APPENDIX B
Air Quality and Greenhouse Gas Emissions

Appendix B.1

Air Quality and Greenhouse Gas Emissions Estimates Supplement

ESA Air Quality and Greenhouse Gas Emissions Supplement

Helicopter Operation Construction Emissions in El Dorado County

Bell 206 - Steel Lattice Tower Work	Total Fuel (gal/hr)	ROG	NOx	PM10	PM2.5	CO2e
Operation Emission Factor (kg/hr)[1]	38.26	0.91	0.74	0.02	0.02	370.00
Operation Emission Factor (lbs/hr)	84.35	2.01	1.63	0.04	0.04	815.70
1 hour of Helicopter Operations (lb)	84.35	2.01	1.63	0.04	0.04	815.70
5 hours of Helicopter Operations (MT)[2]	-	-	-	-	-	1.85

Note: 1 kg = 2.2046 pounds

[1] See Appendix B.2, page 61

[2] On the maximum emissions day, there would be 1 hour of helicopter operations in El Dorado County; there would 5 days of helicopter activity, for a total of 5 hours of helicopter operations in El Dorado County.

Maximum Day Construction Emissions in El Dorado County

Construction Phase	Maximum Pollutant Emissions (lbs/day)			
	ROG	NO_X	PM_{10}	$PM_{2.5}$
Tubular Steel Pole	1.26	13.13	0.71	0.57
Reconductoring	1.78	15.90	0.88	0.74
Wood Poles	1.13	11.93	0.69	0.55
Grading	0.74	6.97	0.45	0.35
Micropiles[1]	3.06	32.69	1.82	1.47
Helicopter Landings and Takeoffs[2]	1.95	0.83	0.01	0.01
Helicopter Operations [3]	2.01	1.63	0.04	0.04
Maximum Daily Emissions [4]	11.93	83.08	4.60	3.73

Based on Appendix B.2, page 67.

[1] This analysis assumes a maximum of five micropiles may be constructed per day.

[2] For purposes of a conservative analysis, emissions from four helicopter landing and take-offs were assumed to occur within the EDCAQMD's jurisdiction, which would capture the worst-case construction scenario.

[3] For purposes of a conservative analysis, it is assumed that up to 1 hour per day of helicopter operations activity would occur within El Dorado County; however, most of the helicopter operations would occur in Sacramento County in the vicinity of the subject towers (based on helicopter operation emission rates indentiifed in PG&E, 2014; see Appendix B.2, page).

[4] Maximum daily emissions assume project construction associated with all of the above construction activities occurring within the EDCAQMD jurisdiction can occur on the same day. In reality, these activities are likely to be phased and only a couple of the activities would occur on a single day.

Maximum Construction Emissions in El Dorado County for all Phases that Could Occur in the First Quarter

Construction Phase	Maximum Day Pollutant Emissions (lbs/day)			
	ROG	NO_X	PM_{10}	$PM_{2.5}$
Tubular Steel Pole	1.26	13.13	0.71	0.57
Reconductoring	1.78	15.9	0.88	0.74
Wood Poles	1.13	11.93	0.69	0.55
Grading	0.74	6.97	0.45	0.35
Interset Poles	1.35	16.04	0.66	0.52
Wood Poles at Substations	1.36	16.12	0.67	0.53
Distribution Underground	1.56	14.01	0.75	0.69
Distribution Grading	1.14	7.68	0.59	0.56
Micropiles[1]	3.06	32.69	1.82	1.47
Helicopter Landings and Takeoffs[2]	1.95	0.83	0.01	0.01
Helicopter Operations [3]	2.01	1.63	0.04	0.04

Based on Appendix B.2, page 67. Substation construction would not occur in the first quarter.

[1] This analysis assumes a maximum of five micropiles may be constructed per day.

[2] For purposes of a conservative analysis, emissions from four helicopter landing and take-offs were assumed to occur within the EDCAQMD's jurisdiction (PG&E, 2014).

[3] For purposes of a conservative analysis, it is assumed that up to 1 hour per day of helicopter operations activity would occur within El Dorado County; however, most of the helicopter operations would occur in Sacramento County in the vicinity of the subject towers. See above for estimate.

Average Daily Construction Emissions in El Dorado County for First Quarter

Construction Phase	Worst-case Workdays in Q1[1]	Quarterly Average Pollutant Emissions (lbs/day)[2]			
		ROG	NO_X	PM_{10}	$PM_{2.5}$
Tubular Steel Pole	60	1.26	13.13	0.71	0.57
Reconductoring	60	1.78	15.90	0.88	0.74
Wood Poles	60	1.13	11.93	0.69	0.55
Grading	5	0.06	0.58	0.04	0.03
Interset Poles	11	0.25	2.94	0.12	0.10
Wood Poles at Substations	7	0.16	1.88	0.08	0.06
Distribution Underground	13	0.34	3.04	0.16	0.15
Distribution Grading	26	0.49	3.33	0.26	0.24
Micropiles[3]	6.4	0.33	3.49	0.19	0.16
Helicopter Landings and Takeoffs[4]	5	0.16	0.07	0.00	0.00
Helicopter Operations [5]	5	0.17	0.14	0.00	0.00
Total Average Quarterly Emissions	-	6.13	56.42	3.13	2.60
EDCAQMD Threshold of Significance	-	82	82	-	-
Exceeds Thresholds?	-	No	No	-	-

[1] Worst-case workdays that would occur during the first quarter of construction are based on PG&E, 2014.

[2] It is assumed that there would be 60 workdays for the project as a whole in the first quarter of construction.

[3] This analysis assumes a maximum of five micropiles may be constructed per day.

[4] For purposes of a conservative analysis, emissions from four helicopter landing and take-offs were assumed to occur within the EDCAQMD's jurisdiction (PG&E, 2014).

[5] For purposes of a conservative analysis, it is assumed that up to 1 hour per day of helicopter operations activity would occur within El Dorado County; however, most of the helicopter operations would occur in Sacramento County in the vicinity of the subject towers. See below of estimate.

Total GHG Construction Emissions

Construction Phase	CO_2e metric tons
El Dorado County	
Tubular Steel Pole	36.99
Reconductoring	105.35
Wood Poles	191.5
Substation	23.68
Grading	233.91
Interset Poles	18.96
Wood Poles at Substations	12.1
Distribution Underground	14.94
Distribution Grading	17.38
Micropiles	26.19
Helicopter Landings and Takeoffs	1.26
Helicopter Operations	1.85
Subtotal	684.11
Sacramento County	
Reconductoring	25.44
Steel Lattice Towers	59.77
Helicopter Operations	11.1
Grading	3.36
Substation*	23.68
Subtotal	123.35
Total	**807.46**
Amortized over 30 years	26.92

Based on Appendix B.2, pages 66 and 7.

*Appendix B.2 does not identify substation emissions generated within Sacramento County; however, it is assumed that substation-related emissions generated in Sacramento County would be approximately the same as the emissions generated in El Dorado County.

