	0.0520	0.7737	0.4715	2.1300e-003	0.0635	0.0133	0.0768	0.0181	0.0123	0.0303		214.7563	214.7563	1.5200e-003		214.7882
Worker	0.0421	0.0956	0.8498	2.1700e-003	0.1862	1.2800e-003	0.1875	0.0494	1.1700e-003	0.0505		181.4138	181.4138	9.2900e-003		181.6089
<b>Total</b>	<b>0.2054</b>	<b>2.5922</b>	<b>2.5094</b>	<b>8.8300e-003</b>	<b>0.3562</b>	<b>0.0379</b>	<b>0.3941</b>	<b>0.0966</b>	<b>0.0349</b>	<b>0.1315</b>		<b>852.6419</b>	<b>852.6419</b>	<b>0.0140</b>		<b>852.9362</b>

**3.8 69 kV - Foundation Installation - 2016**

**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	0.3916	7.9990	9.6073	0.0165		0.3934	0.3934		0.3934	0.3934	0.0000	1,680.297 1	1,680.297 1	0.4414		1,689.566 0
<b>Total</b>	<b>0.3916</b>	<b>7.9990</b>	<b>9.6073</b>	<b>0.0165</b>		<b>0.3934</b>	<b>0.3934</b>		<b>0.3934</b>	<b>0.3934</b>	<b>0.0000</b>	<b>1,680.297 1</b>	<b>1,680.297 1</b>	<b>0.4414</b>		<b>1,689.566 0</b>

**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	0.1113	1.7230	1.1881	4.5300e-003	0.1065	0.0234	0.1299	0.0292	0.0215	0.0507		456.4718	456.4718	3.2100e-003		456.5391
Vendor	0.0520	0.7737	0.4715	2.1300e-003	0.0635	0.0133	0.0768	0.0181	0.0123	0.0303		214.7563	214.7563	1.5200e-003		214.7882
Worker	0.0421	0.0956	0.8498	2.1700e-003	0.1862	1.2800e-003	0.1875	0.0494	1.1700e-003	0.0505		181.4138	181.4138	9.2900e-003		181.6089
<b>Total</b>	<b>0.2054</b>	<b>2.5922</b>	<b>2.5094</b>	<b>8.8300e-003</b>	<b>0.3562</b>	<b>0.0379</b>	<b>0.3941</b>	<b>0.0966</b>	<b>0.0349</b>	<b>0.1315</b>		<b>852.6419</b>	<b>852.6419</b>	<b>0.0140</b>		<b>852.9362</b>

**3.9 69 kV - Pole Installation and Removal - 2016**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2674	12.6173	6.5818	0.0113		0.6872	0.6872		0.6532	0.6532		1,133.0957	1,133.0957	0.2728		1,138.8252
<b>Total</b>	<b>1.2674</b>	<b>12.6173</b>	<b>6.5818</b>	<b>0.0113</b>		<b>0.6872</b>	<b>0.6872</b>		<b>0.6532</b>	<b>0.6532</b>		<b>1,133.0957</b>	<b>1,133.0957</b>	<b>0.2728</b>		<b>1,138.8252</b>

**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	0.0779	1.1605	0.7073	3.2000e-003	0.0952	0.0200	0.1152	0.0271	0.0184	0.0455		322.1345	322.1345	2.2800e-003		322.1824
Worker	0.0301	0.0683	0.6070	1.5500e-003	0.1330	9.1000e-004	0.1339	0.0353	8.4000e-004	0.0361		129.5813	129.5813	6.6400e-003		129.7206
<b>Total</b>	<b>0.1080</b>	<b>1.2288</b>	<b>1.3143</b>	<b>4.7500e-003</b>	<b>0.2282</b>	<b>0.0209</b>	<b>0.2491</b>	<b>0.0624</b>	<b>0.0192</b>	<b>0.0816</b>		<b>451.7158</b>	<b>451.7158</b>	<b>8.9200e-003</b>		<b>451.9030</b>



**3.9 69 kV - Pole Installation and Removal - 2016**

**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	0.2586	5.4199	6.7029	0.0113		0.2936	0.2936		0.2936	0.2936	0.0000	1,133.0957	1,133.0957	0.2728		1,138.8252
<b>Total</b>	<b>0.2586</b>	<b>5.4199</b>	<b>6.7029</b>	<b>0.0113</b>		<b>0.2936</b>	<b>0.2936</b>		<b>0.2936</b>	<b>0.2936</b>	<b>0.0000</b>	<b>1,133.0957</b>	<b>1,133.0957</b>	<b>0.2728</b>		<b>1,138.8252</b>

**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	0.0779	1.1605	0.7073	3.2000e-003	0.0952	0.0200	0.1152	0.0271	0.0184	0.0455		322.1345	322.1345	2.2800e-003		322.1824
Worker	0.0301	0.0683	0.6070	1.5500e-003	0.1330	9.1000e-004	0.1339	0.0353	8.4000e-004	0.0361		129.5813	129.5813	6.6400e-003		129.7206
<b>Total</b>	<b>0.1080</b>	<b>1.2288</b>	<b>1.3143</b>	<b>4.7500e-003</b>	<b>0.2282</b>	<b>0.0209</b>	<b>0.2491</b>	<b>0.0624</b>	<b>0.0192</b>	<b>0.0816</b>		<b>451.7158</b>	<b>451.7158</b>	<b>8.9200e-003</b>		<b>451.9030</b>

**3.9 69 kV - Pole Installation and Removal - 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	1.1394	11.4076	6.3265	0.0113		0.6024	0.6024		0.5727	0.5727		1,121.4317	1,121.4317	0.2682		1,127.0648
<b>Total</b>	<b>1.1394</b>	<b>11.4076</b>	<b>6.3265</b>	<b>0.0113</b>		<b>0.6024</b>	<b>0.6024</b>		<b>0.5727</b>	<b>0.5727</b>		<b>1,121.4317</b>	<b>1,121.4317</b>	<b>0.2682</b>		<b>1,127.0648</b>

**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	0.0715	1.0254	0.6603	3.1900e-003	0.0952	0.0174	0.1125	0.0271	0.0160	0.0431		316.6818	316.6818	2.1300e-003		316.7265
Worker	0.0266	0.0621	0.5451	1.5500e-003	0.1330	8.8000e-004	0.1339	0.0353	8.1000e-004	0.0361		124.5698	124.5698	6.1500e-003		124.6989
<b>Total</b>	<b>0.0981</b>	<b>1.0875</b>	<b>1.2054</b>	<b>4.7400e-003</b>	<b>0.2282</b>	<b>0.0182</b>	<b>0.2464</b>	<b>0.0624</b>	<b>0.0168</b>	<b>0.0792</b>		<b>441.2516</b>	<b>441.2516</b>	<b>8.2800e-003</b>		<b>441.4255</b>

**3.9 69 kV - Pole Installation and Removal - 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	0.2586	5.4199	6.7029	0.0113		0.2936	0.2936		0.2936	0.2936	0.0000	1,121.4317	1,121.4317	0.2682		1,127.0648
<b>Total</b>	<b>0.2586</b>	<b>5.4199</b>	<b>6.7029</b>	<b>0.0113</b>		<b>0.2936</b>	<b>0.2936</b>		<b>0.2936</b>	<b>0.2936</b>	<b>0.0000</b>	<b>1,121.4317</b>	<b>1,121.4317</b>	<b>0.2682</b>		<b>1,127.0648</b>

**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	0.0715	1.0254	0.6603	3.1900e-003	0.0952	0.0174	0.1125	0.0271	0.0160	0.0431		316.6818	316.6818	2.1300e-003		316.7265
Worker	0.0266	0.0621	0.5451	1.5500e-003	0.1330	8.8000e-004	0.1339	0.0353	8.1000e-004	0.0361		124.5698	124.5698	6.1500e-003		124.6989
<b>Total</b>	<b>0.0981</b>	<b>1.0875</b>	<b>1.2054</b>	<b>4.7400e-003</b>	<b>0.2282</b>	<b>0.0182</b>	<b>0.2464</b>	<b>0.0624</b>	<b>0.0168</b>	<b>0.0792</b>		<b>441.2516</b>	<b>441.2516</b>	<b>8.2800e-003</b>		<b>441.4255</b>

**3.10 12 kV - Jack-and-Bore Installation - 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	3.9575	39.2568	22.7560	0.0456		2.0044	2.0044		1.8992	1.8992		4,538.8603	4,538.8603	1.1153		4,562.2809
<b>Total</b>	<b>3.9575</b>	<b>39.2568</b>	<b>22.7560</b>	<b>0.0456</b>		<b>2.0044</b>	<b>2.0044</b>		<b>1.8992</b>	<b>1.8992</b>		<b>4,538.8603</b>	<b>4,538.8603</b>	<b>1.1153</b>		<b>4,562.2809</b>

**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	0.1143	1.6818	1.2489	4.9600e-003	0.1168	0.0225	0.1393	0.0320	0.0207	0.0527		492.0259	492.0259	3.3600e-003		492.0963
Vendor	0.0715	1.0254	0.6603	3.1900e-003	0.0952	0.0174	0.1125	0.0271	0.0160	0.0431		316.6818	316.6818	2.1300e-003		316.7265
Worker	0.0479	0.1118	0.9812	2.7900e-003	0.2394	1.5800e-003	0.2410	0.0635	1.4600e-003	0.0649		224.2256	224.2256	0.0111		224.4581
<b>Total</b>	<b>0.2337</b>	<b>2.8190</b>	<b>2.8904</b>	<b>0.0109</b>	<b>0.4514</b>	<b>0.0414</b>	<b>0.4928</b>	<b>0.1226</b>	<b>0.0381</b>	<b>0.1607</b>		<b>1,032.9332</b>	<b>1,032.9332</b>	<b>0.0166</b>		<b>1,033.2810</b>

**3.10 12 kV - Jack-and-Bore Installation - 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	1.2816	21.9704	27.2423	0.0456		1.1278	1.1278		1.1278	1.1278	0.0000	4,538.8603	4,538.8603	1.1153		4,562.2809
<b>Total</b>	<b>1.2816</b>	<b>21.9704</b>	<b>27.2423</b>	<b>0.0456</b>		<b>1.1278</b>	<b>1.1278</b>		<b>1.1278</b>	<b>1.1278</b>	<b>0.0000</b>	<b>4,538.8603</b>	<b>4,538.8603</b>	<b>1.1153</b>		<b>4,562.2809</b>

**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	0.1143	1.6818	1.2489	4.9600e-003	0.1168	0.0225	0.1393	0.0320	0.0207	0.0527		492.0259	492.0259	3.3600e-003		492.0963
Vendor	0.0715	1.0254	0.6603	3.1900e-003	0.0952	0.0174	0.1125	0.0271	0.0160	0.0431		316.6818	316.6818	2.1300e-003		316.7265
Worker	0.0479	0.1118	0.9812	2.7900e-003	0.2394	1.5800e-003	0.2410	0.0635	1.4600e-003	0.0649		224.2256	224.2256	0.0111		224.4581
<b>Total</b>	<b>0.2337</b>	<b>2.8190</b>	<b>2.8904</b>	<b>0.0109</b>	<b>0.4514</b>	<b>0.0414</b>	<b>0.4928</b>	<b>0.1226</b>	<b>0.0381</b>	<b>0.1607</b>		<b>1,032.9332</b>	<b>1,032.9332</b>	<b>0.0166</b>		<b>1,033.2810</b>

**3.11 69 kV - Conductor Installation - 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	1.2063	14.2231	8.0001	0.0132		0.6713	0.6713		0.6176	0.6176		1,350.3763	1,350.3763	0.4138		1,359.0651
<b>Total</b>	<b>1.2063</b>	<b>14.2231</b>	<b>8.0001</b>	<b>0.0132</b>		<b>0.6713</b>	<b>0.6713</b>		<b>0.6176</b>	<b>0.6176</b>		<b>1,350.3763</b>	<b>1,350.3763</b>	<b>0.4138</b>		<b>1,359.0651</b>