SF6 Emissions

Pounds SF6	160
Conversion of SF6 to CO2e	23900
pounds SF6 leaked (0.5%)	0.8
Metric tons CO2e	8.67

Appendix B.2

PG&E's Air Quality and Greenhouse Gas Emissions Estimates

ProjectName	LocationScope	EMFAC_ID	WindSpeed	PrecipitationFrequency	ClimateZone	UrbanizationLevel	OperationalYear
MF-GH EDCAPCD (New PD Construction)	AD	EDCAPCD	2.7	70	2	Urban	2015

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tblConstructionPhase

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays
1	Dist Undergrd Grading	Grading	2015/01/01	2015/02/05	5	26
2	Distribution Underground	Building Construction	2015/01/01	2015/01/19	5	13
3	Wood Poles at Substation	Building Construction	2015/01/01	2015/01/09	5	7
4	Micropiles	Building Construction	2015/01/01	2015/02/13	5	32
5	Interset Poles	Building Construction	2015/01/01	2015/01/15	5	11

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PhaseName	OffRoadEquipmentType	OffRoadEquipmentUnitAmount	UsageHours	HorsePower	LoadFactor
Dist Undergrd Grading	Concrete/Industrial Saws	1	8	81	0.73
Dist Undergrd Grading	Off-Highway Trucks	1	1	381	0.38
Dist Undergrd Grading	Rubber Tired Dozers	1	1	358	0.59
Dist Undergrd Grading	Tractors/Loaders/Backhoes	3	8	75	0.37
Distribution Underground	Concrete/Industrial Saws	2	4	81	0.49
Distribution Underground	Cranes	1	4	208	0.43
Distribution Underground	Forklifts	2	6	149	0.3
Distribution Underground	Other Material Handling Equipment	1	8	196	0.4
Distribution Underground	Tractors/Loaders/Backhoes	2	4	75	0.37
Wood Poles at Substation	Bore/Drill Rigs	1	4	82	0.5
Wood Poles at Substation	Cranes	1	4	208	0.29
Wood Poles at Substation	Forklifts	2	6	149	0.3
Wood Poles at Substation	Other Material Handling Equipment	1	8	196	0.4
Wood Poles at Substation	Tractors/Loaders/Backhoes	2	8	75	0.55
Micropiles	Bore/Drill Rigs	2	4	82	0.5
Micropiles	Cement and Mortar Mixers	2	6	9	0.38
Micropiles	Cranes	1	4	208	0.43
Micropiles	Forklifts	2	6	149	0.3
Micropiles	Tractors/Loaders/Backhoes	1	4	75	0.37
Interset Poles	Bore/Drill Rigs	1	4	82	0.5
Interset Poles	Cranes	1	4	208	0.28
Interset Poles	Forklifts	2	6	149	0.3
Interset Poles	Other Material Handling Equipment	1	8	196	0.4
Interset Poles	Tractors/Loaders/Backhoes	2	8	75	0.55

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MF-GH EDCAPCD (New PD Construction)

El Dorado County APCD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Utility Company**	
Climate Zone	2	**Precipitation Freq (Days)**	70		

1.3 User Entered Comments

Project Characteristics -

Land Use -

Construction Phase - Interset poles and wood poles duration is based on wood pole replacement; distribution underground duration provided by applicant; micropiles assumes 4 days per micropile and 8 micropiles (conservative assumption)

Off-road Equipment - average construction equipment from PD

Off-road Equipment - assumptions from LDSP

Off-road Equipment - PD information

Off-road Equipment - same assumptions as LDSP

Off-road Equipment - trenching phase of distribution underground

Trips and VMT - all trip emissions modeled using EMFAC2011

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					
2015	4.73	39.13	23.27	0.06	0.00	1.87	1.87	0.00	1.87	1.87	0.00	5,650.56	0.00	0.42	0.00	5,659.40
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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					
2015	4.73	39.13	23.27	0.06	0.00	1.87	1.87	0.00	1.87	1.87	0.00	5,650.56	0.00	0.42	0.00	5,659.40
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.00**					**0.00**	**0.00**		**0.00**	**0.00**						**0.00**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.00**					**0.00**	**0.00**		**0.00**	**0.00**						**0.00**

3.0 Construction Detail

3.1 Mitigation Measures Construction

3.2 Dist Undergrd Grading - 2015

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	1.06	7.18	6.00	0.01		0.51	0.51		0.51	0.51		1,014.88		0.10		1,016.88
Total	**1.06**	**7.18**	**6.00**	**0.01**		**0.51**	**0.51**		**0.51**	**0.51**		**1,014.88**		**0.10**		**1,016.88**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.2 Dist Undergrd Grading - 2015

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	1.06	7.18	6.00	0.01		0.51	0.51		0.51	0.51	0.00	1,014.88		0.10		1,016.88
Total	**1.06**	**7.18**	**6.00**	**0.01**		**0.51**	**0.51**		**0.51**	**0.51**	**0.00**	**1,014.88**		**0.10**		**1,016.88**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.3 Distribution Underground - 2015

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	1.38	11.01	6.15	0.02		0.59	0.59		0.59	0.59		1,460.43		0.12		1,463.01
Total	**1.38**	**11.01**	**6.15**	**0.02**		**0.59**	**0.59**		**0.59**	**0.59**		**1,460.43**		**0.12**		**1,463.01**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.3 Distribution Underground - 2015

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	1.38	11.01	6.15	0.02		0.59	0.59		0.59	0.59	0.00	1,460.43		0.12		1,463.01
Total	**1.38**	**11.01**	**6.15**	**0.02**		**0.59**	**0.59**		**0.59**	**0.59**	**0.00**	**1,460.43**		**0.12**		**1,463.01**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.4 Wood Poles at Substation - 2015

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	0.94	8.81	3.70	0.01		0.30	0.30		0.30	0.30		1,292.39		0.08		1,294.14
Total	**0.94**	**8.81**	**3.70**	**0.01**		**0.30**	**0.30**		**0.30**	**0.30**		**1,292.39**		**0.08**		**1,294.14**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.4 Wood Poles at Substation - 2015

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	0.94	8.81	3.70	0.01		0.30	0.30		0.30	0.30	0.00	1,292.39		0.08		1,294.14
Total	**0.94**	**8.81**	**3.70**	**0.01**		**0.30**	**0.30**		**0.30**	**0.30**	**0.00**	**1,292.39**		**0.08**		**1,294.14**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.5 Micropiles - 2015

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	0.41	3.40	3.74	0.01		0.18	0.18		0.18	0.18		600.88		0.04		601.65
Total	**0.41**	**3.40**	**3.74**	**0.01**		**0.18**	**0.18**		**0.18**	**0.18**		**600.88**		**0.04**		**601.65**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.5 Micropiles - 2015

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	0.41	3.40	3.74	0.01		0.18	0.18		0.18	0.18	0.00	600.88		0.04		601.65
Total	**0.41**	**3.40**	**3.74**	**0.01**		**0.18**	**0.18**		**0.18**	**0.18**	**0.00**	**600.88**		**0.04**		**601.65**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.6 Interset Poles - 2015

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	0.93	8.73	3.68	0.01		0.29	0.29		0.29	0.29		1,281.98		0.08		1,283.71
Total	**0.93**	**8.73**	**3.68**	**0.01**		**0.29**	**0.29**		**0.29**	**0.29**		**1,281.98**		**0.08**		**1,283.71**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.6 Interset Poles - 2015