**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	0.0238	0.3418	0.2201	1.0600e-003	0.0317	5.7800e-003	0.0375	9.0400e-003	5.3200e-003	0.0144		105.5606	105.5606	7.1000e-004		105.5755
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>0.0238</b>	<b>0.3418</b>	<b>0.2201</b>	<b>1.0600e-003</b>	<b>0.0317</b>	<b>5.7800e-003</b>	<b>0.0375</b>	<b>9.0400e-003</b>	<b>5.3200e-003</b>	<b>0.0144</b>		<b>105.5606</b>	<b>105.5606</b>	<b>7.1000e-004</b>		<b>105.5755</b>

**3.11 69 kV - Conductor Installation - 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	0.3256	6.5433	8.9256	0.0132		0.3270	0.3270		0.3270	0.3270	0.0000	1,350.3763	1,350.3763	0.4138		1,359.0651
<b>Total</b>	<b>0.3256</b>	<b>6.5433</b>	<b>8.9256</b>	<b>0.0132</b>		<b>0.3270</b>	<b>0.3270</b>		<b>0.3270</b>	<b>0.3270</b>	<b>0.0000</b>	<b>1,350.3763</b>	<b>1,350.3763</b>	<b>0.4138</b>		<b>1,359.0651</b>

**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	0.0238	0.3418	0.2201	1.0600e-003	0.0317	5.7800e-003	0.0375	9.0400e-003	5.3200e-003	0.0144		105.5606	105.5606	7.1000e-004		105.5755
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>0.0238</b>	<b>0.3418</b>	<b>0.2201</b>	<b>1.0600e-003</b>	<b>0.0317</b>	<b>5.7800e-003</b>	<b>0.0375</b>	<b>9.0400e-003</b>	<b>5.3200e-003</b>	<b>0.0144</b>		<b>105.5606</b>	<b>105.5606</b>	<b>7.1000e-004</b>		<b>105.5755</b>

### 3.12 Energize - Testing and Commissioning - 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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>

#### 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	0.0715	1.0254	0.6603	3.1900e-003	0.0952	0.0174	0.1125	0.0271	0.0160	0.0431		316.6818	316.6818	2.1300e-003		316.7265
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>0.0715</b>	<b>1.0254</b>	<b>0.6603</b>	<b>3.1900e-003</b>	<b>0.0952</b>	<b>0.0174</b>	<b>0.1125</b>	<b>0.0271</b>	<b>0.0160</b>	<b>0.0431</b>		<b>316.6818</b>	<b>316.6818</b>	<b>2.1300e-003</b>		<b>316.7265</b>



### 3.12 Energize - Testing and Commissioning - 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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>

#### 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	0.0715	1.0254	0.6603	3.1900e-003	0.0952	0.0174	0.1125	0.0271	0.0160	0.0431		316.6818	316.6818	2.1300e-003		316.7265
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>0.0715</b>	<b>1.0254</b>	<b>0.6603</b>	<b>3.1900e-003</b>	<b>0.0952</b>	<b>0.0174</b>	<b>0.1125</b>	<b>0.0271</b>	<b>0.0160</b>	<b>0.0431</b>		<b>316.6818</b>	<b>316.6818</b>	<b>2.1300e-003</b>		<b>316.7265</b>

**3.13 Telecom - Duct Bank and Vault Installation - 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	0.1588	1.6561	1.4174	1.9300e-003		0.1135	0.1135		0.1044	0.1044		197.3953	197.3953	0.0605		198.6654
<b>Total</b>	<b>0.1588</b>	<b>1.6561</b>	<b>1.4174</b>	<b>1.9300e-003</b>		<b>0.1135</b>	<b>0.1135</b>		<b>0.1044</b>	<b>0.1044</b>		<b>197.3953</b>	<b>197.3953</b>	<b>0.0605</b>		<b>198.6654</b>

**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	0.0409	0.6019	0.4470	1.7700e-003	0.0418	8.0600e-003	0.0499	0.0115	7.4100e-003	0.0189		176.0935	176.0935	1.2000e-003		176.1187
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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>0.0409</b>	<b>0.6019</b>	<b>0.4470</b>	<b>1.7700e-003</b>	<b>0.0418</b>	<b>8.0600e-003</b>	<b>0.0499</b>	<b>0.0115</b>	<b>7.4100e-003</b>	<b>0.0189</b>		<b>176.0935</b>	<b>176.0935</b>	<b>1.2000e-003</b>		<b>176.1187</b>

**3.13 Telecom - Duct Bank and Vault Installation - 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	0.0473	1.0795	1.4578	1.9300e-003		0.0757	0.0757		0.0757	0.0757	0.0000	197.3953	197.3953	0.0605		198.6654
<b>Total</b>	<b>0.0473</b>	<b>1.0795</b>	<b>1.4578</b>	<b>1.9300e-003</b>		<b>0.0757</b>	<b>0.0757</b>		<b>0.0757</b>	<b>0.0757</b>	<b>0.0000</b>	<b>197.3953</b>	<b>197.3953</b>	<b>0.0605</b>		<b>198.6654</b>

**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	0.0409	0.6019	0.4470	1.7700e-003	0.0418	8.0600e-003	0.0499	0.0115	7.4100e-003	0.0189		176.0935	176.0935	1.2000e-003		176.1187
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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
<b>Total</b>	<b>0.0409</b>	<b>0.6019</b>	<b>0.4470</b>	<b>1.7700e-003</b>	<b>0.0418</b>	<b>8.0600e-003</b>	<b>0.0499</b>	<b>0.0115</b>	<b>7.4100e-003</b>	<b>0.0189</b>		<b>176.0935</b>	<b>176.0935</b>	<b>1.2000e-003</b>		<b>176.1187</b>

**3.14 12 kV - Cable Installation and Cutover - 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	0.1585	1.7399	1.0570	1.5300e-003		0.0919	0.0919		0.0846	0.0846		157.0475	157.0475	0.0481		158.0580
<b>Total</b>	<b>0.1585</b>	<b>1.7399</b>	<b>1.0570</b>	<b>1.5300e-003</b>		<b>0.0919</b>	<b>0.0919</b>		<b>0.0846</b>	<b>0.0846</b>		<b>157.0475</b>	<b>157.0475</b>	<b>0.0481</b>		<b>158.0580</b>

**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	0.0715	1.0254	0.6603	3.1900e-003	0.0952	0.0174	0.1125	0.0271	0.0160	0.0431		316.6818	316.6818	2.1300e-003		316.7265
Worker	0.0798	0.1863	1.6353	4.6500e-003	0.3990	2.6400e-003	0.4016	0.1058	2.4300e-003	0.1082		373.7093	373.7093	0.0185		374.0968
<b>Total</b>	<b>0.1513</b>	<b>1.2117</b>	<b>2.2956</b>	<b>7.8400e-003</b>	<b>0.4942</b>	<b>0.0200</b>	<b>0.5142</b>	<b>0.1329</b>	<b>0.0184</b>	<b>0.1513</b>		<b>690.3911</b>	<b>690.3911</b>	<b>0.0206</b>		<b>690.8234</b>

**3.14 12 kV - Cable Installation and Cutover - 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	0.0380	0.7347	1.1717	1.5300e-003		0.0355	0.0355		0.0355	0.0355	0.0000	157.0475	157.0475	0.0481		158.0580
<b>Total</b>	<b>0.0380</b>	<b>0.7347</b>	<b>1.1717</b>	<b>1.5300e-003</b>		<b>0.0355</b>	<b>0.0355</b>		<b>0.0355</b>	<b>0.0355</b>	<b>0.0000</b>	<b>157.0475</b>	<b>157.0475</b>	<b>0.0481</b>		<b>158.0580</b>

**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	0.0715	1.0254	0.6603	3.1900e-003	0.0952	0.0174	0.1125	0.0271	0.0160	0.0431		316.6818	316.6818	2.1300e-003		316.7265
Worker	0.0798	0.1863	1.6353	4.6500e-003	0.3990	2.6400e-003	0.4016	0.1058	2.4300e-003	0.1082		373.7093	373.7093	0.0185		374.0968
<b>Total</b>	<b>0.1513</b>	<b>1.2117</b>	<b>2.2956</b>	<b>7.8400e-003</b>	<b>0.4942</b>	<b>0.0200</b>	<b>0.5142</b>	<b>0.1329</b>	<b>0.0184</b>	<b>0.1513</b>		<b>690.3911</b>	<b>690.3911</b>	<b>0.0206</b>		<b>690.8234</b>

**Vine Substation Project - Data Request #2**  
**San Diego County, Annual**

**1.0 Project Characteristics**

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**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	1.00	User Defined Unit	1.50	0.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.6	<b>Precipitation Freq (Days)</b>	40
<b>Climate Zone</b>	13			<b>Operational Year</b>	2017
<b>Utility Company</b>	San Diego Gas & Electric				
<b>CO2 Intensity (lb/MWhr)</b>	720.49	<b>CH4 Intensity (lb/MWhr)</b>	0.029	<b>N2O Intensity (lb/MWhr)</b>	0.006

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

Project Characteristics -

Land Use - The proposed Vine Substation site will be approximately 1.5 acres

Construction Phase - Construction schedule take from the original PEA and PEA Supplement.

Off-road Equipment - Default equipment set to zero. Equipment list taken from Attachment A: Construction Equipment and Vehicle Summary.

Off-road Equipment - Default equipment set to zero. Equipment list taken from Attachment A: Construction Equipment and Vehicle Summary.

Off-road Equipment - Default equipment set to zero. Equipment list taken from Attachment A: Construction Equipment and Vehicle Summary.

Off-road Equipment - Default equipment set to zero. Equipment list taken from Attachment A: Construction Equipment and Vehicle Summary.

Off-road Equipment - Default equipment set to zero. Equipment list taken from Attachment A: Construction Equipment and Vehicle Summary.

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Off-road Equipment - Default equipment set to zero. Equipment list taken from Attachment A: Construction Equipment and Vehicle Summary.

Off-road Equipment - Default equipment set to zero. Equipment list taken from Attachment A: Construction Equipment and Vehicle Summary.

Off-road Equipment - Default equipment set to zero. Equipment list taken from Attachment A: Construction Equipment and Vehicle Summary.

Trips and VMT - Truck trip requirements taken from Attachment A: Construction Equipment and Vehicle Summary

On-road Fugitive Dust - All on-road travel will be 100-percent paved with the exception of vendor and hauling trips during construction of the proposed Vine Substation.

Grading - Import and export requirements taken from the original PEA. Entire site assumed to be disturbed during both processes.

Vehicle Trips - Assume a maximum of 10 vehicles could visit the site daily.