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	0.93	8.73	3.68	0.01		0.29	0.29		0.29	0.29	0.00	1,281.98		0.08		1,283.71
Total	**0.93**	**8.73**	**3.68**	**0.01**		**0.29**	**0.29**		**0.29**	**0.29**	**0.00**	**1,281.98**		**0.08**		**1,283.71**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Total					

4.3 Trip Type Information

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW

5.0 Energy Detail

5.1 Mitigation Measures Energy

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.00					0.00	0.00		0.00	0.00						0.00
Unmitigated	0.00					0.00	0.00		0.00	0.00						0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.00					0.00	0.00		0.00	0.00						0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.00**					**0.00**	**0.00**		**0.00**	**0.00**						**0.00**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.00					0.00	0.00		0.00	0.00						0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.00**					**0.00**	**0.00**		**0.00**	**0.00**						**0.00**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

tblProjectCharacteristics

ProjectName	LocationSc	EMFAC_ID	WindSpeed	PrecipitationFrequency	ClimateZone	UrbanizationLevel	OperationalYear
MF-GH Substation Construction	AD	EDCAPCD	2.7	70	2	Rural	2015

tblConstructionPhase

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays
1	Substation Modifications	Building Construction	2015/01/01	2015/01/28	5	20

tblOffRoadEquipment

PhaseName	OffRoadEquipmentType	OffRoadEquipmentUnitAmount	UsageHours	HorsePower	LoadFactor
Substation Modifications	Forklifts	1	4	149	0.2
Substation Modifications	Tractors/Loaders/Backhoes	1	4	75	0.37

MF-GH Substation Construction

El Dorado County APCD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.7	**Utility Company**	
Climate Zone	2	**Precipitation Freq (Days)**	70		

1.3 User Entered Comments

Project Characteristics -

Land Use -

Construction Phase - Assumed to be approximately 20 days of construction

Off-road Equipment - Worst-case assumed that forklift and tractor/loader/backhoe is needed. Likely to use hand work rather than construction equipment

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					
2015	0.28	1.95	1.82	0.00	0.00	0.13	0.13	0.00	0.13	0.13	0.00	288.15	0.00	0.03	0.00	288.68
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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					
2015	0.28	1.95	1.82	0.00	0.00	0.13	0.13	0.00	0.13	0.13	0.00	288.15	0.00	0.03	0.00	288.68
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.00**					**0.00**	**0.00**		**0.00**	**0.00**						**0.00**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.00**					**0.00**	**0.00**		**0.00**	**0.00**						**0.00**

3.0 Construction Detail

3.1 Mitigation Measures Construction

3.2 Substation Modifications - 2015

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	0.28	1.95	1.82	0.00		0.13	0.13		0.13	0.13		288.15		0.03		288.68
Total	**0.28**	**1.95**	**1.82**	**0.00**		**0.13**	**0.13**		**0.13**	**0.13**		**288.15**		**0.03**		**288.68**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.2 Substation Modifications - 2015

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	0.28	1.95	1.82	0.00		0.13	0.13		0.13	0.13	0.00	288.15		0.03		288.68
Total	**0.28**	**1.95**	**1.82**	**0.00**		**0.13**	**0.13**		**0.13**	**0.13**	**0.00**	**288.15**		**0.03**		**288.68**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Total					

4.3 Trip Type Information

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW

5.0 Energy Detail

5.1 Mitigation Measures Energy

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.00					0.00	0.00		0.00	0.00						0.00
Unmitigated	0.00					0.00	0.00		0.00	0.00						0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.00					0.00	0.00		0.00	0.00						0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.00**					**0.00**	**0.00**		**0.00**	**0.00**						**0.00**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.00					0.00	0.00		0.00	0.00						0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.00**					**0.00**	**0.00**		**0.00**	**0.00**						**0.00**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

ProjectName	LocationScope	EMFAC_ID	WindSpeed	PrecipitationFrequency	ClimateZone	UrbanizationLevel	OperationalYear
MF-GH EDCAQMD Activities	AD	EDCAPCD	2.7	70	2	Urban	2015

tblConstructionPhase

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays
1	LDSP	Building Construction	2015/01/01	2015/07/01	5	130
2	TSP	Building Construction	2015/01/01	2015/05/14	5	96
3	Reconductoring	Building Construction	2015/01/01	2015/04/01	5	65
4	Grading	Grading	2015/01/05	2015/01/09	5	5

tblOffRoadEquipment

PhaseName	OffRoadEquipmentType	OffRoadEquipmentUnitAmount	UsageHours	HorsePower	LoadFactor
LDSP	Bore/Drill Rigs	1	4	208	0.29
LDSP	Cranes	1	4	149	0.2
LDSP	Other Material Handling Equipment	1	8	75	0.37
TSP	Aerial Lifts	1	6	34	0.31
TSP	Bore/Drill Rigs	1	4	82	0.2
TSP	Concrete/Industrial Saws	1	6	81	0.49
TSP	Cranes	1	4	208	0.29
Reconductoring	Aerial Lifts	2	6	34	0.31
Reconductoring	Other Material Handling Equipment	2	6	149	0.4
Grading	Graders	1	4	162	0.41
Grading	Tractors/Loaders/Backhoes	1	6	75	0.37

MF-GH EDCAQMD Activities

El Dorado County APCD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Utility Company**	
Climate Zone	2	**Precipitation Freq (Days)**	70		

1.3 User Entered Comments

Project Characteristics -

Land Use -

Construction Phase - Reconductoring 9.6 miles, TSP for 96 poles, LDSP for 80 poles, standard grading for each pole

Off-road Equipment - Bore/Drill rig = auger, which overestimates; crane; and other material handling equipment for line truck

Off-road Equipment - Bore/drill rig for auger; crane; lift = worst case assuming cutting existing pole, drilling hole, and placing new pole equipment occurs on the same day

Off-road Equipment - 2 lifts and 2 line trucks for reconductoring

Off-road Equipment - Assumes worst-case for site preparation

Grading - Maximum is 0.4 acres per site, using max of 0.5 assuming some extra disturbance

Construction Off-road Equipment Mitigation -

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					
2015	3.53	23.18	17.43	0.03	0.17	1.43	1.60	0.00	1.43	1.43	0.00	3,133.11	0.00	0.31	0.00	3,139.72
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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					
2015	3.53	23.18	17.43	0.03	0.11	1.43	1.55	0.00	1.43	1.43	0.00	3,133.11	0.00	0.31	0.00	3,139.72
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.00**					**0.00**	**0.00**		**0.00**	**0.00**						**0.00**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.00**					**0.00**	**0.00**		**0.00**	**0.00**						**0.00**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 LDSP - 2015

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	0.71	4.62	3.39	0.01		0.32	0.32		0.32	0.32		729.11		0.06		730.44
Total	**0.71**	**4.62**	**3.39**	**0.01**		**0.32**	**0.32**		**0.32**	**0.32**		**729.11**		**0.06**		**730.44**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.2 LDSP - 2015

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	0.71	4.62	3.39	0.01		0.32	0.32		0.32	0.32	0.00	729.11		0.06		730.44
Total	**0.71**	**4.62**	**3.39**	**0.01**		**0.32**	**0.32**		**0.32**	**0.32**	**0.00**	**729.11**		**0.06**		**730.44**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.3 TSP - 2015