Construction Off-road Equipment Mitigation - Tier 3 or better will be a mitigation measure for the project

## 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					
2016	1.5354	15.4894	10.3183	0.0206	1.4202	0.7903	2.2105	0.3567	0.7442	1.1009	0.0000	1,835.2448	1,835.2448	0.3540	0.0000	1,842.6795
2017	0.9853	9.3674	6.8879	0.0145	0.4085	0.4980	0.9065	0.0797	0.4753	0.5549	0.0000	1,263.0200	1,263.0200	0.2186	0.0000	1,267.6106
<b>Total</b>	<b>2.5207</b>	<b>24.8567</b>	<b>17.2062</b>	<b>0.0351</b>	<b>1.8286</b>	<b>1.2883</b>	<b>3.1169</b>	<b>0.4364</b>	<b>1.2195</b>	<b>1.6559</b>	<b>0.0000</b>	<b>3,098.2648</b>	<b>3,098.2648</b>	<b>0.5726</b>	<b>0.0000</b>	<b>3,110.2901</b>

#### 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					
2016	0.4822	8.3384	10.7948	0.0206	0.6954	0.3988	1.0942	0.1971	0.3974	0.5945	0.0000	1,835.2432	1,835.2432	0.3540	0.0000	1,842.6779
2017	0.3290	5.7932	7.6370	0.0145	0.2797	0.3020	0.5817	0.0668	0.3012	0.3680	0.0000	1,263.0189	1,263.0189	0.2186	0.0000	1,267.6095
<b>Total</b>	<b>0.8112</b>	<b>14.1316</b>	<b>18.4317</b>	<b>0.0351</b>	<b>0.9751</b>	<b>0.7008</b>	<b>1.6759</b>	<b>0.2639</b>	<b>0.6986</b>	<b>0.9625</b>	<b>0.0000</b>	<b>3,098.2621</b>	<b>3,098.2621</b>	<b>0.5726</b>	<b>0.0000</b>	<b>3,110.2873</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
<b>Percent Reduction</b>	<b>67.82</b>	<b>43.15</b>	<b>-7.12</b>	<b>0.00</b>	<b>46.68</b>	<b>45.60</b>	<b>46.23</b>	<b>39.51</b>	<b>42.72</b>	<b>41.87</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>



### 3.0 Construction Detail

#### Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Vine - Site Development and Grading	Grading	1/1/2016	3/31/2016	6	78	
2	Vine - Retaining/Boundary Wall Construction	Building Construction	3/1/2016	4/30/2016	6	53	
3	Vine - Below-Grade Construction	Site Preparation	4/1/2016	9/30/2016	6	157	
4	Vine - Substation Equipment Installation	Building Construction	9/1/2016	6/30/2017	6	260	
5	12 kV - Daytime Duct Bank and Vault Installation	Trenching	10/1/2016	3/31/2017	6	156	
6	12 kV - Nighttime Duct Bank and Vault Installation	Trenching	10/1/2016	3/31/2017	6	156	
7	69 kV - Foundation Installation	Trenching	11/16/2016	11/30/2016	6	13	
8	69 kV - Pole Installation and Removal	Building Construction	11/16/2016	2/28/2017	6	90	
9	12 kV - Jack-and-Bore Installation	Trenching	1/1/2017	1/20/2017	6	17	
10	69 kV - Conductor Installation	Building Construction	1/1/2017	2/28/2017	6	50	
11	Energize - Testing and Commissioning	Building Construction	2/1/2017	6/30/2017	6	129	
12	Telecom - Duct Bank and Vault Installation	Trenching	4/1/2017	4/29/2017	6	25	
13	12 kV - Cable Installation and Cutover	Building Construction	4/1/2017	6/30/2017	6	78	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

#### OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Vine - Site Development and Grading	Excavators	1	6.00	162	0.38

Vine - Site Development and Grading	Off-Highway Trucks	1	7.00	400	0.38
Vine - Site Development and Grading	Pavers	1	6.00	125	0.42
Vine - Site Development and Grading	Rollers	2	7.00	80	0.38
Vine - Site Development and Grading	Rollers	2	6.00	80	0.38
Vine - Site Development and Grading	Rubber Tired Dozers	2	6.00	255	0.40
Vine - Site Development and Grading	Rubber Tired Loaders	2	6.00	199	0.36
Vine - Site Development and Grading	Scrapers	2	7.00	361	0.48
Vine - Site Development and Grading	Skid Steer Loaders	2	3.00	64	0.37
Vine - Site Development and Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Vine - Site Development and Grading	Trenchers	1	6.00	80	0.50
Vine - Retaining/Boundary Wall Construction	Excavators	1	9.00	162	0.38
Vine - Retaining/Boundary Wall Construction	Graders	1	9.00	174	0.41
Vine - Retaining/Boundary Wall Construction	Plate Compactors	3	9.00	8	0.43
Vine - Retaining/Boundary Wall Construction	Rollers	1	9.00	80	0.38
Vine - Retaining/Boundary Wall Construction	Rubber Tired Loaders	3	9.00	199	0.36

Vine - Below-Grade Construction	Rubber Tired Loaders	2	6.00	199	0.36
Vine - Below-Grade Construction	Skid Steer Loaders	1	4.00	64	0.37
Vine - Below-Grade Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Vine - Below-Grade Construction	Trenchers	1	6.00	80	0.50
Vine Substation Equipment Installation	Aerial Lifts	4	5.00	62	0.31
Vine - Substation Equipment Installation	Aerial Lifts	1	6.00	62	0.31
Vine - Substation Equipment Installation	Cranes	2	6.00	226	0.29
Vine - Substation Equipment Installation	Generator Sets	1	24.00	84	0.74
12 kV - Daytime Duct Bank and Vault Installation	Air Compressors	4	3.00	78	0.48
12 kV - Daytime Duct Bank and Vault Installation	Concrete/Industrial Saws	2	6.00	81	0.73
12 kV - Daytime Duct Bank and Vault Installation	Cranes	2	4.00	226	0.29
12 kV - Daytime Duct Bank and Vault Installation	Crushing/Proc. Equipment	2	5.00	85	0.78
12 kV - Daytime Duct Bank and Vault Installation	Generator Sets	2	5.00	84	0.74
12 kV - Daytime Duct Bank and Vault Installation	Off-Highway Trucks	2	6.00	400	0.38
12 kV - Daytime Duct Bank and Vault Installation	Paving Equipment	2	5.00	130	0.36
12 kV - Daytime Duct Bank and Vault Installation	Rollers	2	5.00	80	0.38
12 kV - Daytime Duct Bank and Vault Installation	Skid Steer Loaders	2	2.00	64	0.37

12 kV - Daytime Duct Bank and Vault Installation	Surfacing Equipment	2	6.00	253	0.30
12 kV - Daytime Duct Bank and Vault Installation	Tractors/Loaders/Backhoes	2	6.00	97	0.37
12 kV - Daytime Duct Bank and Vault Installation	Tractors/Loaders/Backhoes	2	2.00	97	0.37
12 kV - Daytime Duct Bank and Vault Installation	Tractors/Loaders/Backhoes	2	6.00	97	0.37
12 kV - Nighttime Duct Bank and Vault Installation	Air Compressors	4	3.00	78	0.48
12 kV - Nighttime Duct Bank and Vault Installation	Concrete/Industrial Saws	2	6.00	81	0.73
12 kV - Nighttime Duct Bank and Vault Installation	Cranes	2	4.00	226	0.29
12 kV - Nighttime Duct Bank and Vault Installation	Crushing/Proc. Equipment	2	5.00	85	0.78
12 kV - Nighttime Duct Bank and Vault Installation	Generator Sets	2	5.00	84	0.74
12 kV - Nighttime Duct Bank and Vault Installation	Off-Highway Trucks	2	6.00	400	0.38
12 kV - Nighttime Duct Bank and Vault Installation	Paving Equipment	2	5.00	130	0.36
12 kV - Nighttime Duct Bank and Vault Installation	Rollers	2	5.00	80	0.38
12 kV - Nighttime Duct Bank and Vault Installation	Signal Boards	8	8.00	6	0.82
12 kV - Nighttime Duct Bank and Vault Installation	Skid Steer Loaders	2	2.00	64	0.37
12 kV - Nighttime Duct Bank and Vault Installation	Surfacing Equipment	2	6.00	253	0.30
12 kV - Nighttime Duct Bank and Vault Installation	Tractors/Loaders/Backhoes	2	6.00	97	0.37
12 kV - Nighttime Duct Bank and Vault Installation	Tractors/Loaders/Backhoes	2	2.00	97	0.37
12 kV - Nighttime Duct Bank and Vault Installation	Tractors/Loaders/Backhoes	2	6.00	97	0.37

69 kV - Foundation Installation	Bore/Drill Rigs	1	8.00	205	0.50
69 kV - Foundation Installation	Cranes	1	3.00	226	0.29
69 kV - Foundation Installation	Forklifts	1	4.00	89	0.20
69 kV - Foundation Installation	Generator Sets	1	4.00	84	0.74
69 kV - Foundation Installation	Tractors/Loaders/Backhoes	1	4.00	97	0.37
69 kV - Pole Installation and Removal	Aerial Lifts	1	8.00	62	0.31
69 kV - Pole Installation and Removal	Air Compressors	1	8.00	78	0.48
69 kV - Pole Installation and Removal	Cranes	1	8.00	226	0.29
12 kV - Jack-and-Bore Installation	Air Compressors	1	3.00	78	0.48
12 kV - Jack-and-Bore Installation	Bore/Drill Rigs	1	6.00	205	0.50
12 kV - Jack-and-Bore Installation	Concrete/Industrial Saws	1	4.00	81	0.73
12 kV - Jack-and-Bore Installation	Cranes	1	6.00	226	0.29
12 kV - Jack-and-Bore Installation	Cranes	2	3.00	226	0.29
12 kV - Jack-and-Bore Installation	Cranes	1	4.00	226	0.29
12 kV - Jack-and-Bore Installation	Excavators	1	6.00	162	0.38
12 kV - Jack-and-Bore Installation	Generator Sets	1	4.00	84	0.74
12 kV - Jack-and-Bore Installation	Off-Highway Trucks	1	4.00	400	0.38
12 kV - Jack-and-Bore Installation	Pumps	1	6.00	84	0.74
12 kV - Jack-and-Bore Installation	Skid Steer Loaders	1	3.00	64	0.37
12 kV - Jack-and-Bore Installation	Tractors/Loaders/Backhoes	1	6.00	97	0.37
12 kV - Jack-and-Bore Installation	Welders	1	4.00	46	0.45
69 kV - Conductor Installation	Aerial Lifts	2	7.00	62	0.31

69 kV - Conductor Installation	Cranes	1	7.00	226	0.29
69 kV - Conductor Installation	Other Construction Equipment	1	7.00	171	0.42
Telecom - Duct Bank and Vault Installation	Skid Steer Loaders	1	3.00	64	0.37
Telecom - Duct Bank and Vault Installation	Tractors/Loaders/Backhoes	1	3.00	97	0.37
12 kV - Cable Installation and Cutover	Other Construction Equipment	1	2.00	171	0.42

**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
Vine - Site Development and Gra	18	48.00	7.00	1,106.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
Vine - Retaining/Boundary W	9	20.00	7.00	0.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
Vine - Below-Grade Construction	5	27.00	4.00	198.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
Vine - Substation Equipment Installation	8	37.00	5.00	0.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
12 kV - Daytime Duct Bank and Vault Install	28	40.00	4.00	685.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
12 kV - Nighttime Duct Bank and Vault Install	36	40.00	4.00	1,037.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
69 kV - Foundation Installation	5	7.00	2.00	53.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
69 kV - Pole Installation and Remo	3	5.00	3.00	0.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
12 kV - Jack-and-Bore Installation	14	9.00	3.00	76.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
69 kV - Conductor Installation	4	0.00	1.00	0.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
Energize - Testing and Commissioning	0	0.00	3.00	0.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
Telecom - Duct Bank and Vault Installation	2	0.00	0.00	40.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT
12 kV - Cable Installation and Cutov	1	15.00	3.00	0.00	35.00	35.00	30.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Use Cleaner Engines for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

### 3.2 Vine - Site Development and Grading - 2016

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.3539	0.0000	0.3539	0.1939	0.0000	0.1939	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.3333	3.7929	2.3484	3.3000e-003		0.1833	0.1833		0.1686	0.1686	0.0000	311.6091	311.6091	0.0940	0.0000	313.5829
<b>Total</b>	<b>0.3333</b>	<b>3.7929</b>	<b>2.3484</b>	<b>3.3000e-003</b>	<b>0.3539</b>	<b>0.1833</b>	<b>0.5371</b>	<b>0.1939</b>	<b>0.1686</b>	<b>0.3625</b>	<b>0.0000</b>	<b>311.6091</b>	<b>311.6091</b>	<b>0.0940</b>	<b>0.0000</b>	<b>313.5829</b>

#### 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	0.0146	0.2345	0.1506	6.1000e-004	0.2315	3.1600e-003	0.2346	0.0256	2.9100e-003	0.0285	0.0000	56.2212	56.2212	3.9000e-004	0.0000	56.2294
Vendor	6.9100e-003	0.1060	0.0609	2.9000e-004	0.1337	1.8100e-003	0.1355	0.0149	1.6700e-003	0.0166	0.0000	26.6197	26.6197	1.9000e-004	0.0000	26.6236
Worker	0.0108	0.0252	0.2286	5.9000e-004	0.0486	3.4000e-004	0.0490	0.0129	3.1000e-004	0.0132	0.0000	44.4551	44.4551	2.2500e-003	0.0000	44.5024
<b>Total</b>	<b>0.0323</b>	<b>0.3658</b>	<b>0.4401</b>	<b>1.4900e-003</b>	<b>0.4137</b>	<b>5.3100e-003</b>	<b>0.4190</b>	<b>0.0534</b>	<b>4.8900e-003</b>	<b>0.0583</b>	<b>0.0000</b>	<b>127.2960</b>	<b>127.2960</b>	<b>2.8300e-003</b>	<b>0.0000</b>	<b>127.3555</b>