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	0.84	5.82	3.80	0.01		0.34	0.34		0.34	0.34		761.38		0.07		762.95
Total	**0.84**	**5.82**	**3.80**	**0.01**		**0.34**	**0.34**		**0.34**	**0.34**		**761.38**		**0.07**		**762.95**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.3 TSP - 2015

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	0.84	5.82	3.80	0.01		0.34	0.34		0.34	0.34	0.00	761.38		0.07		762.95
Total	**0.84**	**5.82**	**3.80**	**0.01**		**0.34**	**0.34**		**0.34**	**0.34**	**0.00**	**761.38**		**0.07**		**762.95**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.4 Reconductoring - 2015

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	1.36	8.59	6.58	0.01		0.51	0.51		0.51	0.51		1,053.56		0.12		1,056.13
Total	**1.36**	**8.59**	**6.58**	**0.01**		**0.51**	**0.51**		**0.51**	**0.51**		**1,053.56**		**0.12**		**1,056.13**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.4 Reconductoring - 2015

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	1.36	8.59	6.58	0.01		0.51	0.51		0.51	0.51	0.00	1,053.56		0.12		1,056.13
Total	**1.36**	**8.59**	**6.58**	**0.01**		**0.51**	**0.51**		**0.51**	**0.51**	**0.00**	**1,053.56**		**0.12**		**1,056.13**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.5 Grading - 2015

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					0.11	0.00	0.11	0.00	0.00	0.00						0.00
Off-Road	0.58	4.12	3.37	0.01		0.26	0.26		0.26	0.26		540.97		0.05		542.07
Total	**0.58**	**4.12**	**3.37**	**0.01**	**0.11**	**0.26**	**0.37**	**0.00**	**0.26**	**0.26**		**540.97**		**0.05**		**542.07**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.04	0.03	0.30	0.00	0.07	0.00	0.07	0.00	0.00	0.00		48.08		0.00		48.14
Total	**0.04**	**0.03**	**0.30**	**0.00**	**0.07**	**0.00**	**0.07**	**0.00**	**0.00**	**0.00**		**48.08**		**0.00**		**48.14**

3.5 Grading - 2015

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					0.05	0.00	0.05	0.00	0.00	0.00						0.00
Off-Road	0.58	4.12	3.37	0.01		0.26	0.26		0.26	0.26	0.00	540.97		0.05		542.07
Total	**0.58**	**4.12**	**3.37**	**0.01**	**0.05**	**0.26**	**0.31**	**0.00**	**0.26**	**0.26**	**0.00**	**540.97**		**0.05**		**542.07**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.04	0.03	0.30	0.00	0.07	0.00	0.07	0.00	0.00	0.00		48.08		0.00		48.14
Total	**0.04**	**0.03**	**0.30**	**0.00**	**0.07**	**0.00**	**0.07**	**0.00**	**0.00**	**0.00**		**48.08**		**0.00**		**48.14**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Total					

4.3 Trip Type Information

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW

5.0 Energy Detail

5.1 Mitigation Measures Energy

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.00					0.00	0.00		0.00	0.00						0.00
Unmitigated	0.00					0.00	0.00		0.00	0.00						0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.00					0.00	0.00		0.00	0.00						0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.00**					**0.00**	**0.00**		**0.00**	**0.00**						**0.00**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.00					0.00	0.00		0.00	0.00						0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.00**					**0.00**	**0.00**		**0.00**	**0.00**						**0.00**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

ProjectName	LocationScope	EMFAC_ID	WindSpeed	PrecipitationFrequency	ClimateZone	UrbanizationLevel	OperationalYear
MF-GH Construction - Reconduct (SMAQMD)	C	SAC	3.5	58	6	Rural	2015

tblConstructionPhase

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays
1	Reconductoring	Building Construction	2015/01/01	2015/01/27	5	19
2	Steel Lattice Towers	Building Construction	2015/02/02	2015/03/13	5	30

tblOffRoadEquipment

PhaseName	OffRoadEquipmentType	OffRoadEquipmentUnitAmount	UsageHours	HorsePower	LoadFactor
Reconductoring	Aerial Lifts	2	4	208	0.29
Reconductoring	Other Material Handling Equipment	2	6	149	0.2
Steel Lattice Towers	Aerial Lifts	1	1	34	0.31
Steel Lattice Towers	Cranes	1	4	208	0.29
Steel Lattice Towers	Other Material Handling Equipment	2	8	196	0.4

MF-GH Construction - Reconduct (SMAQMD)

Sacramento County, Summer

1.0 Project Characteristics

1.1 Land Usage

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	3.5	**Utility Company**	Sacramento Municipal Utility District
Climate Zone	6	**Precipitation Freq (Days)**	58		

1.3 User Entered Comments

Project Characteristics -

Land Use -

Construction Phase - Reconductoring includes 2.9 miles. 10 steel lattice tower modifications (3 days per modification).

Off-road Equipment - two aerial lifts and two "other material handling equipment" to represent line trucks

Off-road Equipment - dfafd

Off-road Equipment - Crane, lift, and other equipment for line trucks

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					
2015	1.47	13.51	4.30	0.02	0.00	0.44	0.44	0.00	0.44	0.44	0.00	1,885.39	0.00	0.13	0.00	1,888.12
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

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					
2015	1.47	13.51	4.30	0.02	0.00	0.44	0.44	0.00	0.44	0.44	0.00	1,885.39	0.00	0.13	0.00	1,888.12
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.00**					**0.00**	**0.00**		**0.00**	**0.00**						**0.00**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.00**					**0.00**	**0.00**		**0.00**	**0.00**						**0.00**

3.0 Construction Detail

3.1 Mitigation Measures Construction

3.2 Reconductoring - 2015

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	0.49	3.61	2.64	0.00		0.20	0.20		0.20	0.20		447.62		0.04		448.55
Total	**0.49**	**3.61**	**2.64**	**0.00**		**0.20**	**0.20**		**0.20**	**0.20**		**447.62**		**0.04**		**448.55**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.2 Reconductoring - 2015

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	0.49	3.61	2.64	0.00		0.20	0.20		0.20	0.20	0.00	447.62		0.04		448.55
Total	**0.49**	**3.61**	**2.64**	**0.00**		**0.20**	**0.20**		**0.20**	**0.20**	**0.00**	**447.62**		**0.04**		**448.55**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.3 Steel Lattice Towers - 2015

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	1.47	13.51	4.30	0.02		0.44	0.44		0.44	0.44		1,885.39		0.13		1,888.12
Total	**1.47**	**13.51**	**4.30**	**0.02**		**0.44**	**0.44**		**0.44**	**0.44**		**1,885.39**		**0.13**		**1,888.12**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.3 Steel Lattice Towers - 2015

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	1.47	13.51	4.30	0.02		0.44	0.44		0.44	0.44	0.00	1,885.39		0.13		1,888.12
Total	**1.47**	**13.51**	**4.30**	**0.02**		**0.44**	**0.44**		**0.44**	**0.44**	**0.00**	**1,885.39**		**0.13**		**1,888.12**

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Total					

4.3 Trip Type Information

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW

5.0 Energy Detail

5.1 Mitigation Measures Energy

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.00					0.00	0.00		0.00	0.00						0.00
Unmitigated	0.00					0.00	0.00		0.00	0.00						0.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.00					0.00	0.00		0.00	0.00						0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.00**					**0.00**	**0.00**		**0.00**	**0.00**						**0.00**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.00					0.00	0.00		0.00	0.00						0.00
Consumer Products	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.00**					**0.00**	**0.00**		**0.00**	**0.00**						**0.00**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Vegetation

Missouri Flats Gold Hill Reconductoring
Construction Emissions (SMAQMD)

CalEEMod Outputs	Pollutants (lbs/day)					
Construction Phase	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**	**MT CO_2e (total)**	**Mitigated MT CO_2e (total)**
Reconductoring	***0.85***	***10.38***	***0.55***	***0.41***	***25.44***	***24.83***
Construction Equipment	0.49	3.61	0.2	0.2	3.86	3.67
Construction Worker	0.13	0.98	0.17	0.09	8.34	7.92
Haul Trucks	0.24	5.79	0.18	0.12	13.25	13.25
Steel Lattice Towers	***9.87***	***26.81***	***0.99***	***0.85***	***67.16***	***65.22***
Construction Equipment	1.47	13.51	0.44	0.44	25.69	24.41
Helicopter Operations (Operations)	8.04	6.53	0.19	0.19	7.40	7.40
Construction Worker	0.13	0.98	0.17	0.09	13.16	12.50
Haul Trucks	0.24	5.79	0.18	0.12	20.92	20.92
Grading	***0.72***	***6.76***	***0.44***	***0.34***	***3.36***	***3.19***
Construction Equipment	0.58	4.12	0.31	0.26	1.23	1.17
Construction Worker	0.04	0.33	0.06	0.03	0.73	0.69
Haul Trucks	0.09	2.32	0.07	0.05	1.39	1.32
Maximum Daily Emissions	**11.44**	**43.95**	**1.98**	**1.60**	**95.96**	**93.24**

				Maximum Daily (lbs/day)				
On-Road Mobile Sources	**Average Daily Round Trips**	**Phase Duration (days)**	**Trip Length (one-way)**	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**	**CO_2e (total MT)**
Reconductoring - (2.9 SC, 16.6 EDC)								
Construction Worker	15	19	40	0.13	0.98	0.17	0.09	8.34
Haul Trucks	5	19	40	0.24	5.79	0.18	0.12	13.25
Steel Lattice Towers - (SC)								
Construction Worker	15	30	40	0.13	0.98	0.17	0.09	13.16
Haul Trucks	5	30	40	0.24	5.79	0.18	0.12	20.92
Grading								
Construction Equipment	5	5	40	0.04	0.33	0.06	0.03	0.73
Haul Trucks	2	5	40	0.09	2.32	0.07	0.05	1.39

						Total Emissions (lbs/day)				
Helicoper Emissions	**LTOs/day**	**Hours/Day**	**Total Days**	**Total Hours**	**Total LTOs**	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**	**CO_2e (total MT)**
Steel Lattice Tower										
Bell 206 (LTO Emissions - El Dorado County)	2	-	5	-	10	1.95	0.41	0.01	0.01	0.63
Bell 206 (Operational Emissions - Sacramento County)	-	4	5	20	-	8.04	6.53	0.19	0.19	7.40
Total	2	4	5	20	10	**9.98**	**6.94**	**0.21**	**0.21**	**8.03**

	Helicopter Emission Factors (kg/LTO or kg/hr)					
Helicopter Type and Operation	**Total Fuel (gal/hr)**	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**	**CO_2e**
Bell 206						
LTO	6.53	0.44	0.09	0.00	0.00	63
Operation	38.26	0.91	0.74	0.02	0.02	370

ROG/HC	1.2663	ratio
PM_{10}/PM_{TOTAL}	0.976	ratio
$PM_{2.5}/PM_{TOTAL}$	0.967	ratio
Average Fuel Weight	6.75	lbs/gal
Jet Fuel Emission Factors		
CO_2	9.57	kg/gal
N_2O	0.00031	kg/gal
CH_4	0.00027	kg/gal

Source:
Switzerland Federal Office of Civil Aviation (FOCA) Guidance on the Determination of Helicopter Emissions (http://www.bazl.admin.ch/fachleute/01169/02432/02433/02589/index.html?lang=en)
ARB Hydrocarbons Conversion (www.arb.ca.gov/msei/onroad/downloads/tsd/HC_**Conversion**s.doc)
SCAQMD PM2.5 Speciation Appendix A
EIA Voluntary Reporting of GHG Program - Emission Factors

Missouri Flats Gold Hill Reconductoring
Construction Emissions (EDCAQMD)

CalEEMod Outputs	Pollutants (lbs/day)							
Construction Phase	ROG	NO_x	PM_{10}	$PM_{2.5}$	MT CO_2e (total)	Mitigated MT CO_2e (total)		
Tubular Steel Poles (TSP)	***1.26***	***13.13***	***0.71***	***0.57***	***36.99***	***35.31***		
Construction Equipment	0.84	5.82	0.34	0.34	33.21	31.55		
Construction Worker	0.17	1.07	0.18	0.10	0.49	0.46		
Haul Trucks	0.25	6.24	0.20	0.13	3.30	3.30		
Reconductoring	***1.78***	***15.90***	***0.88***	***0.74***	***105.35***	***102.35***		
Construction Equipment	1.36	8.59	0.51	0.51	31.13	29.57		
Construction Worker	0.17	1.07	0.18	0.10	28.87	27.43		
Haul Trucks	0.25	6.24	0.20	0.13	45.35	45.35		
Previous LDSP - Now Wood	***1.13***	***11.93***	***0.69***	***0.55***	***191.50***	***186.46***		
Construction Equipment	0.71	4.62	0.32	0.32	43.06	40.91		
Construction Worker	0.17	1.07	0.18	0.10	57.74	54.85		
Haul Trucks	0.25	6.24	0.20	0.13	90.70	90.70		
Substation	***0.66***	***9.05***	***0.47***	***0.34***	***23.68***	***23.19***		
Construction Equipment	0.28	1.95	0.13	0.13	2.62	2.49		
Construction Worker	0.14	0.86	0.14	0.08	7.11	6.75		
Haul Trucks	0.25	6.24	0.20	0.13	13.95	13.95		
Grading	***0.74***	***6.97***	***0.45***	***0.35***	***233.91***	***222.21***		
Construction Equipment	0.58	4.12	0.31	0.26	1.23	1.17		
Construction Worker	0.06	0.36	0.06	0.03	0.74	0.70		
Haul Trucks	0.10	2.50	0.08	0.05	1.40	1.33		
Interset Poles	***1.35***	***16.04***	***0.66***	***0.52***	***18.96***	***18.40***		
Construction Equipment	0.93	8.73	0.29	0.29	6.40	6.08		
Construction Worker	0.17	1.07	0.18	0.10	4.89	4.64		
Haul Trucks	0.25	6.24	0.20	0.13	7.67	7.67		
Wood Poles (Substations)	***1.36***	***16.12***	***0.67***	***0.53***	***12.10***	***11.74***		
Construction Equipment	0.94	8.81	0.30	0.30	4.11	3.90		
Construction Worker	0.17	1.07	0.18	0.10	3.11	2.95		
Haul Trucks	0.25	6.24	0.20	0.13	4.88	4.88		
Distribution Underground	***1.56***	***14.01***	***0.75***	***0.69***	***14.94***	***14.38***		
Construction Equipment	1.38	11.01	0.59	0.59	8.62	8.19		
Construction Worker	0.08	0.50	0.08	0.05	2.69	2.56		
Haul Trucks	0.10	2.50	0.08	0.05	3.63	3.63		
DistriUnder - Grading	***1.14***	***7.68***	***0.59***	***0.56***	***17.38***	***16.51***		
Construction Equipment	1.06	7.18	0.51	0.51	11.99	11.39		
Construction Worker	0.08	0.50	0.08	0.05	5.39	5.12		
Micropiles (Single Micropile)	***0.61***	***6.54***	***0.36***	***0.29***	***26.19***	***25.32***		
Construction Equipment	0.41	3.40	0.18	0.18	8.73	8.29		
Construction Worker	0.10	0.64	0.11	0.06	8.53	8.10		
Haul Trucks	0.10	2.50	0.08	0.05	8.93	8.93		
Steel Lattice Towers	***1.95***	***0.41***	***0.01***	***0.01***	***0.63***	***0.63***		
Helicopter LTOs	1.95	0.41	0.01	0.01	0.63	0.63		
Maximum Daily (1 micropile)	7.46	54.89	3.11	2.52	-	-	Number of Micropiles	
Maximum Daily (Max Micropile)	**9.90**	**81.04**	**4.57**	**3.70**	**681.63**	**656.50**	4	