### 3.2 Vine - Site Development and Grading - 2016

#### 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					0.1592	0.0000	0.1592	0.0872	0.0000	0.0872	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0811	1.6260	1.9737	3.3000e-003		0.0752	0.0752		0.0752	0.0752	0.0000	311.6087	311.6087	0.0940	0.0000	313.5825
<b>Total</b>	<b>0.0811</b>	<b>1.6260</b>	<b>1.9737</b>	<b>3.3000e-003</b>	<b>0.1592</b>	<b>0.0752</b>	<b>0.2345</b>	<b>0.0872</b>	<b>0.0752</b>	<b>0.1625</b>	<b>0.0000</b>	<b>311.6087</b>	<b>311.6087</b>	<b>0.0940</b>	<b>0.0000</b>	<b>313.5825</b>

#### 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	0.0146	0.2345	0.1506	6.1000e-004	0.0739	3.1600e-003	0.0771	9.8200e-003	2.9100e-003	0.0127	0.0000	56.2212	56.2212	3.9000e-004	0.0000	56.2294
Vendor	6.9100e-003	0.1060	0.0609	2.9000e-004	0.0429	1.8100e-003	0.0447	5.8500e-003	1.6700e-003	7.5200e-003	0.0000	26.6197	26.6197	1.9000e-004	0.0000	26.6236
Worker	0.0108	0.0252	0.2286	5.9000e-004	0.0486	3.4000e-004	0.0490	0.0129	3.1000e-004	0.0132	0.0000	44.4551	44.4551	2.2500e-003	0.0000	44.5024
<b>Total</b>	<b>0.0323</b>	<b>0.3658</b>	<b>0.4401</b>	<b>1.4900e-003</b>	<b>0.1655</b>	<b>5.3100e-003</b>	<b>0.1708</b>	<b>0.0286</b>	<b>4.8900e-003</b>	<b>0.0335</b>	<b>0.0000</b>	<b>127.2960</b>	<b>127.2960</b>	<b>2.8300e-003</b>	<b>0.0000</b>	<b>127.3555</b>

### 3.3 Vine - Retaining/Boundary Wall Construction - 2016

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1000	1.1349	0.4921	1.0100e-003		0.0513	0.0513		0.0473	0.0473	0.0000	94.2361	94.2361	0.0279	0.0000	94.8214
<b>Total</b>	<b>0.1000</b>	<b>1.1349</b>	<b>0.4921</b>	<b>1.0100e-003</b>		<b>0.0513</b>	<b>0.0513</b>		<b>0.0473</b>	<b>0.0473</b>	<b>0.0000</b>	<b>94.2361</b>	<b>94.2361</b>	<b>0.0279</b>	<b>0.0000</b>	<b>94.8214</b>

#### 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	4.6900e-003	0.0721	0.0414	2.0000e-004	0.0908	1.2300e-003	0.0920	0.0101	1.1300e-003	0.0113	0.0000	18.0878	18.0878	1.3000e-004	0.0000	18.0904
Worker	3.0500e-003	7.1300e-003	0.0647	1.7000e-004	0.0138	1.0000e-004	0.0139	3.6600e-003	9.0000e-005	3.7400e-003	0.0000	12.5861	12.5861	6.4000e-004	0.0000	12.5995
<b>Total</b>	<b>7.7400e-003</b>	<b>0.0792</b>	<b>0.1061</b>	<b>3.7000e-004</b>	<b>0.1046</b>	<b>1.3300e-003</b>	<b>0.1059</b>	<b>0.0138</b>	<b>1.2200e-003</b>	<b>0.0150</b>	<b>0.0000</b>	<b>30.6739</b>	<b>30.6739</b>	<b>7.7000e-004</b>	<b>0.0000</b>	<b>30.6899</b>

### 3.3 Vine - Retaining/Boundary Wall Construction - 2016

#### 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	0.0275	0.4906	0.6303	1.0100e-003		0.0217	0.0217		0.0217	0.0217	0.0000	94.2360	94.2360	0.0279	0.0000	94.8213
<b>Total</b>	<b>0.0275</b>	<b>0.4906</b>	<b>0.6303</b>	<b>1.0100e-003</b>		<b>0.0217</b>	<b>0.0217</b>		<b>0.0217</b>	<b>0.0217</b>	<b>0.0000</b>	<b>94.2360</b>	<b>94.2360</b>	<b>0.0279</b>	<b>0.0000</b>	<b>94.8213</b>

#### 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	4.6900e-003	0.0721	0.0414	2.0000e-004	0.0292	1.2300e-003	0.0304	3.9700e-003	1.1300e-003	5.1100e-003	0.0000	18.0878	18.0878	1.3000e-004	0.0000	18.0904
Worker	3.0500e-003	7.1300e-003	0.0647	1.7000e-004	0.0138	1.0000e-004	0.0139	3.6600e-003	9.0000e-005	3.7400e-003	0.0000	12.5861	12.5861	6.4000e-004	0.0000	12.5995
<b>Total</b>	<b>7.7400e-003</b>	<b>0.0792</b>	<b>0.1061</b>	<b>3.7000e-004</b>	<b>0.0429</b>	<b>1.3300e-003</b>	<b>0.0443</b>	<b>7.6300e-003</b>	<b>1.2200e-003</b>	<b>8.8500e-003</b>	<b>0.0000</b>	<b>30.6739</b>	<b>30.6739</b>	<b>7.7000e-004</b>	<b>0.0000</b>	<b>30.6899</b>

### 3.4 Vine - Below-Grade Construction - 2016

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.3000e-004	0.0000	9.3000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1158	1.2973	0.5783	1.1900e-003		0.0664	0.0664		0.0611	0.0611	0.0000	112.0082	112.0082	0.0338	0.0000	112.7177
<b>Total</b>	<b>0.1158</b>	<b>1.2973</b>	<b>0.5783</b>	<b>1.1900e-003</b>	<b>9.3000e-004</b>	<b>0.0664</b>	<b>0.0674</b>	<b>1.1000e-004</b>	<b>0.0611</b>	<b>0.0612</b>	<b>0.0000</b>	<b>112.0082</b>	<b>112.0082</b>	<b>0.0338</b>	<b>0.0000</b>	<b>112.7177</b>

#### Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.6200e-003	0.0420	0.0270	1.1000e-004	0.0414	5.7000e-004	0.0420	4.5700e-003	5.2000e-004	5.0900e-003	0.0000	10.0649	10.0649	7.0000e-005	0.0000	10.0664
Vendor	7.9400e-003	0.1220	0.0701	3.4000e-004	0.1537	2.0900e-003	0.1558	0.0171	1.9200e-003	0.0191	0.0000	30.6175	30.6175	2.2000e-004	0.0000	30.6221
Worker	0.0122	0.0285	0.2588	6.6000e-004	0.0550	3.9000e-004	0.0554	0.0146	3.5000e-004	0.0150	0.0000	50.3326	50.3326	2.5500e-003	0.0000	50.3862
<b>Total</b>	<b>0.0227</b>	<b>0.1925</b>	<b>0.3558</b>	<b>1.1100e-003</b>	<b>0.2502</b>	<b>3.0500e-003</b>	<b>0.2532</b>	<b>0.0363</b>	<b>2.7900e-003</b>	<b>0.0391</b>	<b>0.0000</b>	<b>91.0150</b>	<b>91.0150</b>	<b>2.8400e-003</b>	<b>0.0000</b>	<b>91.0746</b>

### 3.4 Vine - Below-Grade Construction - 2016

#### 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					4.2000e-004	0.0000	4.2000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0293	0.6060	0.7391	1.1900e-003		0.0314	0.0314		0.0314	0.0314	0.0000	112.0080	112.0080	0.0338	0.0000	112.7175
<b>Total</b>	<b>0.0293</b>	<b>0.6060</b>	<b>0.7391</b>	<b>1.1900e-003</b>	<b>4.2000e-004</b>	<b>0.0314</b>	<b>0.0318</b>	<b>5.0000e-005</b>	<b>0.0314</b>	<b>0.0314</b>	<b>0.0000</b>	<b>112.0080</b>	<b>112.0080</b>	<b>0.0338</b>	<b>0.0000</b>	<b>112.7175</b>

#### Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.6200e-003	0.0420	0.0270	1.1000e-004	0.0132	5.7000e-004	0.0138	1.7600e-003	5.2000e-004	2.2800e-003	0.0000	10.0649	10.0649	7.0000e-005	0.0000	10.0664
Vendor	7.9400e-003	0.1220	0.0701	3.4000e-004	0.0494	2.0900e-003	0.0515	6.7300e-003	1.9200e-003	8.6500e-003	0.0000	30.6175	30.6175	2.2000e-004	0.0000	30.6221
Worker	0.0122	0.0285	0.2588	6.6000e-004	0.0550	3.9000e-004	0.0554	0.0146	3.5000e-004	0.0150	0.0000	50.3326	50.3326	2.5500e-003	0.0000	50.3862
<b>Total</b>	<b>0.0227</b>	<b>0.1925</b>	<b>0.3558</b>	<b>1.1100e-003</b>	<b>0.1177</b>	<b>3.0500e-003</b>	<b>0.1207</b>	<b>0.0231</b>	<b>2.7900e-003</b>	<b>0.0259</b>	<b>0.0000</b>	<b>91.0150</b>	<b>91.0150</b>	<b>2.8400e-003</b>	<b>0.0000</b>	<b>91.0746</b>

### 3.5 Vine - Substation Equipment Installation - 2016

#### Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1669	1.5908	1.0192	1.7600e-003		0.0903	0.0903		0.0874	0.0874	0.0000	157.4625	157.4625	0.0288	0.0000	158.0671
<b>Total</b>	<b>0.1669</b>	<b>1.5908</b>	<b>1.0192</b>	<b>1.7600e-003</b>		<b>0.0903</b>	<b>0.0903</b>		<b>0.0874</b>	<b>0.0874</b>	<b>0.0000</b>	<b>157.4625</b>	<b>157.4625</b>	<b>0.0288</b>	<b>0.0000</b>	<b>158.0671</b>

#### 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	6.6400e-003	0.1020	0.0586	2.8000e-004	0.1285	1.7500e-003	0.1303	0.0143	1.6100e-003	0.0159	0.0000	25.5959	25.5959	1.8000e-004	0.0000	25.5997
Worker	0.0112	0.0261	0.2372	6.1000e-004	0.0504	3.5000e-004	0.0508	0.0134	3.3000e-004	0.0137	0.0000	46.1293	46.1293	2.3400e-003	0.0000	46.1784
<b>Total</b>	<b>0.0178</b>	<b>0.1281</b>	<b>0.2957</b>	<b>8.9000e-004</b>	<b>0.1790</b>	<b>2.1000e-003</b>	<b>0.1810</b>	<b>0.0277</b>	<b>1.9400e-003</b>	<b>0.0297</b>	<b>0.0000</b>	<b>71.7252</b>	<b>71.7252</b>	<b>2.5200e-003</b>	<b>0.0000</b>	<b>71.7781</b>

### 3.5 Vine - Substation Equipment Installation - 2016

#### 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	0.0386	0.8428	1.0896	1.7600e-003		0.0523	0.0523		0.0523	0.0523	0.0000	157.4623	157.4623	0.0288	0.0000	158.0669
<b>Total</b>	<b>0.0386</b>	<b>0.8428</b>	<b>1.0896</b>	<b>1.7600e-003</b>		<b>0.0523</b>	<b>0.0523</b>		<b>0.0523</b>	<b>0.0523</b>	<b>0.0000</b>	<b>157.4623</b>	<b>157.4623</b>	<b>0.0288</b>	<b>0.0000</b>	<b>158.0669</b>