				Maximum Daily (lbs/day)				
On-Road Mobile Sources	Average Daily Round Trips	Phase Duration (days)	Trip Length (one-way)	ROG	NO_x	PM_{10}	$PM_{2.5}$	CO_2e (MT)
Tubular Steel Poles (TSP) - (EDC)								
Construction Worker	15	96	40	0.17	1.07	0.18	0.10	0.49
Haul Trucks	5	96	40	0.25	6.24	0.20	0.13	3.30
Reconductoring - (2.9 SC, 16.6 EDC)								
Construction Worker	15	65	40	0.17	1.07	0.18	0.10	28.87
Haul Trucks	5	65	40	0.25	6.24	0.20	0.13	45.35
Light-Duty Steel Poles - (EDC)								
Construction Worker	15	130	40	0.17	1.07	0.18	0.10	57.74
Haul Trucks	5	130	40	0.25	6.24	0.20	0.13	90.70
Substation								
Construction Worker	12	20	40	0.14	0.86	0.14	0.08	7.11
Haul Trucks	5	20	40	0.25	6.24	0.20	0.13	13.95
Grading								
Construction Worker	5	5	40	0.06	0.36	0.06	0.03	0.74
Haul Trucks	2	5	40	0.10	2.50	0.08	0.05	1.40
Interset Poles								
Construction Worker	15	11	40	0.17	1.07	0.18	0.10	4.89
Haul Trucks	5	11	40	0.25	6.24	0.20	0.13	7.67
Wood Poles								
Construction Worker	15	7	40	0.17	1.07	0.18	0.10	3.11
Haul Trucks	5	7	40	0.25	6.24	0.20	0.13	4.88
Micropiles								
Construction Worker	9	32	40	0.10	0.64	0.11	0.06	8.53
Haul Trucks	2	32	40	0.10	2.50	0.08	0.05	8.93
Distribution Underground								
Construction Worker	7	13	40	0.08	0.50	0.08	0.05	2.69
Haul Trucks	2	13	40	0.10	2.50	0.08	0.05	3.63
Distribution Underground - Grading								
Construction Worker	7	26	40	0.08	0.50	0.08	0.05	5.39
Haul Trucks	2	26	40	0.10	2.50	0.08	0.05	7.26

Missouri Flats Gold Hill Reconductoring Project
Construction On-Road Emission Factors (EMFAC2011)

El Dorado County Year 2015	Emission Factors (grams/mile)						
Vehicle Type	**ROG**	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**
Construction Worker	0.065	0.404	1.343	0.004	0.066	0.038	370.114
Haul Truck	0.279	7.078	1.284	0.017	0.223	0.152	1744.183

Sacramento County Year 2015	Emission Factors (grams/mile)						
Vehicle Type	**ROG**	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**	**CO_2**
Construction Worker	0.048	0.369	1.058	0.004	0.064	0.035	365.609
Haul Truck	0.267	6.569	1.215	0.017	0.208	0.138	1742.931

Schweizerische Eidgenossenschaft
Confédération suisse
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Confederaziun svizra

Swiss Confederation

Federal Department of the
Environment, Transport, Energy and Communications DETEC
Federal Office of Civil Aviation FOCA
Division Aviation Policy and Strategy

					LTO Emissions					One hour emissions				
Aircraft_ ICAO	Aircraft_Name	Engine_Name	Max SHP per engine	Number_of_ Engines	LTO fuel (kg)	LTO NOx (g)	LTO HC (g)	LTO CO (g)	LTO PM non volatile (g)	One hour fuel (kg)	One hour NOx (kg)	One hour HC (kg)	One hour CO (kg)	One hour PM non vol. (kg)
B06	BELL 206B	DDA250-C20	400	1	18.2	75	385	499	3	109	0.61	0.82	1.03	0.019
B06	BELL 206B	DDA250-C20B	420	1	18.6	79	373	484	3	101	0.58	0.72	0.90	0.018
B06	BELL 206B	DDA250-C20J	420	1	18.6	79	373	484	3	101	0.58	0.72	0.90	0.018
B06	BELL 206B	DDA250-C20R	450	1	19.2	85	358	463	3	105	0.63	0.70	0.86	0.019
B06	BELL 206B	DDA250-C20R/4	450	1	19.2	85	358	463	3	105	0.63	0.70	0.86	0.019
B06	BELL 206L	DDA250-C20R	450	1	19.2	85	358	463	3	117	0.70	0.77	0.96	0.022
B06	BELL 206L	DDA250-C30	650	1	23.7	131	291	372	4	149	1.10	0.66	0.82	0.032
B06	BELL 206L	DDA250-C30P	650	1	23.7	131	291	372	4	149	1.10	0.66	0.82	0.032
	Bell 205 Average				20.0	94.0	348.5	449.9	3.2	117	0.74	0.72	0.89	0.02

					LTO Emissions					One hour emissions				
Aircraft_ ICAO	Aircraft_Name	Engine_Name	Max SHP per engine	Number_of_ Engines	LTO fuel (kg)	LTO NOx (g)	LTO HC (g)	LTO CO (g)	LTO PM non volatile (g)	One hour fuel (kg)	One hour NOx (kg)	One hour HC (kg)	One hour CO (kg)	One hour PM non vol. (kg)
MD52	MD 520N	DDA250-C20	400	1	18.2	75	385	499	3	109	0.61	0.82	1.03	0.019

Missouri Flats Gold Hill Reconductoring
Construction Emissions (SMAQMD) - Increased Helicopter Operations (25 hours)