#### 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	6.6400e-003	0.1020	0.0586	2.8000e-004	0.0413	1.7500e-003	0.0430	5.6200e-003	1.6100e-003	7.2300e-003	0.0000	25.5959	25.5959	1.8000e-004	0.0000	25.5997
Worker	0.0112	0.0261	0.2372	6.1000e-004	0.0504	3.5000e-004	0.0508	0.0134	3.3000e-004	0.0137	0.0000	46.1293	46.1293	2.3400e-003	0.0000	46.1784
<b>Total</b>	<b>0.0178</b>	<b>0.1281</b>	<b>0.2957</b>	<b>8.9000e-004</b>	<b>0.0917</b>	<b>2.1000e-003</b>	<b>0.0938</b>	<b>0.0190</b>	<b>1.9400e-003</b>	<b>0.0210</b>	<b>0.0000</b>	<b>71.7252</b>	<b>71.7252</b>	<b>2.5200e-003</b>	<b>0.0000</b>	<b>71.7781</b>

### 3.5 Vine - Substation Equipment Installation - 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	0.2201	2.1341	1.4697	2.6000e-003		0.1168	0.1168		0.1131	0.1131	0.0000	230.8863	230.8863	0.0411	0.0000	231.7498
<b>Total</b>	<b>0.2201</b>	<b>2.1341</b>	<b>1.4697</b>	<b>2.6000e-003</b>		<b>0.1168</b>	<b>0.1168</b>		<b>0.1131</b>	<b>0.1131</b>	<b>0.0000</b>	<b>230.8863</b>	<b>230.8863</b>	<b>0.0411</b>	<b>0.0000</b>	<b>231.7498</b>

#### 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	9.0000e-003	0.1330	0.0805	4.1000e-004	0.1897	2.2400e-003	0.1919	0.0212	2.0600e-003	0.0232	0.0000	37.1449	37.1449	2.5000e-004	0.0000	37.1502
Worker	0.0146	0.0351	0.3151	9.0000e-004	0.0745	5.0000e-004	0.0750	0.0198	4.7000e-004	0.0202	0.0000	65.4627	65.4627	3.2000e-003	0.0000	65.5299
<b>Total</b>	<b>0.0236</b>	<b>0.1681</b>	<b>0.3956</b>	<b>1.3100e-003</b>	<b>0.2642</b>	<b>2.7400e-003</b>	<b>0.2669</b>	<b>0.0409</b>	<b>2.5300e-003</b>	<b>0.0435</b>	<b>0.0000</b>	<b>102.6076</b>	<b>102.6076</b>	<b>3.4500e-003</b>	<b>0.0000</b>	<b>102.6801</b>



### 3.5 Vine - Substation Equipment Installation - 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	tons/yr										MT/yr					
Off-Road	0.0570	1.2441	1.6084	2.6000e-003		0.0772	0.0772		0.0772	0.0772	0.0000	230.8860	230.8860	0.0411	0.0000	231.7495
<b>Total</b>	<b>0.0570</b>	<b>1.2441</b>	<b>1.6084</b>	<b>2.6000e-003</b>		<b>0.0772</b>	<b>0.0772</b>		<b>0.0772</b>	<b>0.0772</b>	<b>0.0000</b>	<b>230.8860</b>	<b>230.8860</b>	<b>0.0411</b>	<b>0.0000</b>	<b>231.7495</b>

#### 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	9.0000e-003	0.1330	0.0805	4.1000e-004	0.0609	2.2400e-003	0.0632	8.3000e-003	2.0600e-003	0.0104	0.0000	37.1449	37.1449	2.5000e-004	0.0000	37.1502
Worker	0.0146	0.0351	0.3151	9.0000e-004	0.0745	5.0000e-004	0.0750	0.0198	4.7000e-004	0.0202	0.0000	65.4627	65.4627	3.2000e-003	0.0000	65.5299
<b>Total</b>	<b>0.0236</b>	<b>0.1681</b>	<b>0.3956</b>	<b>1.3100e-003</b>	<b>0.1354</b>	<b>2.7400e-003</b>	<b>0.1381</b>	<b>0.0281</b>	<b>2.5300e-003</b>	<b>0.0306</b>	<b>0.0000</b>	<b>102.6076</b>	<b>102.6076</b>	<b>3.4500e-003</b>	<b>0.0000</b>	<b>102.6801</b>

**3.6 12 kV - Daytime Duct Bank and Vault Installation - 2016**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3231	3.0314	1.8974	3.4600e-003		0.1794	0.1794		0.1710	0.1710	0.0000	315.5828	315.5828	0.0735	0.0000	317.1267
<b>Total</b>	<b>0.3231</b>	<b>3.0314</b>	<b>1.8974</b>	<b>3.4600e-003</b>		<b>0.1794</b>	<b>0.1794</b>		<b>0.1710</b>	<b>0.1710</b>	<b>0.0000</b>	<b>315.5828</b>	<b>315.5828</b>	<b>0.0735</b>	<b>0.0000</b>	<b>317.1267</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.5800e-003	0.0736	0.0472	1.9000e-004	7.7000e-003	9.9000e-004	8.6900e-003	2.0200e-003	9.1000e-004	2.9300e-003	0.0000	17.6335	17.6335	1.2000e-004	0.0000	17.6361
Vendor	4.0000e-003	0.0614	0.0353	1.7000e-004	4.9100e-003	1.0500e-003	5.9600e-003	1.4000e-003	9.7000e-004	2.3700e-003	0.0000	15.4063	15.4063	1.1000e-004	0.0000	15.4086
Worker	9.0800e-003	0.0213	0.1929	5.0000e-004	0.0410	2.9000e-004	0.0413	0.0109	2.6000e-004	0.0112	0.0000	37.5209	37.5209	1.9000e-003	0.0000	37.5608
<b>Total</b>	<b>0.0177</b>	<b>0.1562</b>	<b>0.2754</b>	<b>8.6000e-004</b>	<b>0.0536</b>	<b>2.3300e-003</b>	<b>0.0560</b>	<b>0.0143</b>	<b>2.1400e-003</b>	<b>0.0165</b>	<b>0.0000</b>	<b>70.5606</b>	<b>70.5606</b>	<b>2.1300e-003</b>	<b>0.0000</b>	<b>70.6054</b>

### 3.6 12 kV - Daytime Duct Bank and Vault Installation - 2016

#### 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	0.0792	1.6709	2.1283	3.4600e-003		0.0939	0.0939		0.0939	0.0939	0.0000	315.5824	315.5824	0.0735	0.0000	317.1263
<b>Total</b>	<b>0.0792</b>	<b>1.6709</b>	<b>2.1283</b>	<b>3.4600e-003</b>		<b>0.0939</b>	<b>0.0939</b>		<b>0.0939</b>	<b>0.0939</b>	<b>0.0000</b>	<b>315.5824</b>	<b>315.5824</b>	<b>0.0735</b>	<b>0.0000</b>	<b>317.1263</b>

#### Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.5800e-003	0.0736	0.0472	1.9000e-004	7.7000e-003	9.9000e-004	8.6900e-003	2.0200e-003	9.1000e-004	2.9300e-003	0.0000	17.6335	17.6335	1.2000e-004	0.0000	17.6361
Vendor	4.0000e-003	0.0614	0.0353	1.7000e-004	4.9100e-003	1.0500e-003	5.9600e-003	1.4000e-003	9.7000e-004	2.3700e-003	0.0000	15.4063	15.4063	1.1000e-004	0.0000	15.4086
Worker	9.0800e-003	0.0213	0.1929	5.0000e-004	0.0410	2.9000e-004	0.0413	0.0109	2.6000e-004	0.0112	0.0000	37.5209	37.5209	1.9000e-003	0.0000	37.5608
<b>Total</b>	<b>0.0177</b>	<b>0.1562</b>	<b>0.2754</b>	<b>8.6000e-004</b>	<b>0.0536</b>	<b>2.3300e-003</b>	<b>0.0560</b>	<b>0.0143</b>	<b>2.1400e-003</b>	<b>0.0165</b>	<b>0.0000</b>	<b>70.5606</b>	<b>70.5606</b>	<b>2.1300e-003</b>	<b>0.0000</b>	<b>70.6054</b>

**3.6 12 kV - Daytime Duct Bank and Vault Installation - 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	0.2873	2.7032	1.8071	3.3700e-003		0.1564	0.1564		0.1490	0.1490	0.0000	304.5197	304.5197	0.0705	0.0000	306.0005
<b>Total</b>	<b>0.2873</b>	<b>2.7032</b>	<b>1.8071</b>	<b>3.3700e-003</b>		<b>0.1564</b>	<b>0.1564</b>		<b>0.1490</b>	<b>0.1490</b>	<b>0.0000</b>	<b>304.5197</b>	<b>304.5197</b>	<b>0.0705</b>	<b>0.0000</b>	<b>306.0005</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.1900e-003	0.0638	0.0441	1.9000e-004	7.6700e-003	8.5000e-004	8.5200e-003	2.0100e-003	7.8000e-004	2.7900e-003	0.0000	16.8944	16.8944	1.1000e-004	0.0000	16.8968
Vendor	3.5800e-003	0.0529	0.0320	1.6000e-004	4.7900e-003	8.9000e-004	5.6800e-003	1.3700e-003	8.2000e-004	2.1900e-003	0.0000	14.7621	14.7621	1.0000e-004	0.0000	14.7642
Worker	7.8300e-003	0.0189	0.1692	4.8000e-004	0.0400	2.7000e-004	0.0403	0.0106	2.5000e-004	0.0109	0.0000	35.1570	35.1570	1.7200e-003	0.0000	35.1931
<b>Total</b>	<b>0.0156</b>	<b>0.1355</b>	<b>0.2453</b>	<b>8.3000e-004</b>	<b>0.0525</b>	<b>2.0100e-003</b>	<b>0.0545</b>	<b>0.0140</b>	<b>1.8500e-003</b>	<b>0.0159</b>	<b>0.0000</b>	<b>66.8135</b>	<b>66.8135</b>	<b>1.9300e-003</b>	<b>0.0000</b>	<b>66.8541</b>

### 3.6 12 kV - Daytime Duct Bank and Vault Installation - 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	tons/yr										MT/yr					
Off-Road	0.0772	1.6286	2.0744	3.3700e-003		0.0915	0.0915		0.0915	0.0915	0.0000	304.5193	304.5193	0.0705	0.0000	306.0001
<b>Total</b>	<b>0.0772</b>	<b>1.6286</b>	<b>2.0744</b>	<b>3.3700e-003</b>		<b>0.0915</b>	<b>0.0915</b>		<b>0.0915</b>	<b>0.0915</b>	<b>0.0000</b>	<b>304.5193</b>	<b>304.5193</b>	<b>0.0705</b>	<b>0.0000</b>	<b>306.0001</b>

#### Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.1900e-003	0.0638	0.0441	1.9000e-004	7.6700e-003	8.5000e-004	8.5200e-003	2.0100e-003	7.8000e-004	2.7900e-003	0.0000	16.8944	16.8944	1.1000e-004	0.0000	16.8968
Vendor	3.5800e-003	0.0529	0.0320	1.6000e-004	4.7900e-003	8.9000e-004	5.6800e-003	1.3700e-003	8.2000e-004	2.1900e-003	0.0000	14.7621	14.7621	1.0000e-004	0.0000	14.7642
Worker	7.8300e-003	0.0189	0.1692	4.8000e-004	0.0400	2.7000e-004	0.0403	0.0106	2.5000e-004	0.0109	0.0000	35.1570	35.1570	1.7200e-003	0.0000	35.1931
<b>Total</b>	<b>0.0156</b>	<b>0.1355</b>	<b>0.2453</b>	<b>8.3000e-004</b>	<b>0.0525</b>	<b>2.0100e-003</b>	<b>0.0545</b>	<b>0.0140</b>	<b>1.8500e-003</b>	<b>0.0159</b>	<b>0.0000</b>	<b>66.8135</b>	<b>66.8135</b>	<b>1.9300e-003</b>	<b>0.0000</b>	<b>66.8541</b>

**3.7 12 kV - Nighttime Duct Bank and Vault Installation - 2016**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3413	3.1450	1.9925	3.6800e-003		0.1838	0.1838		0.1755	0.1755	0.0000	329.7195	329.7195	0.0750	0.0000	331.2943
<b>Total</b>	<b>0.3413</b>	<b>3.1450</b>	<b>1.9925</b>	<b>3.6800e-003</b>		<b>0.1838</b>	<b>0.1838</b>		<b>0.1755</b>	<b>0.1755</b>	<b>0.0000</b>	<b>329.7195</b>	<b>329.7195</b>	<b>0.0750</b>	<b>0.0000</b>	<b>331.2943</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.9400e-003	0.1114	0.0715	2.9000e-004	0.0117	1.5000e-003	0.0132	3.0500e-003	1.3800e-003	4.4400e-003	0.0000	26.6948	26.6948	1.9000e-004	0.0000	26.6987
Vendor	4.0000e-003	0.0614	0.0353	1.7000e-004	4.9100e-003	1.0500e-003	5.9600e-003	1.4000e-003	9.7000e-004	2.3700e-003	0.0000	15.4063	15.4063	1.1000e-004	0.0000	15.4086
Worker	9.0800e-003	0.0213	0.1929	5.0000e-004	0.0410	2.9000e-004	0.0413	0.0109	2.6000e-004	0.0112	0.0000	37.5209	37.5209	1.9000e-003	0.0000	37.5608
<b>Total</b>	<b>0.0200</b>	<b>0.1940</b>	<b>0.2997</b>	<b>9.6000e-004</b>	<b>0.0576</b>	<b>2.8400e-003</b>	<b>0.0604</b>	<b>0.0154</b>	<b>2.6100e-003</b>	<b>0.0180</b>	<b>0.0000</b>	<b>79.6219</b>	<b>79.6219</b>	<b>2.2000e-003</b>	<b>0.0000</b>	<b>79.6680</b>

**3.7 12 kV - Nighttime Duct Bank and Vault Installation - 2016**

**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	0.0973	1.7845	2.2234	3.6800e-003		0.0983	0.0983		0.0983	0.0983	0.0000	329.7191	329.7191	0.0750	0.0000	331.2939
<b>Total</b>	<b>0.0973</b>	<b>1.7845</b>	<b>2.2234</b>	<b>3.6800e-003</b>		<b>0.0983</b>	<b>0.0983</b>		<b>0.0983</b>	<b>0.0983</b>	<b>0.0000</b>	<b>329.7191</b>	<b>329.7191</b>	<b>0.0750</b>	<b>0.0000</b>	<b>331.2939</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.9400e-003	0.1114	0.0715	2.9000e-004	0.0117	1.5000e-003	0.0132	3.0500e-003	1.3800e-003	4.4400e-003	0.0000	26.6948	26.6948	1.9000e-004	0.0000	26.6987
Vendor	4.0000e-003	0.0614	0.0353	1.7000e-004	4.9100e-003	1.0500e-003	5.9600e-003	1.4000e-003	9.7000e-004	2.3700e-003	0.0000	15.4063	15.4063	1.1000e-004	0.0000	15.4086
Worker	9.0800e-003	0.0213	0.1929	5.0000e-004	0.0410	2.9000e-004	0.0413	0.0109	2.6000e-004	0.0112	0.0000	37.5209	37.5209	1.9000e-003	0.0000	37.5608
<b>Total</b>	<b>0.0200</b>	<b>0.1940</b>	<b>0.2997</b>	<b>9.6000e-004</b>	<b>0.0576</b>	<b>2.8400e-003</b>	<b>0.0604</b>	<b>0.0154</b>	<b>2.6100e-003</b>	<b>0.0180</b>	<b>0.0000</b>	<b>79.6219</b>	<b>79.6219</b>	<b>2.2000e-003</b>	<b>0.0000</b>	<b>79.6680</b>

**3.7 12 kV - Nighttime Duct Bank and Vault Installation - 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	0.3050	2.8139	1.8998	3.5900e-003		0.1607	0.1607		0.1533	0.1533	0.0000	318.2985	318.2985	0.0719	0.0000	319.8093
<b>Total</b>	<b>0.3050</b>	<b>2.8139</b>	<b>1.8998</b>	<b>3.5900e-003</b>		<b>0.1607</b>	<b>0.1607</b>		<b>0.1533</b>	<b>0.1533</b>	<b>0.0000</b>	<b>318.2985</b>	<b>318.2985</b>	<b>0.0719</b>	<b>0.0000</b>	<b>319.8093</b>

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.3400e-003	0.0966	0.0667	2.8000e-004	0.0116	1.2900e-003	0.0129	3.0400e-003	1.1800e-003	4.2200e-003	0.0000	25.5760	25.5760	1.7000e-004	0.0000	25.5796
Vendor	3.5800e-003	0.0529	0.0320	1.6000e-004	4.7900e-003	8.9000e-004	5.6800e-003	1.3700e-003	8.2000e-004	2.1900e-003	0.0000	14.7621	14.7621	1.0000e-004	0.0000	14.7642
Worker	7.8300e-003	0.0189	0.1692	4.8000e-004	0.0400	2.7000e-004	0.0403	0.0106	2.5000e-004	0.0109	0.0000	35.1570	35.1570	1.7200e-003	0.0000	35.1931
<b>Total</b>	<b>0.0178</b>	<b>0.1683</b>	<b>0.2679</b>	<b>9.2000e-004</b>	<b>0.0564</b>	<b>2.4500e-003</b>	<b>0.0588</b>	<b>0.0150</b>	<b>2.2500e-003</b>	<b>0.0173</b>	<b>0.0000</b>	<b>75.4950</b>	<b>75.4950</b>	<b>1.9900e-003</b>	<b>0.0000</b>	<b>75.5368</b>



**3.7 12 kV - Nighttime Duct Bank and Vault Installation - 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	tons/yr										MT/yr					
Off-Road	0.0948	1.7393	2.1671	3.5900e-003		0.0958	0.0958		0.0958	0.0958	0.0000	318.2981	318.2981	0.0719	0.0000	319.8090
<b>Total</b>	<b>0.0948</b>	<b>1.7393</b>	<b>2.1671</b>	<b>3.5900e-003</b>		<b>0.0958</b>	<b>0.0958</b>		<b>0.0958</b>	<b>0.0958</b>	<b>0.0000</b>	<b>318.2981</b>	<b>318.2981</b>	<b>0.0719</b>	<b>0.0000</b>	<b>319.8090</b>

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.3400e-003	0.0966	0.0667	2.8000e-004	0.0116	1.2900e-003	0.0129	3.0400e-003	1.1800e-003	4.2200e-003	0.0000	25.5760	25.5760	1.7000e-004	0.0000	25.5796
Vendor	3.5800e-003	0.0529	0.0320	1.6000e-004	4.7900e-003	8.9000e-004	5.6800e-003	1.3700e-003	8.2000e-004	2.1900e-003	0.0000	14.7621	14.7621	1.0000e-004	0.0000	14.7642
Worker	7.8300e-003	0.0189	0.1692	4.8000e-004	0.0400	2.7000e-004	0.0403	0.0106	2.5000e-004	0.0109	0.0000	35.1570	35.1570	1.7200e-003	0.0000	35.1931
<b>Total</b>	<b>0.0178</b>	<b>0.1683</b>	<b>0.2679</b>	<b>9.2000e-004</b>	<b>0.0564</b>	<b>2.4500e-003</b>	<b>0.0588</b>	<b>0.0150</b>	<b>2.2500e-003</b>	<b>0.0173</b>	<b>0.0000</b>	<b>75.4950</b>	<b>75.4950</b>	<b>1.9900e-003</b>	<b>0.0000</b>	<b>75.5368</b>

**3.8 69 kV - Foundation Installation - 2016**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.9400e-003	0.0875	0.0449	1.1000e-004		4.3900e-003	4.3900e-003		4.1300e-003	4.1300e-003	0.0000	9.9082	9.9082	2.6000e-003	0.0000	9.9629
<b>Total</b>	<b>7.9400e-003</b>	<b>0.0875</b>	<b>0.0449</b>	<b>1.1000e-004</b>		<b>4.3900e-003</b>	<b>4.3900e-003</b>		<b>4.1300e-003</b>	<b>4.1300e-003</b>	<b>0.0000</b>	<b>9.9082</b>	<b>9.9082</b>	<b>2.6000e-003</b>	<b>0.0000</b>	<b>9.9629</b>

**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	7.0000e-004	0.0112	7.2200e-003	3.0000e-005	6.8000e-004	1.5000e-004	8.3000e-004	1.9000e-004	1.4000e-004	3.3000e-004	0.0000	2.6941	2.6941	2.0000e-005	0.0000	2.6945
Vendor	3.3000e-004	5.0500e-003	2.9000e-003	1.0000e-005	4.0000e-004	9.0000e-005	4.9000e-004	1.2000e-004	8.0000e-005	2.0000e-004	0.0000	1.2676	1.2676	1.0000e-005	0.0000	1.2678
Worker	2.6000e-004	6.1000e-004	5.5600e-003	1.0000e-005	1.1800e-003	1.0000e-005	1.1900e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	1.0805	1.0805	5.0000e-005	0.0000	1.0817
<b>Total</b>	<b>1.2900e-003</b>	<b>0.0169</b>	<b>0.0157</b>	<b>5.0000e-005</b>	<b>2.2600e-003</b>	<b>2.5000e-004</b>	<b>2.5100e-003</b>	<b>6.2000e-004</b>	<b>2.3000e-004</b>	<b>8.5000e-004</b>	<b>0.0000</b>	<b>5.0423</b>	<b>5.0423</b>	<b>8.0000e-005</b>	<b>0.0000</b>	<b>5.0440</b>

**3.8 69 kV - Foundation Installation - 2016**

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.5500e-003	0.0520	0.0625	1.1000e-004		2.5600e-003	2.5600e-003		2.5600e-003	2.5600e-003	0.0000	9.9082	9.9082	2.6000e-003	0.0000	9.9629
<b>Total</b>	<b>2.5500e-003</b>	<b>0.0520</b>	<b>0.0625</b>	<b>1.1000e-004</b>		<b>2.5600e-003</b>	<b>2.5600e-003</b>		<b>2.5600e-003</b>	<b>2.5600e-003</b>	<b>0.0000</b>	<b>9.9082</b>	<b>9.9082</b>	<b>2.6000e-003</b>	<b>0.0000</b>	<b>9.9629</b>

**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	7.0000e-004	0.0112	7.2200e-003	3.0000e-005	6.8000e-004	1.5000e-004	8.3000e-004	1.9000e-004	1.4000e-004	3.3000e-004	0.0000	2.6941	2.6941	2.0000e-005	0.0000	2.6945
Vendor	3.3000e-004	5.0500e-003	2.9000e-003	1.0000e-005	4.0000e-004	9.0000e-005	4.9000e-004	1.2000e-004	8.0000e-005	2.0000e-004	0.0000	1.2676	1.2676	1.0000e-005	0.0000	1.2678
Worker	2.6000e-004	6.1000e-004	5.5600e-003	1.0000e-005	1.1800e-003	1.0000e-005	1.1900e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	1.0805	1.0805	5.0000e-005	0.0000	1.0817
<b>Total</b>	<b>1.2900e-003</b>	<b>0.0169</b>	<b>0.0157</b>	<b>5.0000e-005</b>	<b>2.2600e-003</b>	<b>2.5000e-004</b>	<b>2.5100e-003</b>	<b>6.2000e-004</b>	<b>2.3000e-004</b>	<b>8.5000e-004</b>	<b>0.0000</b>	<b>5.0423</b>	<b>5.0423</b>	<b>8.0000e-005</b>	<b>0.0000</b>	<b>5.0440</b>