CalEEMod Outputs	Pollutants (lbs/day)					
Construction Phase	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**	**MT CO_2e (total)**	**Mitigated MT CO_2e (total)**
Reconductoring	***0.85***	***10.38***	***0.55***	***0.41***	***25.44***	***24.83***
Construction Equipment	0.49	3.61	0.2	0.2	3.86	3.67
Construction Worker	0.13	0.98	0.17	0.09	8.34	7.92
Haul Trucks	0.24	5.79	0.18	0.12	13.25	13.25
Steel Lattice Towers	***25.82***	***37.43***	***1.31***	***1.16***	***79.53***	***67.07***
Construction Equipment	1.47	13.51	0.44	0.44	25.69	24.41
Helicopter Operations (Operations)	10.05	8.16	0.24	0.24	9.25	9.25
Construction Worker	0.13	0.98	0.17	0.09	13.16	12.50
Haul Trucks	0.24	5.79	0.18	0.12	20.92	20.92
Grading	***0.72***	***6.76***	***0.44***	***0.34***	***3.36***	***3.19***
Construction Equipment	0.58	4.12	0.31	0.26	1.23	1.17
Construction Worker	0.04	0.33	0.06	0.03	0.73	0.69
Haul Trucks	0.09	2.32	0.07	0.05	1.39	1.32
Maximum Daily Emissions	**27.39**	**54.57**	**2.30**	**1.92**	**108.32**	**95.09**

				Maximum Daily (lbs/day)				
On-Road Mobile Sources	**Average Daily Round Trips**	**Phase Duration (days)**	**Trip Length (one-way)**	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**	**CO_2e (total MT)**
Reconductoring - (2.9 SC, 16.6 EDC)								
Construction Worker	15	19	40	0.13	0.98	0.17	0.09	8.34
Haul Trucks	5	19	40	0.24	5.79	0.18	0.12	13.25
Steel Lattice Towers - (SC)								
Construction Worker	15	30	40	0.13	0.98	0.17	0.09	13.16
Haul Trucks	5	30	40	0.24	5.79	0.18	0.12	20.92
Grading								
Construction Equipment	5	5	40	0.04	0.33	0.06	0.03	0.73
Haul Trucks	2	5	40	0.09	2.32	0.07	0.05	1.39

						Total Emissions (lbs/day)				
Helicoper Emissions	**LTOs/day**	**Hours/Day**	**Total Days**	**Total Hours**	**Total LTOs**	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**	**CO_2e (total MT)**
Steel Lattice Tower										
Bell 206 (LTO Emissions - El Dorado County)	4	-	5	-	20	3.89	0.83	0.03	0.03	1.26
Bell 206 (Operational Emissions - Sacramento County)	-	5	5	25	-	10.05	8.16	0.24	0.24	9.25
Total	4	5	5	25	20	**13.94**	**8.99**	**0.27**	**0.27**	**10.51**

NOTE: Assumes 25 total hours of helicopter operations.

	Helicopter Emission Factors (kg/LTO or kg/hr)					
Helicopter Type and Operation	**Total Fuel (gal/hr)**	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**	**CO_2e**
Bell 206						
LTO	6.53	0.44	0.09	0.00	0.00	63
Operation	38.26	0.91	0.74	0.02	0.02	370

ROG/HC	1.2663	ratio
PM_{10}/PM_{TOTAL}	0.976	ratio
$PM_{2.5}/PM_{TOTAL}$	0.967	ratio
Average Fuel Weight	6.75	lbs/gal
Jet Fuel Emission Factors		
CO_2	9.57	kg/gal
N_2O	0.00031	kg/gal
CH_4	0.00027	kg/gal

Source:
Switzerland Federal Office of Civil Aviation (FOCA) Guidance on the Determination of Helicopter Emissions (http://www.bazl.admin.ch/fachleute/01169/02432/02433/02589/index.html?lang=en)
ARB Hydrocarbons Conversion (www.arb.ca.gov/msei/onroad/downloads/tsd/HC_**Conversion**s.doc)
SCAQMD PM2.5 Speciation Appendix A
EIA Voluntary Reporting of GHG Program - Emission Factors

Missouri Flats Gold Hill Reconductoring
Construction Emissions (SMAQMD) - Increased Helicopter Operations (30 hours)

CalEEMod Outputs	Pollutants (lbs/day)					
Construction Phase	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**	**MT CO_2e (total)**	**Mitigated MT CO_2e (total)**
Reconductoring	***0.85***	***10.38***	***0.55***	***0.41***	***25.44***	***24.83***
Construction Equipment	0.49	3.61	0.2	0.2	3.86	3.67
Construction Worker	0.13	0.98	0.17	0.09	8.34	7.92
Haul Trucks	0.24	5.79	0.18	0.12	13.25	13.25
Steel Lattice Towers	***29.84***	***40.70***	***1.40***	***1.26***	***83.22***	***68.92***
Construction Equipment	1.47	13.51	0.44	0.44	25.69	24.41
Helicopter Operations (Operations)	12.06	9.79	0.29	0.29	11.10	11.10
Construction Worker	0.13	0.98	0.17	0.09	13.16	12.50
Haul Trucks	0.24	5.79	0.18	0.12	20.92	20.92
Grading	***0.72***	***6.76***	***0.44***	***0.34***	***3.36***	***3.19***
Construction Equipment	0.58	4.12	0.31	0.26	1.23	1.17
Construction Worker	0.04	0.33	0.06	0.03	0.73	0.69
Haul Trucks	0.09	2.32	0.07	0.05	1.39	1.32
Maximum Daily Emissions	**31.41**	**57.84**	**2.39**	**2.01**	**112.02**	**96.94**

				Maximum Daily (lbs/day)				
On-Road Mobile Sources	**Average Daily Round Trips**	**Phase Duration (days)**	**Trip Length (one-way)**	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**	**CO_2e (total MT)**
Reconductoring - (2.9 SC, 16.6 EDC)								
Construction Worker	15	19	40	0.13	0.98	0.17	0.09	8.34
Haul Trucks	5	19	40	0.24	5.79	0.18	0.12	13.25
Steel Lattice Towers - (SC)								
Construction Worker	15	30	40	0.13	0.98	0.17	0.09	13.16
Haul Trucks	5	30	40	0.24	5.79	0.18	0.12	20.92
Grading								
Construction Equipment	5	5	40	0.04	0.33	0.06	0.03	0.73
Haul Trucks	2	5	40	0.09	2.32	0.07	0.05	1.39

						Total Emissions (lbs/day)				
Helicoper Emissions	**LTOs/day**	**Hours/Day**	**Total Days**	**Total Hours**	**Total LTOs**	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**	**CO_2e (total MT)**
Steel Lattice Tower										
Bell 206 (LTO Emissions - El Dorado County)	4	-	5	-	20	3.89	0.83	0.03	0.03	1.26
Bell 206 (Operational Emissions - Sacramento County)	-	6	5	30	-	12.06	9.79	0.29	0.29	11.10
Total	4	6	5	30	20	**15.95**	**10.62**	**0.32**	**0.32**	**12.36**

NOTE: Assumes 30 total hours of helicopter operations.