**3.9 69 kV - Pole Installation and Removal - 2016**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0254	0.2524	0.1316	2.3000e-004		0.0137	0.0137		0.0131	0.0131	0.0000	20.5585	20.5585	4.9500e-003	0.0000	20.6625
<b>Total</b>	<b>0.0254</b>	<b>0.2524</b>	<b>0.1316</b>	<b>2.3000e-004</b>		<b>0.0137</b>	<b>0.0137</b>		<b>0.0131</b>	<b>0.0131</b>	<b>0.0000</b>	<b>20.5585</b>	<b>20.5585</b>	<b>4.9500e-003</b>	<b>0.0000</b>	<b>20.6625</b>

**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	1.5200e-003	0.0233	0.0134	6.0000e-005	1.8700e-003	4.0000e-004	2.2600e-003	5.3000e-004	3.7000e-004	9.0000e-004	0.0000	5.8505	5.8505	4.0000e-005	0.0000	5.8514
Worker	5.7000e-004	1.3500e-003	0.0122	3.0000e-005	2.6000e-003	2.0000e-005	2.6100e-003	6.9000e-004	2.0000e-005	7.1000e-004	0.0000	2.3747	2.3747	1.2000e-004	0.0000	2.3773
<b>Total</b>	<b>2.0900e-003</b>	<b>0.0247</b>	<b>0.0256</b>	<b>9.0000e-005</b>	<b>4.4700e-003</b>	<b>4.2000e-004</b>	<b>4.8700e-003</b>	<b>1.2200e-003</b>	<b>3.9000e-004</b>	<b>1.6100e-003</b>	<b>0.0000</b>	<b>8.2252</b>	<b>8.2252</b>	<b>1.6000e-004</b>	<b>0.0000</b>	<b>8.2286</b>

**3.9 69 kV - Pole Installation and Removal - 2016**

**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	5.1700e-003	0.1084	0.1341	2.3000e-004		5.8700e-003	5.8700e-003		5.8700e-003	5.8700e-003	0.0000	20.5585	20.5585	4.9500e-003	0.0000	20.6625
<b>Total</b>	<b>5.1700e-003</b>	<b>0.1084</b>	<b>0.1341</b>	<b>2.3000e-004</b>		<b>5.8700e-003</b>	<b>5.8700e-003</b>		<b>5.8700e-003</b>	<b>5.8700e-003</b>	<b>0.0000</b>	<b>20.5585</b>	<b>20.5585</b>	<b>4.9500e-003</b>	<b>0.0000</b>	<b>20.6625</b>

**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	1.5200e-003	0.0233	0.0134	6.0000e-005	1.8700e-003	4.0000e-004	2.2600e-003	5.3000e-004	3.7000e-004	9.0000e-004	0.0000	5.8505	5.8505	4.0000e-005	0.0000	5.8514
Worker	5.7000e-004	1.3500e-003	0.0122	3.0000e-005	2.6000e-003	2.0000e-005	2.6100e-003	6.9000e-004	2.0000e-005	7.1000e-004	0.0000	2.3747	2.3747	1.2000e-004	0.0000	2.3773
<b>Total</b>	<b>2.0900e-003</b>	<b>0.0247</b>	<b>0.0256</b>	<b>9.0000e-005</b>	<b>4.4700e-003</b>	<b>4.2000e-004</b>	<b>4.8700e-003</b>	<b>1.2200e-003</b>	<b>3.9000e-004</b>	<b>1.6100e-003</b>	<b>0.0000</b>	<b>8.2252</b>	<b>8.2252</b>	<b>1.6000e-004</b>	<b>0.0000</b>	<b>8.2286</b>

**3.9 69 kV - Pole Installation and Removal - 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	0.0285	0.2852	0.1582	2.8000e-004		0.0151	0.0151		0.0143	0.0143	0.0000	25.4336	25.4336	6.0800e-003	0.0000	25.5614
<b>Total</b>	<b>0.0285</b>	<b>0.2852</b>	<b>0.1582</b>	<b>2.8000e-004</b>		<b>0.0151</b>	<b>0.0151</b>		<b>0.0143</b>	<b>0.0143</b>	<b>0.0000</b>	<b>25.4336</b>	<b>25.4336</b>	<b>6.0800e-003</b>	<b>0.0000</b>	<b>25.5614</b>

**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	1.7400e-003	0.0257	0.0156	8.0000e-005	2.3300e-003	4.3000e-004	2.7700e-003	6.7000e-004	4.0000e-004	1.0700e-003	0.0000	7.1893	7.1893	5.0000e-005	0.0000	7.1904
Worker	6.4000e-004	1.5300e-003	0.0137	4.0000e-005	3.2500e-003	2.0000e-005	3.2700e-003	8.6000e-004	2.0000e-005	8.8000e-004	0.0000	2.8537	2.8537	1.4000e-004	0.0000	2.8566
<b>Total</b>	<b>2.3800e-003</b>	<b>0.0273</b>	<b>0.0293</b>	<b>1.2000e-004</b>	<b>5.5800e-003</b>	<b>4.5000e-004</b>	<b>6.0400e-003</b>	<b>1.5300e-003</b>	<b>4.2000e-004</b>	<b>1.9500e-003</b>	<b>0.0000</b>	<b>10.0430</b>	<b>10.0430</b>	<b>1.9000e-004</b>	<b>0.0000</b>	<b>10.0469</b>

**3.9 69 kV - Pole Installation and Removal - 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	tons/yr										MT/yr					
Off-Road	6.4700e-003	0.1355	0.1676	2.8000e-004		7.3400e-003	7.3400e-003		7.3400e-003	7.3400e-003	0.0000	25.4336	25.4336	6.0800e-003	0.0000	25.5614
<b>Total</b>	<b>6.4700e-003</b>	<b>0.1355</b>	<b>0.1676</b>	<b>2.8000e-004</b>		<b>7.3400e-003</b>	<b>7.3400e-003</b>		<b>7.3400e-003</b>	<b>7.3400e-003</b>	<b>0.0000</b>	<b>25.4336</b>	<b>25.4336</b>	<b>6.0800e-003</b>	<b>0.0000</b>	<b>25.5614</b>

**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	1.7400e-003	0.0257	0.0156	8.0000e-005	2.3300e-003	4.3000e-004	2.7700e-003	6.7000e-004	4.0000e-004	1.0700e-003	0.0000	7.1893	7.1893	5.0000e-005	0.0000	7.1904
Worker	6.4000e-004	1.5300e-003	0.0137	4.0000e-005	3.2500e-003	2.0000e-005	3.2700e-003	8.6000e-004	2.0000e-005	8.8000e-004	0.0000	2.8537	2.8537	1.4000e-004	0.0000	2.8566
<b>Total</b>	<b>2.3800e-003</b>	<b>0.0273</b>	<b>0.0293</b>	<b>1.2000e-004</b>	<b>5.5800e-003</b>	<b>4.5000e-004</b>	<b>6.0400e-003</b>	<b>1.5300e-003</b>	<b>4.2000e-004</b>	<b>1.9500e-003</b>	<b>0.0000</b>	<b>10.0430</b>	<b>10.0430</b>	<b>1.9000e-004</b>	<b>0.0000</b>	<b>10.0469</b>

**3.10 12 kV - Jack-and-Bore Installation - 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	0.0336	0.3337	0.1934	3.9000e-004		0.0170	0.0170		0.0161	0.0161	0.0000	34.9995	34.9995	8.6000e-003	0.0000	35.1801
<b>Total</b>	<b>0.0336</b>	<b>0.3337</b>	<b>0.1934</b>	<b>3.9000e-004</b>		<b>0.0170</b>	<b>0.0170</b>		<b>0.0161</b>	<b>0.0161</b>	<b>0.0000</b>	<b>34.9995</b>	<b>34.9995</b>	<b>8.6000e-003</b>	<b>0.0000</b>	<b>35.1801</b>

**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	9.4000e-004	0.0144	9.9000e-003	4.0000e-005	9.7000e-004	1.9000e-004	1.1600e-003	2.7000e-004	1.8000e-004	4.4000e-004	0.0000	3.7975	3.7975	3.0000e-005	0.0000	3.7981
Vendor	5.9000e-004	8.7500e-003	5.3000e-003	3.0000e-005	7.9000e-004	1.5000e-004	9.4000e-004	2.3000e-004	1.4000e-004	3.6000e-004	0.0000	2.4444	2.4444	2.0000e-005	0.0000	2.4447
Worker	3.9000e-004	9.4000e-004	8.4100e-003	2.0000e-005	1.9900e-003	1.0000e-005	2.0000e-003	5.3000e-004	1.0000e-005	5.4000e-004	0.0000	1.7464	1.7464	9.0000e-005	0.0000	1.7482
<b>Total</b>	<b>1.9200e-003</b>	<b>0.0240</b>	<b>0.0236</b>	<b>9.0000e-005</b>	<b>3.7500e-003</b>	<b>3.5000e-004</b>	<b>4.1000e-003</b>	<b>1.0300e-003</b>	<b>3.3000e-004</b>	<b>1.3400e-003</b>	<b>0.0000</b>	<b>7.9883</b>	<b>7.9883</b>	<b>1.4000e-004</b>	<b>0.0000</b>	<b>7.9910</b>



**3.10 12 kV - Jack-and-Bore Installation - 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	tons/yr										MT/yr					
Off-Road	0.0109	0.1868	0.2316	3.9000e-004		9.5900e-003	9.5900e-003		9.5900e-003	9.5900e-003	0.0000	34.9994	34.9994	8.6000e-003	0.0000	35.1800
<b>Total</b>	<b>0.0109</b>	<b>0.1868</b>	<b>0.2316</b>	<b>3.9000e-004</b>		<b>9.5900e-003</b>	<b>9.5900e-003</b>		<b>9.5900e-003</b>	<b>9.5900e-003</b>	<b>0.0000</b>	<b>34.9994</b>	<b>34.9994</b>	<b>8.6000e-003</b>	<b>0.0000</b>	<b>35.1800</b>

**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	9.4000e-004	0.0144	9.9000e-003	4.0000e-005	9.7000e-004	1.9000e-004	1.1600e-003	2.7000e-004	1.8000e-004	4.4000e-004	0.0000	3.7975	3.7975	3.0000e-005	0.0000	3.7981
Vendor	5.9000e-004	8.7500e-003	5.3000e-003	3.0000e-005	7.9000e-004	1.5000e-004	9.4000e-004	2.3000e-004	1.4000e-004	3.6000e-004	0.0000	2.4444	2.4444	2.0000e-005	0.0000	2.4447
Worker	3.9000e-004	9.4000e-004	8.4100e-003	2.0000e-005	1.9900e-003	1.0000e-005	2.0000e-003	5.3000e-004	1.0000e-005	5.4000e-004	0.0000	1.7464	1.7464	9.0000e-005	0.0000	1.7482
<b>Total</b>	<b>1.9200e-003</b>	<b>0.0240</b>	<b>0.0236</b>	<b>9.0000e-005</b>	<b>3.7500e-003</b>	<b>3.5000e-004</b>	<b>4.1000e-003</b>	<b>1.0300e-003</b>	<b>3.3000e-004</b>	<b>1.3400e-003</b>	<b>0.0000</b>	<b>7.9883</b>	<b>7.9883</b>	<b>1.4000e-004</b>	<b>0.0000</b>	<b>7.9910</b>

**3.11 69 kV - Conductor Installation - 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	0.0302	0.3556	0.2000	3.3000e-004		0.0168	0.0168		0.0154	0.0154	0.0000	30.6260	30.6260	9.3800e-003	0.0000	30.8231
<b>Total</b>	<b>0.0302</b>	<b>0.3556</b>	<b>0.2000</b>	<b>3.3000e-004</b>		<b>0.0168</b>	<b>0.0168</b>		<b>0.0154</b>	<b>0.0154</b>	<b>0.0000</b>	<b>30.6260</b>	<b>30.6260</b>	<b>9.3800e-003</b>	<b>0.0000</b>	<b>30.8231</b>

**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	5.8000e-004	8.5800e-003	5.2000e-003	3.0000e-005	7.8000e-004	1.4000e-004	9.2000e-004	2.2000e-004	1.3000e-004	3.6000e-004	0.0000	2.3965	2.3965	2.0000e-005	0.0000	2.3968
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>5.8000e-004</b>	<b>8.5800e-003</b>	<b>5.2000e-003</b>	<b>3.0000e-005</b>	<b>7.8000e-004</b>	<b>1.4000e-004</b>	<b>9.2000e-004</b>	<b>2.2000e-004</b>	<b>1.3000e-004</b>	<b>3.6000e-004</b>	<b>0.0000</b>	<b>2.3965</b>	<b>2.3965</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>2.3968</b>

**3.11 69 kV - Conductor Installation - 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	tons/yr										MT/yr					
Off-Road	8.1400e-003	0.1636	0.2231	3.3000e-004		8.1800e-003	8.1800e-003		8.1800e-003	8.1800e-003	0.0000	30.6260	30.6260	9.3800e-003	0.0000	30.8230
<b>Total</b>	<b>8.1400e-003</b>	<b>0.1636</b>	<b>0.2231</b>	<b>3.3000e-004</b>		<b>8.1800e-003</b>	<b>8.1800e-003</b>		<b>8.1800e-003</b>	<b>8.1800e-003</b>	<b>0.0000</b>	<b>30.6260</b>	<b>30.6260</b>	<b>9.3800e-003</b>	<b>0.0000</b>	<b>30.8230</b>

**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	5.8000e-004	8.5800e-003	5.2000e-003	3.0000e-005	7.8000e-004	1.4000e-004	9.2000e-004	2.2000e-004	1.3000e-004	3.6000e-004	0.0000	2.3965	2.3965	2.0000e-005	0.0000	2.3968
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>5.8000e-004</b>	<b>8.5800e-003</b>	<b>5.2000e-003</b>	<b>3.0000e-005</b>	<b>7.8000e-004</b>	<b>1.4000e-004</b>	<b>9.2000e-004</b>	<b>2.2000e-004</b>	<b>1.3000e-004</b>	<b>3.6000e-004</b>	<b>0.0000</b>	<b>2.3965</b>	<b>2.3965</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>2.3968</b>

### 3.12 Energize - Testing and Commissioning - 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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

#### 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	4.5000e-003	0.0664	0.0402	2.1000e-004	6.0200e-003	1.1200e-003	7.1400e-003	1.7200e-003	1.0300e-003	2.7500e-003	0.0000	18.5485	18.5485	1.2000e-004	0.0000	18.5511
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>4.5000e-003</b>	<b>0.0664</b>	<b>0.0402</b>	<b>2.1000e-004</b>	<b>6.0200e-003</b>	<b>1.1200e-003</b>	<b>7.1400e-003</b>	<b>1.7200e-003</b>	<b>1.0300e-003</b>	<b>2.7500e-003</b>	<b>0.0000</b>	<b>18.5485</b>	<b>18.5485</b>	<b>1.2000e-004</b>	<b>0.0000</b>	<b>18.5511</b>

### 3.12 Energize - Testing and Commissioning - 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	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

#### 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	4.5000e-003	0.0664	0.0402	2.1000e-004	6.0200e-003	1.1200e-003	7.1400e-003	1.7200e-003	1.0300e-003	2.7500e-003	0.0000	18.5485	18.5485	1.2000e-004	0.0000	18.5511
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>4.5000e-003</b>	<b>0.0664</b>	<b>0.0402</b>	<b>2.1000e-004</b>	<b>6.0200e-003</b>	<b>1.1200e-003</b>	<b>7.1400e-003</b>	<b>1.7200e-003</b>	<b>1.0300e-003</b>	<b>2.7500e-003</b>	<b>0.0000</b>	<b>18.5485</b>	<b>18.5485</b>	<b>1.2000e-004</b>	<b>0.0000</b>	<b>18.5511</b>

### 3.13 Telecom - Duct Bank and Vault Installation - 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	1.9800e-003	0.0207	0.0177	2.0000e-005		1.4200e-003	1.4200e-003		1.3100e-003	1.3100e-003	0.0000	2.2384	2.2384	6.9000e-004	0.0000	2.2528
<b>Total</b>	<b>1.9800e-003</b>	<b>0.0207</b>	<b>0.0177</b>	<b>2.0000e-005</b>		<b>1.4200e-003</b>	<b>1.4200e-003</b>		<b>1.3100e-003</b>	<b>1.3100e-003</b>	<b>0.0000</b>	<b>2.2384</b>	<b>2.2384</b>	<b>6.9000e-004</b>	<b>0.0000</b>	<b>2.2528</b>

#### 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	5.0000e-004	7.5500e-003	5.2100e-003	2.0000e-005	5.1000e-004	1.0000e-004	6.1000e-004	1.4000e-004	9.0000e-005	2.3000e-004	0.0000	1.9987	1.9987	1.0000e-005	0.0000	1.9990
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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>5.0000e-004</b>	<b>7.5500e-003</b>	<b>5.2100e-003</b>	<b>2.0000e-005</b>	<b>5.1000e-004</b>	<b>1.0000e-004</b>	<b>6.1000e-004</b>	<b>1.4000e-004</b>	<b>9.0000e-005</b>	<b>2.3000e-004</b>	<b>0.0000</b>	<b>1.9987</b>	<b>1.9987</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>1.9990</b>

**3.13 Telecom - Duct Bank and Vault Installation - 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	tons/yr										MT/yr					
Off-Road	5.9000e-004	0.0135	0.0182	2.0000e-005		9.5000e-004	9.5000e-004		9.5000e-004	9.5000e-004	0.0000	2.2384	2.2384	6.9000e-004	0.0000	2.2528
<b>Total</b>	<b>5.9000e-004</b>	<b>0.0135</b>	<b>0.0182</b>	<b>2.0000e-005</b>		<b>9.5000e-004</b>	<b>9.5000e-004</b>		<b>9.5000e-004</b>	<b>9.5000e-004</b>	<b>0.0000</b>	<b>2.2384</b>	<b>2.2384</b>	<b>6.9000e-004</b>	<b>0.0000</b>	<b>2.2528</b>

**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	5.0000e-004	7.5500e-003	5.2100e-003	2.0000e-005	5.1000e-004	1.0000e-004	6.1000e-004	1.4000e-004	9.0000e-005	2.3000e-004	0.0000	1.9987	1.9987	1.0000e-005	0.0000	1.9990
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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>5.0000e-004</b>	<b>7.5500e-003</b>	<b>5.2100e-003</b>	<b>2.0000e-005</b>	<b>5.1000e-004</b>	<b>1.0000e-004</b>	<b>6.1000e-004</b>	<b>1.4000e-004</b>	<b>9.0000e-005</b>	<b>2.3000e-004</b>	<b>0.0000</b>	<b>1.9987</b>	<b>1.9987</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>1.9990</b>

**3.14 12 kV - Cable Installation and Cutover - 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	6.1800e-003	0.0679	0.0412	6.0000e-005		3.5900e-003	3.5900e-003		3.3000e-003	3.3000e-003	0.0000	5.5564	5.5564	1.7000e-003	0.0000	5.5921
<b>Total</b>	<b>6.1800e-003</b>	<b>0.0679</b>	<b>0.0412</b>	<b>6.0000e-005</b>		<b>3.5900e-003</b>	<b>3.5900e-003</b>		<b>3.3000e-003</b>	<b>3.3000e-003</b>	<b>0.0000</b>	<b>5.5564</b>	<b>5.5564</b>	<b>1.7000e-003</b>	<b>0.0000</b>	<b>5.5921</b>

**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	2.7200e-003	0.0402	0.0243	1.2000e-004	3.6400e-003	6.8000e-004	4.3100e-003	1.0400e-003	6.2000e-004	1.6600e-003	0.0000	11.2154	11.2154	8.0000e-005	0.0000	11.2170
Worker	2.9700e-003	7.1600e-003	0.0643	1.8000e-004	0.0152	1.0000e-004	0.0153	4.0300e-003	9.0000e-005	4.1300e-003	0.0000	13.3551	13.3551	6.5000e-004	0.0000	13.3688
<b>Total</b>	<b>5.6900e-003</b>	<b>0.0473</b>	<b>0.0886</b>	<b>3.0000e-004</b>	<b>0.0188</b>	<b>7.8000e-004</b>	<b>0.0196</b>	<b>5.0700e-003</b>	<b>7.1000e-004</b>	<b>5.7900e-003</b>	<b>0.0000</b>	<b>24.5705</b>	<b>24.5705</b>	<b>7.3000e-004</b>	<b>0.0000</b>	<b>24.5857</b>



**3.14 12 kV - Cable Installation and Cutover - 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	tons/yr										MT/yr					
Off-Road	1.4800e-003	0.0287	0.0457	6.0000e-005		1.3800e-003	1.3800e-003		1.3800e-003	1.3800e-003	0.0000	5.5564	5.5564	1.7000e-003	0.0000	5.5921
<b>Total</b>	<b>1.4800e-003</b>	<b>0.0287</b>	<b>0.0457</b>	<b>6.0000e-005</b>		<b>1.3800e-003</b>	<b>1.3800e-003</b>		<b>1.3800e-003</b>	<b>1.3800e-003</b>	<b>0.0000</b>	<b>5.5564</b>	<b>5.5564</b>	<b>1.7000e-003</b>	<b>0.0000</b>	<b>5.5921</b>

**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	2.7200e-003	0.0402	0.0243	1.2000e-004	3.6400e-003	6.8000e-004	4.3100e-003	1.0400e-003	6.2000e-004	1.6600e-003	0.0000	11.2154	11.2154	8.0000e-005	0.0000	11.2170
Worker	2.9700e-003	7.1600e-003	0.0643	1.8000e-004	0.0152	1.0000e-004	0.0153	4.0300e-003	9.0000e-005	4.1300e-003	0.0000	13.3551	13.3551	6.5000e-004	0.0000	13.3688
<b>Total</b>	<b>5.6900e-003</b>	<b>0.0473</b>	<b>0.0886</b>	<b>3.0000e-004</b>	<b>0.0188</b>	<b>7.8000e-004</b>	<b>0.0196</b>	<b>5.0700e-003</b>	<b>7.1000e-004</b>	<b>5.7900e-003</b>	<b>0.0000</b>	<b>24.5705</b>	<b>24.5705</b>	<b>7.3000e-004</b>	<b>0.0000</b>	<b>24.5857</b>

# Vine Substation Project

## Operation and Maintenance Annual GHG Emissions Estimate

### Assumptions

- 1) Emissions are calculated for incremental O&M and SF6 leakage. Incremental water use will be minimal and is not available for indirect GHG estimate.
- 2) Vehicle trips are based on summation of the increase in O&M activities described in Section B.1.12.
- 3) Incremental SF6 quantity and leak rate from SDG&E
- 4) Emissions factors from The Climate Registry (TCR 2015), and GWP based on IPCC AR4 values.

### EMFAC model fuel efficiency mpg

Diesel Pickup MPG	19
Diesel Truck MPG	9

(values rounded)

### Annual Vehicle Trip Assumption

	Trips	EMFAC Vehicle Type
Diesel Pickup	30	LHDT1
Diesel Line Truck	20	T6
Diesel Utility Truck	260	T6

All trips @ 15 miles/round trip

### Vehicle Emissions Factors

	Pickup	Truck	
CO2	10.21	10.21	kg/gallon
CH4	0.001	0.0015	g/mile
N2O	0.0051	0.0048	g/mile

### Vehicle Emissions Results

	Pickup	Truck	
CO2	533.20	10,506.09	11,039.29 lbs
CH4	0.00	0.01	0.01 lbs
N2O	0.01	0.04	0.05 lbs
CO2e	534.74	10,519.68	11,054.42 Total lbs
			5.0 Total Metric Tons

### SF6 Leakage Emissions Calculations

#### Assumptions

- 1) 33 lbs SF6 each in 9 Circuit Breakers
- 2) 0.1 annual leakage Rate
- 3) GWP = 22,800 based on IPCC AR4

### SF6 Leakage Emissions Results

CO2e	3.1	Metric Tons
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