	Helicopter Emission Factors (kg/LTO or kg/hr)					
Helicopter Type and Operation	**Total Fuel (gal/hr)**	**ROG**	**NO_X**	**PM_{10}**	**$PM_{2.5}$**	**CO_2e**
Bell 206						
LTO	6.53	0.44	0.09	0.00	0.00	63
Operation	38.26	0.91	0.74	0.02	0.02	370

ROG/HC	1.2663	ratio
PM_{10}/PM_{TOTAL}	0.976	ratio
$PM_{2.5}/PM_{TOTAL}$	0.967	ratio
Average Fuel Weight	6.75	lbs/gal
Jet Fuel Emission Factors		
CO_2	9.57	kg/gal
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ARB Hydrocarbons Conversion (www.arb.ca.gov/msei/onroad/downloads/tsd/HC_**Conversion**s.doc)
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EIA Voluntary Reporting of GHG Program - Emission Factors

Missouri Flats Gold Hill Reconductoring
Construction Emissions (EDCAQMD) - Increased Helicopter Operations (4 LTOs Per Day)

CalEEMod Outputs	Pollutants (lbs/day)						
Construction Phase	ROG	NO_x	PM_{10}	$PM_{2.5}$	MT CO_2e (total)	Mitigated MT CO_2e (total)	
Tubular Steel Poles (TSP)	***1.26***	***13.13***	***0.71***	***0.57***	***36.99***	***35.31***	
Construction Equipment	0.84	5.82	0.34	0.34	33.21	31.55	
Construction Worker	0.17	1.07	0.18	0.10	0.49	0.46	
Haul Trucks	0.25	6.24	0.20	0.13	3.30	3.30	
Reconductoring	***1.78***	***15.90***	***0.88***	***0.74***	***105.35***	***102.35***	
Construction Equipment	1.36	8.59	0.51	0.51	31.13	29.57	
Construction Worker	0.17	1.07	0.18	0.10	28.87	27.43	
Haul Trucks	0.25	6.24	0.20	0.13	45.35	45.35	
Previous LDSP - Now Wood	***1.13***	***11.93***	***0.69***	***0.55***	***191.50***	***186.46***	
Construction Equipment	0.71	4.62	0.32	0.32	43.06	40.91	
Construction Worker	0.17	1.07	0.18	0.10	57.74	54.85	
Haul Trucks	0.25	6.24	0.20	0.13	90.70	90.70	
Substation	***0.66***	***9.05***	***0.47***	***0.34***	***23.68***	***23.19***	
Construction Equipment	0.28	1.95	0.13	0.13	2.62	2.49	
Construction Worker	0.14	0.86	0.14	0.08	7.11	6.75	
Haul Trucks	0.25	6.24	0.20	0.13	13.95	13.95	
Grading	***0.74***	***6.97***	***0.45***	***0.35***	***233.91***	***222.21***	
Construction Equipment	0.58	4.12	0.31	0.26	1.23	1.17	
Construction Worker	0.06	0.36	0.06	0.03	0.74	0.70	
Haul Trucks	0.10	2.50	0.08	0.05	1.40	1.33	
Interset Poles	***1.35***	***16.04***	***0.66***	***0.52***	***18.96***	***18.40***	
Construction Equipment	0.93	8.73	0.29	0.29	6.40	6.08	
Construction Worker	0.17	1.07	0.18	0.10	4.89	4.64	
Haul Trucks	0.25	6.24	0.20	0.13	7.67	7.67	
Wood Poles (Substations)	***1.36***	***16.12***	***0.67***	***0.53***	***12.10***	***11.74***	
Construction Equipment	0.94	8.81	0.30	0.30	4.11	3.90	
Construction Worker	0.17	1.07	0.18	0.10	3.11	2.95	
Haul Trucks	0.25	6.24	0.20	0.13	4.88	4.88	
Distribution Underground	***1.56***	***14.01***	***0.75***	***0.69***	***14.94***	***14.38***	
Construction Equipment	1.38	11.01	0.59	0.59	8.62	8.19	
Construction Worker	0.08	0.50	0.08	0.05	2.69	2.56	
Haul Trucks	0.10	2.50	0.08	0.05	3.63	3.63	
DistriUnder - Grading	***1.14***	***7.68***	***0.59***	***0.56***	***17.38***	***16.51***	
Construction Equipment	1.06	7.18	0.51	0.51	11.99	11.39	
Construction Worker	0.08	0.50	0.08	0.05	5.39	5.12	
Micropiles (Single Micropile)	***0.61***	***6.54***	***0.36***	***0.29***	***26.19***	***25.32***	
Construction Equipment	0.41	3.40	0.18	0.18	8.73	8.29	
Construction Worker	0.10	0.64	0.11	0.06	8.53	8.10	
Haul Trucks	0.10	2.50	0.08	0.05	8.93	8.93	
Steel Lattice Towers	***3.89***	***0.83***	***0.03***	***0.03***	***1.26***	***1.26***	
Helicopter LTOs	3.89	0.83	0.03	0.03	1.26	1.26	
Maximum Daily (1 micropile)	9.40	55.30	3.13	2.54	-	-	Number of Micropiles
Maximum Daily (Max Micropile)	**11.85**	**81.45**	**4.58**	**3.71**	**682.26**	**657.13**	4

NOTE: Assumes 4 LTOs per day and 20 total LTOs.

				Maximum Daily (lbs/day)				
On-Road Mobile Sources	Average Daily Round Trips	Phase Duration (days)	Trip Length (one-way)	ROG	NO_x	PM_{10}	$PM_{2.5}$	CO_2e (MT)
Tubular Steel Poles (TSP) - (EDC)								
Construction Worker	15	96	40	0.17	1.07	0.18	0.10	0.49
Haul Trucks	5	96	40	0.25	6.24	0.20	0.13	3.30
Reconductoring - (2.9 SC, 16.6 EDC)								
Construction Worker	15	65	40	0.17	1.07	0.18	0.10	28.87
Haul Trucks	5	65	40	0.25	6.24	0.20	0.13	45.35
Light-Duty Steel Poles - (EDC)								
Construction Worker	15	130	40	0.17	1.07	0.18	0.10	57.74
Haul Trucks	5	130	40	0.25	6.24	0.20	0.13	90.70
Substation								
Construction Worker	12	20	40	0.14	0.86	0.14	0.08	7.11
Haul Trucks	5	20	40	0.25	6.24	0.20	0.13	13.95
Grading								
Construction Worker	5	5	40	0.06	0.36	0.06	0.03	0.74
Haul Trucks	2	5	40	0.10	2.50	0.08	0.05	1.40
Interset Poles								
Construction Worker	15	11	40	0.17	1.07	0.18	0.10	4.89
Haul Trucks	5	11	40	0.25	6.24	0.20	0.13	7.67
Wood Poles								
Construction Worker	15	7	40	0.17	1.07	0.18	0.10	3.11
Haul Trucks	5	7	40	0.25	6.24	0.20	0.13	4.88
Micropiles								
Construction Worker	9	32	40	0.10	0.64	0.11	0.06	8.53
Haul Trucks	2	32	40	0.10	2.50	0.08	0.05	8.93
Distribution Underground								
Construction Worker	7	13	40	0.08	0.50	0.08	0.05	2.69
Haul Trucks	2	13	40	0.10	2.50	0.08	0.05	3.63
Distribution Underground - Grading								
Construction Worker	7	26	40	0.08	0.50	0.08	0.05	5.39
Haul Trucks	2	26	40	0.10	2.50	0.08	0.05	7.26